CITY OF HOUSTON

Telephone Road: Main Street Revitalization Project

FY22 Rebuilding American Infrastructure with Sustainability & Equity (RAISE) grant program

Total Project Cost: $26.2 million
FY22 RAISE Funds Requested: $20.96 million

CITY OF HOUSTON

Sylvester Turner
Mayor

P.O. Box 1562
Houston, Texas 77251-1562

Telephone – Dial 311
www.houstontx.gov

April 11, 2022

The Honorable Pete Buttigieg
Secretary, U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

Dear Secretary Buttigieg:

Since 2016, I have proudly served as the 62nd Mayor for the City of Houston – the most diverse city in the United States of America. A top priority for my administration is to provide resources, services, and economic support to areas that have been historically underserved. As you know through our conversations Houston has communities have been left behind with a lack of transportation investment. That lack of investment has stifled these communities' abilities to share in the Houston region's growing wealth. My Complete Communities Initiative (Complete Communities) envisions a Houston where equity is at the center of everything we do, and we uplift communities based on solutions, actions, and investments identified by the community. I believe the US Department of Transportation (USDOT) shares my administration's values to address these longstanding issues of disinvestment and inequities. I, on behalf of the City of Houston, am requesting $20,960,000.00 in federal transportation funds from the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant program, to be matched with an estimated $5,240,000.00 in city funds to deliver a 2.8-mile transformative, multimodal revitalization project that will connect two of our Complete Communities to resources.

The funding request will support the **Telephone Road: Main Street Revitalization Project**, a rehabilitation project with some reconstruction needs that utilizes existing right of way to incorporate rebuilt sidewalks, optimized bus stops with bike lane compatible treatments, optimized signalized intersections, improved street crossings, protected bidirectional bike lanes, and intersection/merge lane safety treatments. Local residents will enjoy greater access to locally serving retail, restaurants, schools, and greenspace. The project readiness factor for Telephone Road is high as it replicates the success of similar projects nearby from the East End Management District and will fill the gap between two planned street improvement projects from TIRZ 8 and TIRZ 23, creating one cohesive corridor.

The Telephone Road: Main Street Revitalization Project will also confer many health and safety benefits to the local community and the city at large. The project's safety

enhancements are critically needed and aligned with the city's Vision Zero Plan, which identified the project area as part of the High Injury Network, which means Telephone Road is in the top 6% of roads that experiences 60% of all traffic deaths or injuries in the City. From a public health perspective, the project will bring significant health and recreational benefits to nearby communities as will connect them to Brays Bayou, a 40-mile-long waterway that was recently channelized and retrofitted with walking and biking trails running adjacently along its banks. These trails would be utilized to a greater degree once Telephone Road is upgraded and connect these diverse communities along Telephone Road to the Texas Medical Center and two regional parks (Hermann Park and MacGregor Park). In addition to health and safety benefits, it is an important link to multimodal options. Our local transit agency (METRO) has planned to implement a bus rapid transit network at the north end of the project, which will improve transit options and increase ridership. Along Telephone Road, METRO's BOOST standard will be applied to bus stops and shelters, further incentivizing transit riders along the corridor. The Telephone Road: Main Street Revitalization Project will help address the needs of all travelers, especially historically under-represented people walking, biking, or using a mobility aide, by designing for multimodal options as the Greater Houston region continues to rapidly expand.

The project enjoys wide support from community partners and stakeholders:

- U.S. Representative Sylvia R. Garcia (TX-29)
- U.S. Representative Al Green (TX-09)
- Texas State Senator Carol Alvarado (TX-District 6)
- Harris County Commissioner Adrian Garcia (Precinct 2)
- City of Houston, District I Councilmember Robert Gallegos
- Metropolitan Transit Authority of Harris County (METRO)
- Greater Houston Partnership
- East End Management District
- East End Chamber of Commerce
- Gulfgate Redevelopment Authority/ Tax Increment Reinvestment Zone 8
- Harrisburg Redevelopment Authority/Tax Increment Reinvestment Zone 23
- Super Neighborhood 64 – Greater Eastwood
- Super Neighborhood 88 – Lawndale/Wayside
- LINK Houston
- Houston Parks Board
- SER Jobs

The Telephone Road: Main Street Revitalization Project traverses a community with mixed commercial and retail facilities, as well as 3 schools, a recently channelized Brays Bayou, and the historic 1910 Rufus Cage Elementary School building. Telephone Road also sits at the confluence of the Second and Third Wards, designated as two Complete Communities and is also identified as socially vulnerable and an area of persistent poverty, when evaluated by census tracts. Houston has a history of contending with extreme weather events like flooding and hurricanes, which are growing in frequency and severity due to climate change. This project aligns with the Resilient Houston Plan by improving drainage by adding stormwater inlets, adding native landscaping, and

encouraging people to use more sustainable mode of transportation. Increasing the resiliency of marginalized neighborhoods are a crucial part of increasing the collective resilience of Houston's most vulnerable populations.

In closing, I believe this project is an ideal investment for the USDOT to consider. It delivers on my promise of an equitable city increases safety, expands access to multimodal options, promotes the economic competitiveness of the corridor, climate resiliency, and reconnects neighborhoods of persistent poverty. Houston's future is intertwined in the promise of a more resilient city, where everyone – no matter their race, creed, color, or economic status – has an opportunity to live, work, and play on equal ground.

I appreciate your time and consideration.

Sincerely,

Sylvester Turner
Mayor

Table of Contents

1. PROJECT DESCRIPTION

Telephone Road, like many Houston thoroughfares, has historically prioritized the flow of vehicles at the expense of other mobility and commercial uses. Most of its right-of-way is reserved to move cars and trucks quickly – often in hazardous configurations – with little to no accommodation for walking, biking, transit, or accessing local destinations. Despite its singular design, Telephone Road has emerged as a commercial and cultural spine in southeast Houston, bridging multiple underserved communities, all while experiencing a drop in vehicle traffic. Through multiple recent planning efforts, local agencies and community groups have come together to reimagine Telephone Road with a new design that better fits its role as a Main Street. Two geographically separate segments – at either end of the corridor – are funded for construction and are currently in design. Many other upcoming projects will intersect the corridor, laying the groundwork for a multimodal network around Telephone Road.

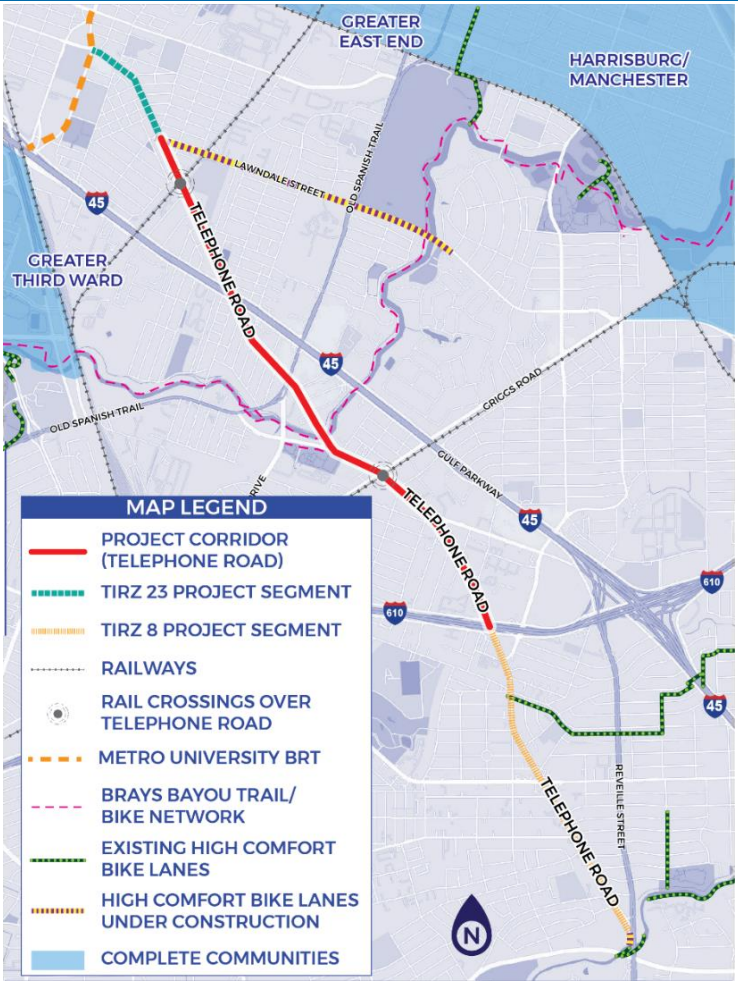
The City of Houston (City) seeks federal investment to connect two community-driven projects, catalyzing a continuous and transformational mobility experience for the full five-mile corridor through implementation of **The Telephone Road: Main Street Revitalization Project** ("the Project"). The City is requesting $20.96 million in FY22 RAISE funds to leverage $5.24 million in local funds to deliver 2.8 miles of multimodal improvements. The benefit cost analysis undertaken for this application notes a benefit cost ratio of 2.8, a strong indicator of the Project's benefits to the community and region.

Figure 1-1. Artist's Visualization of a Revitalized Telephone Road, Eastwood Livable Centers Study (2020)

The Project will produce significant safety, quality of life, connectivity, economic, and environmental benefits for the residents and users of the corridor. This will be accomplished by rebuilding most portions of the corridor segments and intersections, as well as reallocating excess vehicle lanes to build new protected bike lanes and sidewalks. This project will knit together existing corridor investments in the area, making smooth connections for residents and visitors for increased access to the economic and social destinations in southeast Houston.

This Project will integrate several multimodal safety features within the existing corridor's right-of-way, involving minimal to moderate reconstruction depending on project segment. Further information on the project scope is in the pages to follow.

Figure 1-2. Project Location and Connecting Areas



The Project begins at the intersection of Lawndale Drive and Telephone Road and extends 2.8 miles to Interstate 610. From commerce to community activities, Telephone Road is an important corridor leading from south of Houston's Central Business District to southeast Houston. Additional information and maps related to the project's location is in Section 2 of this application, Project Location.

1.1 Project Need

Houston, Texas is located in the West South-Central Division (Div. 7) of the South Region of the U.S. and has a land area of 665 square miles with a **total Census-designated urbanized area population of 4.9 million and a city population of 2.3 million**, making it the fourth most populous city in the nation. Located along the Texas Gulf Coast, approximately 50 miles northwest of the Gulf of Mexico at Galveston, Houston is mostly in Harris County, as well as in portions of Fort Bend and Montgomery Counties. As the City continues to welcome new residents, it is projected to increase in size to become the third most populous U.S. city in the late 2020s. There is a growing intention to build connections for marginalized neighborhoods that address accessibility in the most diverse city in the United States (over 60% non-white).

The City of Houston, in coordination with regional, state, and community transportation stakeholders, is making strategic enhancements to existing roadway segments, prioritizing multimodal infrastructure updates that require minimal reconstruction and less construction time. With promising developments underway and more in the pipeline, Houston is embracing its increasing population and jobs growth while moving more people in less space. Following completion of the project, the Telephone Road: Main Street Revitalization Project will reconnect multiple neighborhoods of persistent poverty, provide those neighborhoods with greater accessibility to community resources and assets, and most importantly, prioritize safety enhancements by reducing traffic fatalities in concert with the City's **Vision Zero Action Plan**.

1.2 Transportation Challenges in the Corridor

The Telephone Road corridor currently spans four to six lanes, when only two to four lanes are required for the current level of traffic. This overbuilt environment results in high vehicle speeds and crashes that often result in serious injuries and death. Dedicating extra space exclusively for single occupancy vehicle use has left little room for other transportation modes. In addition, the limited space available for walking, biking, and transit are not in a state of good repair. Many sidewalks along Telephone Road are in deteriorating condition, with several sidewalks at grade level with vehicle lanes and other sidewalk segments completely missing. There are few safe crosswalks, no safe infrastructure for bike facilities, and two grade-level rail crossings with no consideration for bicycle and pedestrian accessibility.

The Telephone Road corridor offers retail, residential, recreational, and educational land uses. However, based on the limited options for multimodal access, these facilities cannot truly serve the community.

Figure 1-3. Current Conditions of the Telephone Road Corridor

1.2.1 SAFETY CHALLENGES

The Telephone Road: Main Street Revitalization Project is a safety project. The City of Houston's **Vision Zero** analysis of this thoroughfare indicates it is part of the High Injury Network. This means Telephone Road is one of the 6% of Houston's roads that experiences 60% of the City's traffic deaths and injuries. This crash data reveals the pressing need to improve safety on Telephone Road. As the most basic role of government is protecting the community's health, safety, and welfare, these improvements will aid the City's efforts to equitably serve corridor residents and visitors.

Figure 1-4. Bike Crash Density on Telephone Road/Project Corridor

1.3 Corridor History and Connecting Projects

The history of Telephone Road is as dynamic as that of Houston itself. Located southeast of Houston's downtown, Telephone Road was a critical route for Houston's first telephone lines to the City of Alvin and then the City of Galveston. The Telephone Road thoroughfare also played a significant role in the development of Texas' first freeway. At the terminus of the newly constructed Gulf Freeway built in the 1940s, in the 1950s and 1960s Telephone Road at Wayside Drive was home to a popular local nightclub named "The Jimmie Menutis Lounge and Club," which hosted world-renowned musicians like Fats Domino, Chuck Berry, Louis Armstrong, Little Richard, and others.

Figure 1-5. Telephone Road, 1948

The first freeway generation sees the future take shape: Schoolchildren cross the Gulf Freeway construction zone at Telephone Road in October 1948. At the time of this photo, the first section of the freeway north of Telephone Road had just opened. Photo: Houston Chronicle.

Socioeconomic shifts and historic underinvestment have contributed to the deterioration of the corridor. The remaining community is more dependent on transit and non-vehicular modes of travel. Marked revitalization efforts in the nearby vicinity (described below) offer the promise of renewed economic development by creating direct connections to nearby community resources and providing greater access to jobs and amenities like bike trails.

1.3.1 CONNECTING COMMUNITY PROJECTS

The Telephone Road: Main Street Revitalization Project is located between two Tax Increment Reinvestment Zones (TIRZ), **TIRZ 23 – Harrisburg Redevelopment Authority**, located north of the project between Lockwood Drive and Lawndale, and **TIRZ 8 – Gulfgate Redevelopment Authority**, located south of the project between IH-610 and Reveille Street. Both TIRZ projects are currently under preliminary engineering and destined for future rebuilds into reimagined main streets.

Figure 1-2 above shows these TIRZ projects adjacent to the Telephone Road: Main Street Revitalization Project. Additionally, the Telephone Road Main Street Revitalization Project supports connections built by the **METRORapid University Corridor Project**, which is currently in the project development phase and the **Lawndale Protected Bike Lanes Project**, which is under construction.

1.3.2 CONNECTION TO LOCAL PLANNING EFFORTS

The City of Houston is prioritizing the Telephone Road: Main Street Revitalization Project to complement the planned work of both TIRZ 23 and TIRZ 8, while also building on additional previous planning efforts in the area that highlight Telephone Road as a key corridor. The community wants a safe and connected corridor that allows for mobility choice and supports investments and redevelopment within the area, which will be provided once this project is complete.

A variety of planning endeavors with community engagement during the past five years have highlighted segments of Telephone Road for retrofit or rebuild projects. The **Houston Bike Plan** (2017) included Telephone Road as a recommended future bikeway in the Long-Range Vision series of recommendations. The **East End Bike Plan** (2021) builds upon this by refining the Houston Bike Plan recommendation to highlight a segment of Telephone Road between Brays Bayou and Winkler Drive to be completed in near to mid-term with the other segments of Telephone as part of the full vision network.

The **Eastwood Livable Centers Study** (2021) evaluated the northern portion of the City's RAISE candidate segment, within its study area from Lockwood to IH-45. The study recommended reconstructing Telephone Road as a safe, multimodal corridor for walking, biking and using transit, proposing upgraded sidewalks, ADA accessible curb ramps, high-visibility crosswalks, improved transit shelters, and high-comfort bike lanes. These improvements will provide safe connections and access to schools, businesses, parks, and a future BRT station at Telephone and Lockwood. The **Southeast Houston Mobility Plan** (2019) and the **Hobby Area Livable Centers Study** (2017) evaluated Telephone Road south of the City's RAISE candidate segment. These studies recommended reconstructing Telephone Road with similar multimodal improvements.

1.4 Project Scope

The Telephone Road: Main Street Revitalization Project delivers 2.8 miles of multimodal improvements and connects two planned community-led projects at the north and south ends of the corridor. To provide continuous mobility connections for the five-mile corridor, there are specific treatments for seven intersections, nine mid-block crosswalks, and four segments of the corridor as detailed below. Additionally, the City will install CCTV cameras at three rebuilt intersections of Telephone Road. Lastly, the Project will upgrade transit facilities along the corridor. See Figure 1-6 for a scope overview included in this RAISE grant request.

Figure 1-6. Project Scope Overview

1.4.1 SEGMENT 1: LAWNDALE ROAD TO IH-45

The segment of Telephone Road between Lawndale Street and IH-45 Frontage Roads is currently a four-lane, undivided concrete roadway. The proposed improvement for this segment is to restripe and convert the existing four-lane section to a three-lane section that includes a center two-way, left-turn lane, as well as a five-foot protected bike lane on each side of the street. Most of the sidewalks are in decent condition and ADA compliant. The City will repair any points on the walkways that are not ADA compliant, for example, places where there is unevenness of more than 1 inch, that could cause pedestrians to trip or prevent the wheels of a wheelchair or stroller from rolling smoothly. The City will also fill gaps in the sidewalk network where necessary.

Figure 1-7. Lawndale Road to IH-45 Cross-Section

1.4.2 SEGMENT 2: IH-45 TO WHEELER STREET

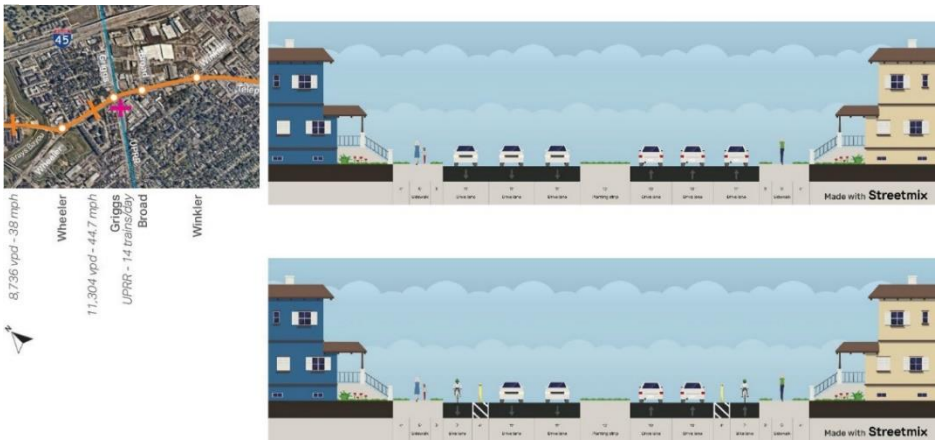
The segment of Telephone Road from IH-45 to Wheeler Street is a currently a four-lane, undivided concrete roadway with an asphalt overlay, with pavement in poor condition. The proposed enhancement will convert the segment to a two-way, left-turn lane that includes six-foot raised bike lanes and new five-foot sidewalks on both sides of the street. The City's plans for a partial rebuild includes the reconstruction of the curbs and drainage inlets, as well as repaving and restriping the roadway.

Figure 1-8. IH-45 to Wheeler Street Cross-Section

1.4.3 SEGMENT 3: WHEELER STREET TO WINKLER DRIVE

The segment of Telephone Road from Wheeler Street to Winkler Drive is currently a six-lane, divided concrete roadway. The curb-to-curb pavement is 76 feet wide with a 12-foot raised median, with relatively new pavement. The City's proposed improvements for this segment include restriping the existing six-lane cross-section to create a divided four-lane roadway with a protected bike lane in each direction. The City will repair the sidewalks that are non-compliant with ADA regulations and fill gaps in the sidewalk network.

Figure 1-9. Wheeler Street to Winkler Drive Cross-Section



1.4.4 SEGMENT 4: WINKLER DRIVE TO IH-610

The segment of Telephone Road from Winkler Drive to the southeastern end of the project at IH-610 Eastbound Frontage Road is currently a four-lane, undivided asphalt roadway with open-ditch and storm sewer drainage. The pavement width varies depending on the presence of paved shoulders. The proposed improvements for the section include a four-lane divided roadway with a 12-foot raised median, a five-foot separated bike lane, and a five-foot sidewalk on the roadside on both directions. The City will replace the existing pavement to include a new concrete roadway with curb and gutter drainage.

Figure 1-10. Winkler Drive to IH-610 Cross-Section

1.4.5 INTERSECTION IMPROVEMENTS THROUGHOUT THE CORRIDOR

The Telephone Road: Main Street Revitalization Project will make improvements at seven intersections along the corridor that support safety enhancements for all road users. See Figure 1-6 showing all seven intersections. CCTV cameras will be installed at each intersection that is being fully rebuild (3 intersections).

The City will apply the following safety modifications to all signalized intersections:

- Restriped crosswalks
- New green “cross-bike” markings
- Tighter corners to slow speeds and improve visibility

Additionally, the City plans to create new mid-block crossings with median refuge islands at nine locations to reduce the distance between safe crossings and improve the experience of people walking, biking, or accessing transit along the corridor and as they access commerce and community assets. These are also noted in Figure 1-6.

Figure 1-11. Intersection Improvements Examples

1.4.6 TRANSIT IMPROVEMENTS ALONG THE CORRIDOR

The Telephone Road: Main Street Revitalization Project will upgrade facilities for the 40-Telephone/Heights route to **METRO’s new BOOST standard**, including bus stop relocations, new shelters and accessibility upgrades, transit signal priority, and real-time passenger information. More information on these improvements is in Section 4.4.3.

2. PROJECT LOCATION

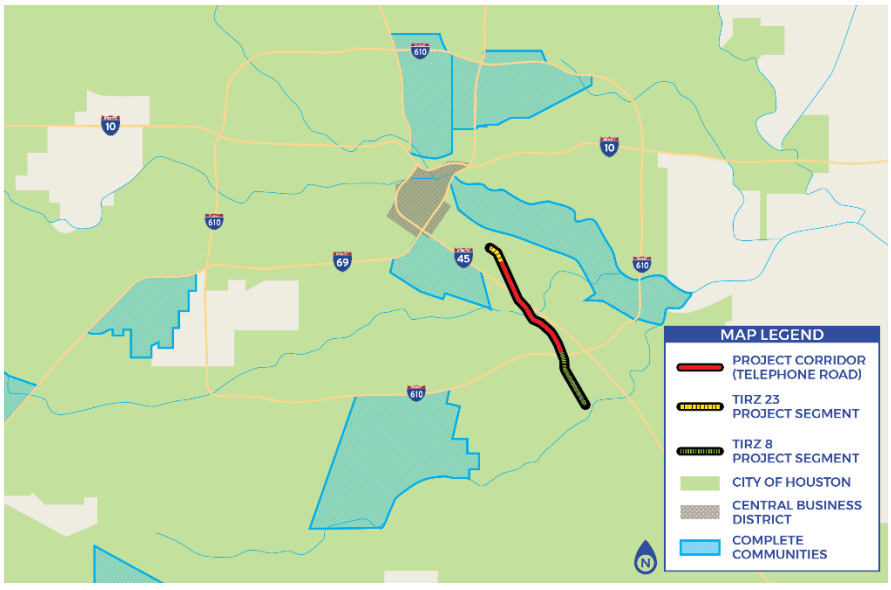
Located in the greater southeast area of Houston and about three miles from downtown Houston, the Telephone Road: Main Street Revitalization Project begins at the intersection of Lawndale Drive and Telephone Road and extends 2.8 miles to Interstate 610. It traverses a newly rebuilt bridge over Brays Bayou, which was a part of **Project Brays** -- a Harris County Flood Control District channelization project. The project's location is in the vicinity of planned improvements by Houston METRO for the establishment of the University Corridor bus rapid transit route.

QUICK LOCATION FACTS

- Census tracts: main tract 3117, other project census tracts – 3106, 3107, 3118, 3119
- Project falls within areas of persistent poverty and historically disadvantaged communities
- Zip codes: 77023, 77087
- Falls within opportunity zone
- TIRZ 8 to the south – developing affordable housing units

Telephone Road serves as a major thoroughfare on Houston's **Major Thoroughfare and Freeway Plan**, connecting major arterials, including Interstate 45, which serves approximately 194,000 vehicles per day. Figures 1.2 and 2.1 illustrate the location of the Telephone Road: Main Street Revitalization Project.

Figure 2-1. Project Location



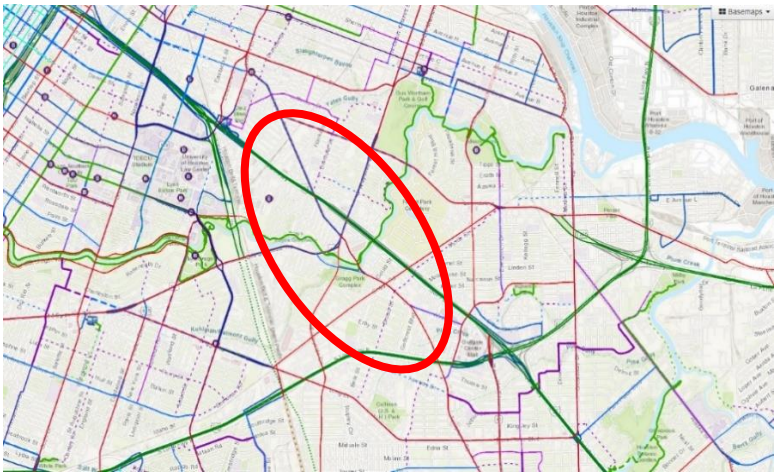
2.1 Local Connections

The Project will transform the corridor and provide equitable access to the numerous essential services in the area. These include civic spaces such as Gragg Park and Brays Bayou Greenway Trail, as well as the Texas Department of Human Services office, JP Henderson Elementary School, the KIPP Intrepid Preparatory Charter School, and the SERJobs workforce development facility. Other services in the project vicinity include banks, post offices, two grocery stores, and seven churches. Additionally, the Telephone Road: Main Street Revitalization Project enhances the transportation connections in the

corridor to support the growth from adjacent planned developments and the surrounding vacant parcels.

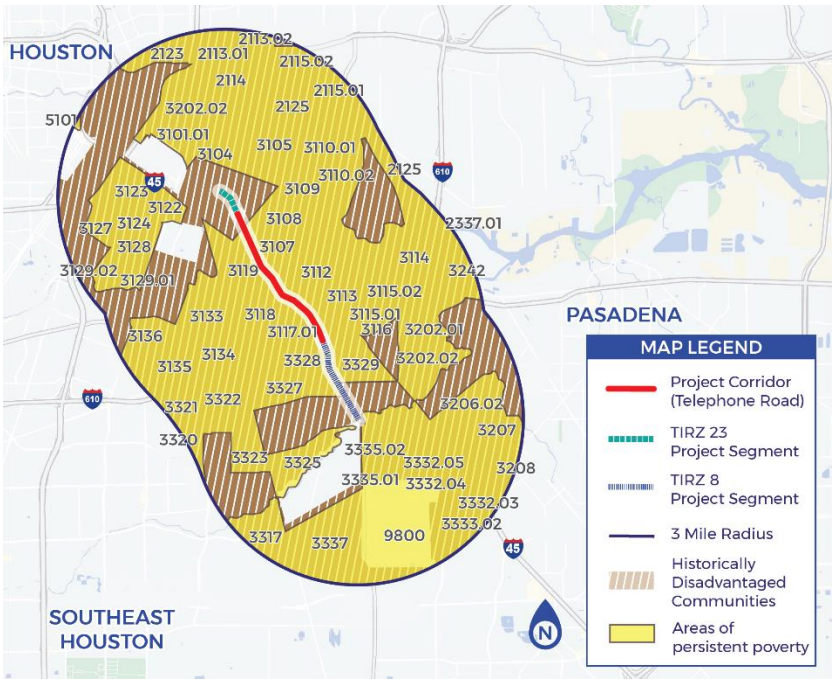
Data from 2015-2019 reveals that 60% of motorists use the Telephone Road corridor to access employment, while an estimated 38% of motorists live in the area and use the Telephone Road corridor to travel outside the zip code (77023) for employment.[1]

Figure 2-2 Transportation Connections Around the Telephone Road Project Corridor



2.2 Persistent Poverty and Opportunity Zones

Figures 2-3. Areas of Persistent Poverty and Historically Disadvantaged Communities in Project Area



The Telephone Road: Main Street Revitalization project is completely within Houston census tracts designated as areas of persistent poverty and areas of persistent poverty (Figure 2-3). The primary census tract is 3117, as well as portions of census tracts are 3106, 3107, 3118, and 3119. These same census tracks qualify as an Opportunity Zone (Figure 2-4). See the Quality-of-Life section (4.3) for more on how this project supports these communities.

[1] Census OntheMap Data

Figure 2-4. Opportunity Zones in Project Area

3. GRANT FUNDS, SOURCES AND USES OF PROJECT FUNDS

The City is requesting $20.96 million in RAISE program funds to match $5.24 million in local funds to implement the Telephone Road Main Street Revitalization Project. There are no previously incurred expenses on the project. The sources of capital funding for the project are shown in Table 3.1.

3.1 Sources and Uses of Funds

Table 3-1. Project Budget Summary by Source and Use, $millions, YOE$

Project Activity	RAISE Funds	Non-Federal Sources	Total
Design/PE	$2.88	$0.72	$3.60
Construction	$15.13	$3.78	$18.91
Construction Contingency	$2.95	$0.74	$3.70
TOTAL	**$20.96**	**$5.24**	**$26.20**

Matching funds are confirmed in the cover letter of this application and will be programmed along with the RAISE grant for expenditure during the project. The RAISE grant award will significantly relieve the budget constraints the City of Houston currently faces, as the City endeavors to improve and invest in historically underserved communities and corridor users who are inequitably supported.

Table 3-2. Expenditures by Calendar Year, $million, YOE$

Project Activity	CY23	CY24	CY25	Total
Design/PE	$3.60	$0.00	$0.00	$3.60
Construction	$4.35	$10.78	$3.78	$18.91
Construction Contingency	$0.85	$2.10	$0.74	$3.69
TOTAL	**$8.80**	**$12.88**	**$4.52**	**$26.20**

3.2 Cost Estimate and Contingency

City of Houston staff developed the cost estimates for the Telephone Road: Main Street Revitalization Project, which reflect costs at the current level of project readiness. A significant contingency of 25% of hard construction costs is included in the project budget to mitigate any risk associated with funding the project at its current level of design.

4. SELECTION CRITERIA

4.1 Safety

Improved safety is the most critical benefit of completing the Telephone Road: Main Street Revitalization Project. All components meet best practices for safe designs, as identified by the City of Houston Infrastructure Design Manual, Federal Highway Administration, and National Association of City Transportation Officials.

Figure 4-1. Lack of sidewalks along portions of corridor

The Vision Zero Action Plan identifies the most dangerous locations on Houston's streets (the High Injury Network) and overlays these locations with information about socially vulnerable communities where residents are disproportionately impacted by traffic deaths and serious injuries. These locations are now the City's top priorities for transportation investments in its ongoing work to address safety and equity in one coordinated approach (Figure 4-2).

4.1.1 SAFETY ISSUES IN THE CORRIDOR

The current conditions of the project area pose serious safety issues for residents and visitors, including:

Hazardous Roadway Features: The many hazardous roadway features on the Project corridor have resulted in over 420 crashes from 2014-2018 (Table 4-1), which has resulted in the project's placement in Houston's Vision Zero High Injury Network (Figure 4-2) that represents 6% of Houston streets but accounts for 60% of City traffic deaths and serious injuries.

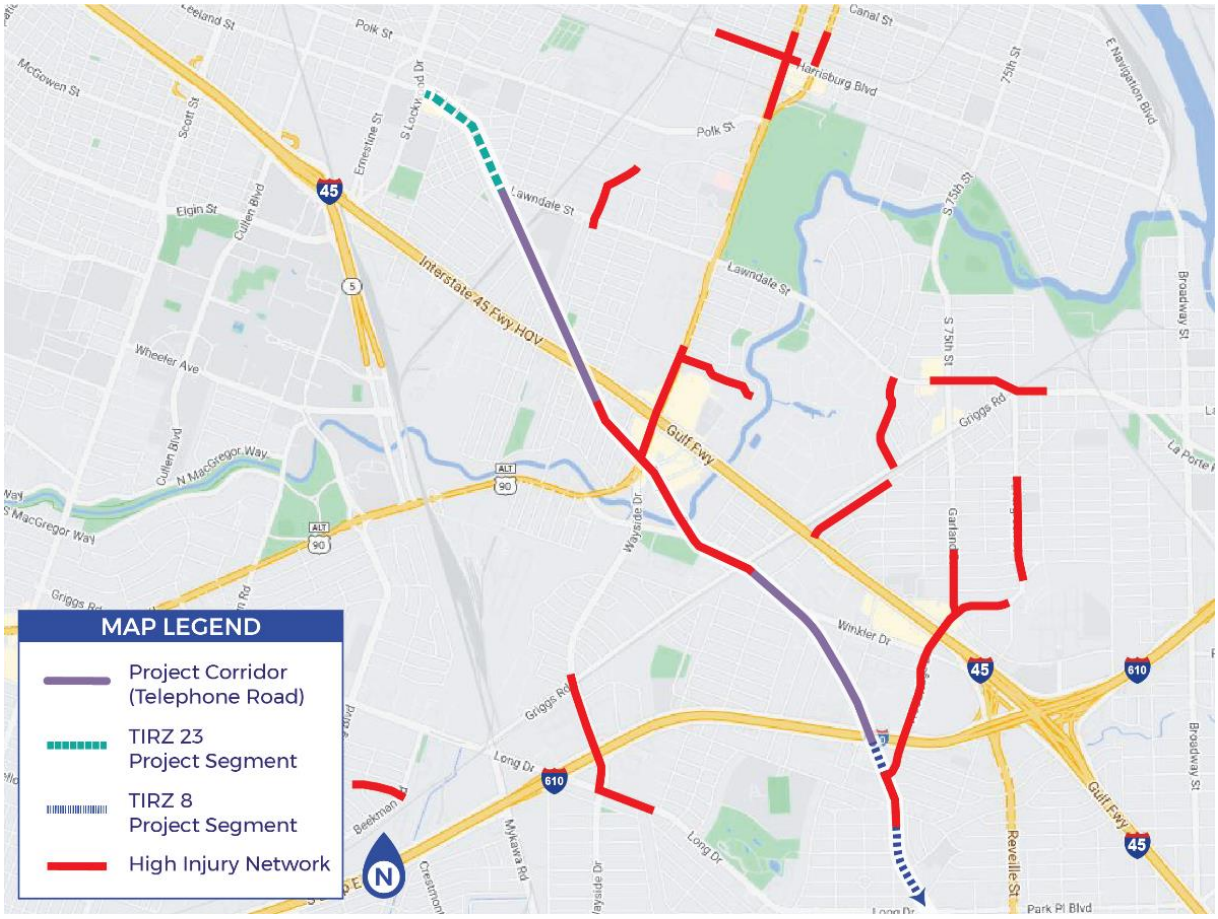
Missing and crumbling sidewalks and few safe crosswalks: Along the 2.8 miles of the Project corridor, the state of the sidewalks in the four segments range from adequate to non-existent, with Segment 4 (Winkler Drive to IH-610) ranking among the worst sidewalk quality.

Table 4-1 SAFETY INCIDENTS in Project Corridor, 2014 - 2018

INCIDENT TYPE	PROJECT CORRIDOR
FATAL INJURY	2
SUSPECTED SERIOUS INJURY	4
SUSPECTED MINOR INJURY	27
POSSIBLE INJURY	39
NOT INJURED	309
UNKNOWN	40

These conditions have created an unsafe and unpredictable environment for people walking from the socially vulnerable communities along the corridor, whether they are walking within the corridor or walking to access the 40-Telephone/Heights bus route.

Figure 4-2 Project Corridor within High Injury Network Overlaid



4.1.2 SAFETY BENEFITS

The Project reduces opportunities for conflicts between pedestrians, buses, bicyclists, and vehicles within the corridor. A reconfigured roadway with pedestrian and bicycle facilities, as well as improved bus stops, will provide more reliable and comfortable travel options. These enhancements will also reduce the current disruptions in access and transfer activity due to inadequate or scarce active transportation infrastructure. To estimate the reduction in bike and pedestrian crashes due to the project implementation, the benefit cost analysis used two Crash Modification Factors (CMF) associated with safety elements of the project: the installation of sidewalks, bike routes, and new crossings; and reducing the number of vehicle lanes to reallocate roadway space for other uses. These crash reductions shown in Table 4-2 have a monetized benefit of $28.2 million over the lifetime of the project.

Figure 4-3. Lack of Suitable Bus Stops Along Corridor

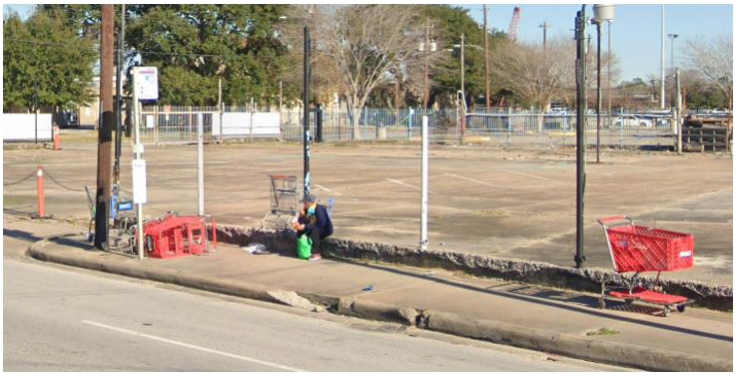


Table 4-2 No-Build versus No Build Scenario Crash Reduction, 2025 - 2045

CRASHES	NO BUILD SCENARIO	BUILD SCENARIO	CRASHES REDUCED
Fatal	10	6	4
Non-Fatal	2095	1368	727

The Telephone Road: Main Street Revitalization Project mitigates most safety conflicts. As the City provides quality continuous sidewalks, separated bike lanes, and upgraded bus stop and service, it will serve to drastically slow down vehicles and reduce negative interactions between vehicles and pedestrians and cyclists.

4.1.3 ACCESS MANAGEMENT AND SAFETY

Access Management will be an important aspect of implementing the Telephone Road: Main Street Revitalization Project. Many businesses along Telephone Road are accessed by driveways that do not meet the City's standards and create hazardous conditions. Some locations have multiple, redundant driveways, while others have head-in parking that obstruct the sidewalk temporarily or permanently. Some locations do not have delineated points of access at all, allowing vehicles to enter and exit unpredictably at any

point along the property. The City plans to work directly with property owners to design and construct driveways that meet the Infrastructure Design Manual standards to allow for proper visibility and reduce conflict with people biking or using the sidewalk.

Figure 4-4. Access Management Issues along Telephone Road

National research consistently shows that about 40% of all crashes are access related.[2] The percentage is even higher in urban areas such as that of Telephone Road because there are more access points along urban roadways. As the number of access points along a roadway increases so do the number of conflict points. Conflict points occur where the paths of two or more roadway users cross. Each conflict point is a potential crash, and conflict points can occur for any travel mode or between travel modes, such as when a vehicle crosses a pedestrian sidewalk.

4.2 Environmental Sustainability

The Telephone Road: Main Street Revitalization Project improvements are necessary to create sustainable transportation choices and reduce the emission of greenhouse gas and associated impacts. The Project is within a highly developed urban area that does not contain wildlife corridors. The City conducts environmental assessments for all city projects, including this Project, in coordination with TxDOT. No impacts beyond the existing roadway are expected, leading to an anticipated Categorical Exclusion. Construction and operation of the Project is not anticipated to result in impacts to biological resources, water quality, or any sensitive natural community or species.

4.2.1 REDUCTION OF GREENHOUSE GAS EMISSIONS THROUGH MODAL SHIFT

The Telephone Road: Main Street Revitalization Project aims to reduce single-occupancy vehicle usage and support a modal shift towards lower-carbon travel modes like biking, walking, and transit by including complete sidewalks, separated bike facilities, and updated bus stops and bus service along the corridor. The City of Houston anticipates that once the project is constructed to accommodate alternative modes of transportation, in conjunction with facility upgrades, transit and active-transportation usage will increase. By providing welcoming and reliable multimodal options, the project will encourage a shift in travel behavior, thereby reducing per capita GHG emissions. Based on calculations

[2] National Highway Traffic Safety Administration, Traffic Safety Facts 2009 (Early Edition)

from the **2019 Community Resilience Estimates** tool, many segments of the project corridor experience a Thematic Risk Factor[3] greater than 20%, and this project will reduce this risk factor.

Transit service along Telephone Road is provided by the **Metropolitan Transit Authority of Harris County ("METRO")** through the 40-Telephone/Heights route. The route carried an estimated 4,400 passengers per weekday in October 2019. Unfortunately, the pandemic reduced ridership numbers, decreasing weekday totals by 61%; however,

> **"Community resilience is a measure of the capacity of individuals and households within a community to absorb, endure and recover from the external stresses of the impacts of a disaster." (CRE webinar, June 2021)**

based on historical projected usage and a greater attention to upgraded ADA-compatible facilities, METRO expects ridership to increase post-pandemic.[4]

4.2.2 AVOIDS ADVERSE ENVIRONMENTAL JUSTICE IMPACTS

The Project meets the Administration's Justice40 priorities because it will improve transportation amenities in a low income/minority community. An Environmental Justice (EJ) Screening completed for the project indicates significant impacts borne by the EJ communities in the area, with 58 census tracts identified as Areas of Persistent Poverty. See Appendix D for the EJ Screen Analysis. By improving walking, biking, and transit conditions, these communities will have lower-cost transportation options, as well as significant health and recreational benefits from increased active transportation.

The Project's pedestrian and bicycle facilities will act as a transportation demand management strategy designed to reduce vehicle congestion, air pollution, and greenhouse gas emissions by encouraging residents to safely bike, walk, or take transit along the corridor.

The City employed an environmental impacts risk assessment tool provided by the **Centers for Disease Control and Prevention (CDC),** filtering by census tract and zip code to ascertain health risks. The results showed the project area has a prevalence of diabetes of 16.4% among adults over 18. The project will improve automobile continuity and provide active transportation options, which can help to address the disproportionate

[3] Community resilience is the capacity of individuals and households to absorb, endure, and recover from the health, social, and economic impacts of a disaster such as a hurricane or pandemic. When disasters occur, recovery depends on the community's ability to withstand the immediate and ripple effects of the disaster.
[4] TEI Data

negative environmental and health impacts from transportation such as air quality, mobility, and noise on the disadvantaged communities along the corridor.[5]

4.2.3 DISASTER AND STORMWATER RISKS

Severe flooding has negatively impacted many Houston neighborhoods in recent years. Nearly 84% of insurance premiums have increased by $10 per month within the Project area per the **National Flood Insurance Program Policies**. Building on FEMA's revised flood-risk rating for the National Flood Insurance Program, the project area includes some modest risk exposure within the 77023 and 77087 zip codes. This means that FEMA's revised flood maps indicate a greater exposure to flooding for these zip codes than what was previously indicated, based on the 100- and 500-year flood zones.

As part of the project the City intends to address some of the drainage challenges by upgrading and expanding inlets as necessary, to offset any flooding caused by surface street modifications. Storm drain inlets provide the necessary capacity for a drainage system to capture stormwater accumulated as spread flow on the pavement surface. Civic leaders continue to partner with Houston Public Works to ensure new developments address necessary drainage capacity to reduce the potential for flooding and provide neighborhood resilience in the long-term.

4.2.4 CONSISTENCY WITH SUSTAINABLE PLANS AND POLICIES

The Telephone Road: Main Street Revitalization Project is consistent with the **City of Houston Climate Action Plan**, and **Resilient Houston,** the City's Resilience Strategy. This Project is also consistent with the local transit agency's **HOUSTON METRO CLIMATE ACTION PLAN**. METRO specifically supports the project by using lower-emission vehicles and augmenting its electric vehicle fleet.

4.3 Quality of Life

The Project supports quality of life for surrounding neighborhoods and promotes these qualities in Houston's various regional transportation plans. The existing conditions of Telephone Road prioritize vehicle throughput before active transportation and pedestrian safety. Deteriorated sidewalks and unsafe intersection crossings impede pedestrian access.

[5] https://puttinglocaldatatowork.urban.org/sites/default/files/2019-06/HIA%20Report-final-05-20-19.pdf

Figure 4-5 Telephone Road at Griggs (Left) and at Tellepsen (Right)

As shown in Figure 4.6, the intersections along Telephone Road lack signage, safety beacons, visible pavement striping, and other safety treatments that promote walkability. Furthermore, between Lombardy and Tellepsen Streets, cyclists and pedestrians are forced to compete with one another on narrow approaches, with little delineation between high-capacity travel lanes and semi-functional pathways. This intersection, as shown in Figure 4.6, is concerning because it is an access point to several small businesses as well as SERJobs, a workforce-development facility. The dangerous infrastructure along Telephone Road erodes the sense of community and quality of life for residents. As noted previously, the City plans to address Telephone Road's safety hazards by restriping the roadway, adding separated bike lanes, and constructing new sidewalks.

DESIGNING THE STREET FOR COMMUNITY USE

This Project will benefit the community through improved street design and enhanced safety infrastructure, including the removal of physical barriers and promoting the increased use of active transportation modes. The lack of pedestrian and bike infrastructure on Telephone Road forces residents to rely on private vehicles for short trips. The reliance on single-occupancy vehicle use makes the community more dangerous and disconnected. Adding sidewalks and bike lanes will contribute to a greater sense of community, increase safety for residents, reduce air pollution, and benefit local businesses. According to the **CDC**, road adjustments that make walking and biking more accessible increase physical activity and overall quality of life. Improving the pedestrian and bike infrastructure on Telephone Road will lead to a modal shift away from private vehicles and towards active transportation.

4.4 Improves Mobility and Community Connectivity

The existing Telephone Road configuration lacks infrastructure that enables safe pedestrian and bike access. The excess lane capacity overwhelmingly favors high vehicle speed ahead of safety. Consequently, Telephone Road is included as one of Houston's roads that cover only 6% of the City's roadways but incur 60% of traffic-related injuries and fatalities. To reverse this tragic safety record, the Project incorporates design elements to promote comfort, accessibility, and improved safety and mobility. These

improvements are especially necessary to pedestrians utilizing nearby schools, churches, and small businesses.

4.4.1 ADA BENEFITS

The Project will upgrade the deteriorated sidewalks to comply with the Americans with Disability Act (ADA) standards, including the following improvements to make Telephone Road more accessible for transit riders and residents with disabilities:

- Build, reconstruct, and repair sidewalks to 5-6 feet wide with rebuilt access ramps that accommodate wheelchair use;
- Build pedestrian-activated, signalized intersections, equipped with ITS Technology that immediately alert emergency responders to crashes; and
- Build METRO bus stops and/or shelters with integrated lighting, digital “next bus” arrival and information, with access improvements approaching stops. These stops adhere to Universal Accessibility Standards in addition to the augmented features that comply with METRO’s BOOST standards.

4.4.2 INCREASING PEDESTRIAN AND CYCLING USE

The Project will make walking and bicycling more attractive to residents by alleviating the unsafe conditions throughout the corridor. Within the benefit cost analysis (BCA) undertaken for this project, the improvement of sidewalks, inclusion of marked crosswalk and pedestrian signals, and cycling improvements, will lead to an increase in usage as shown in Table 4-3. The Project is expected to induce over 92,000 pedestrian trips in the first operating year and 550,000 trips in the final operating year, as well as 55,000 cycling trips in the first operating year and over 110,000 cycling trips in the final operating year. This increase has an active transportation monetized benefit of $10.7 million (at 7% discount rate). Additionally, mortality reduction benefits totaled $15.4 million (at 7% discount rate) from increased active transportation options. See Appendix A for more information.

Table 4-3. Increase in Pedestrians and Cyclist Trips from Project, 2025 – 2055

USER TYPE	NO BUILD	BUILD	INCREASE IN USERS FROM PROJECT
Pedestrian Trips	8,296,495	13,650,785	**5,354,289**
Cyclist Trips	977,349	2,616,480	**1,639,130**

4.4.3 TRANSIT BENEFITS

An average of 54% of workers aged 25 to 44 years old travel via public transportation for work in the project area.

In addition to improving community safety conditions, the Project will support a greater shift towards corridor transit use and compliment city-wide efforts to increase transit use. The METRONext **Moving Forward Plan** addresses the growing need for transit by incorporating 500 miles of travel improvements, including multiple projects adjacent to Telephone Road. Existing commuting patterns indicate that Telephone Road is the perfect Project to expand interest in transit in lieu of single-occupancy vehicle usage. An evaluation of the American Community Survey five-year estimates for the project area indicates that an average of 54% of workers aged 25 to 44 traveled via public transportation for work. Notably, the data also indicates that 81% of respondents at or above 150% of the poverty level used public transportation, dispelling the notion that public transit is singularly preferred by low-income residents.

The City will design bus stop treatments that are compatible with improved bike lanes and sidewalks. Where right-of-way is sufficient, the City will use a 'Floating Bus Stop'. Where right-of-way is constrained, the City will use a Shared Cycle Track Stop, as shown in Figure 4.6**.** Both designs incorporate a raised platform to accommodate transit users and reduce conflicts with bicyclists. Generous sidewalk width combined with safety striping and audible digital message boards, provides ease of use to physically disabled and visually impaired passengers.

Figure 4-6. Sherbourne Street, Toronto

4.4.3.1 Transit System Prioritization

This City and METRO will use this Project as an opportunity to implement Transit Signal Priority (TSP) along Telephone Road. TSP is a tool that can be used to help make transit service more reliable, faster, and more cost effective. It has little impact on general traffic and is an inexpensive way to make transit more competitive with the automobile. Through detailed design, the City will work with METRO to incorporate TSP at signals where stops are moved to the far-side of the intersection.

High-level planning estimates based on analysis for other corridors within the Houston region, indicate that TSP can decrease delay for a transit vehicle by approximately six seconds per intersection. There are nine signalized intersections along the project

corridor with resulting benefits of approximately one minute per average bus travel time savings. TSP also improves bus schedule reliability, a key driver in attracting transit riders and optimizing transit schedules. The data presented in Table 9 is intended to be demonstrative and informative of potential benefits from TSP.

Table 4-4 Planning Level Assessment of TSP Benefits for Existing (2022) Transit Travel Times

DIRECTION	2022 TRANSIT TRAVEL TIME – PM PEAK HOUR	PLANNING -LEVEL ESTIMATED TRAVEL TIME DECREASED FOR PROJECT CORRIDOR	PERCENTAGE DECREASE IN TRANSIT TIME BY INCORPORATING TSP
Eastbound	13 minutes	54 seconds	7.2%
Westbound	16 minutes	54 seconds	5.6%

4.5 Economic Competitiveness and Opportunity

Expanding job opportunities, incubating local small businesses, supporting entrepreneurs, and promoting the project corridor as a destination for new businesses will help grow the local economy. This includes expanding opportunities for residents to secure stable, well-paying jobs. Focusing job skills and training programs on technology and manufacturing sectors will build on existing synergies in the neighborhood. The overall objective is to reduce area unemployment to be equal to, or lower than, the City of Houston's rate in the next five years. The Telephone Road: Main Street Revitalization Project will boost economic investment and growth in the project corridor by making it safer and more pleasurable to walk, bike, drive, and take transit throughout.

Figure 4-7. Land Use Surrounding Telephone Road Project Corridor

The Telephone Road Project corridor is a true mixed-use community that includes single-family and multi-family residential, as well as significant commercial and industrial land use areas. The Project will bolster development in the corridor by providing safe and attractive roadway for new business growth and expansion.

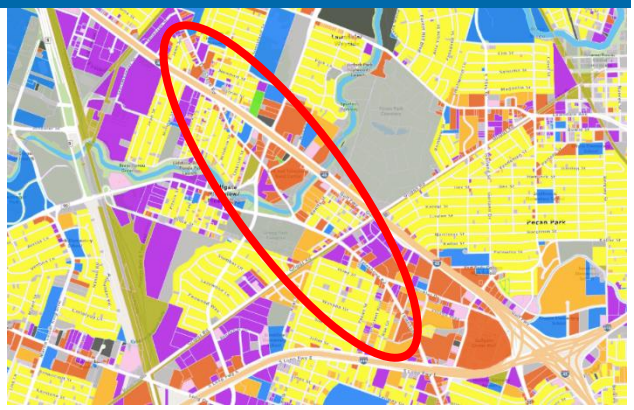
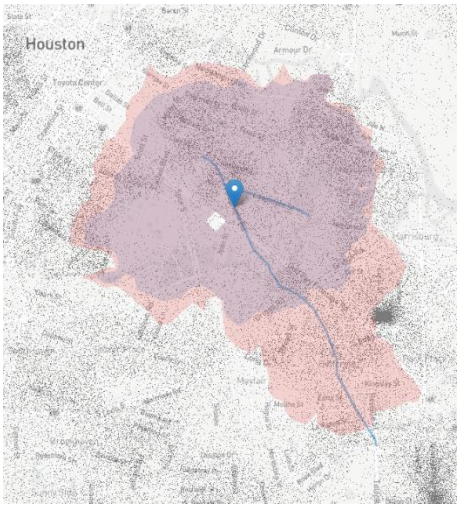


Figure 4-8. Increase in SERJobs Accessible from Project Implementation



Additionally, the Project will make key destinations – like job centers – accessible to a larger share of Houston residents. For instance, if only the TIRZ projects are complete, the SERJobs economic service center will be within a 30-minute bike ride of 10,828 low-income households in the area. If the RAISE-funded segment is completed, this number jumps to 17,489 households.

4.5.1 HOUSTON'S COMMITMENT TO RACIAL EQUITY IN HIRING

The City of Houston is committed to ensuring racial equity in the delivery and implementation of the Project. The City has conducted racial equity disparity studies, which revealed significant systemic disparities in all levels of procurement. To remediate these disparities, the City implemented comprehensive contracting measures including **Hire Houston First** and **Pay or Play**. These City policies aim to level the playing field in its procurement practices. Core functions that advance the mission of racial equity in hiring includes City certifications of Minority Business Enterprises (MBE), Women Business Enterprises (WBE), Small Business Enterprises (SBE), LGBT Business Enterprises (LGBTBE), Disadvantaged Business Enterprises (DBE), and Persons with Disabilities Business Enterprises (PDBE).

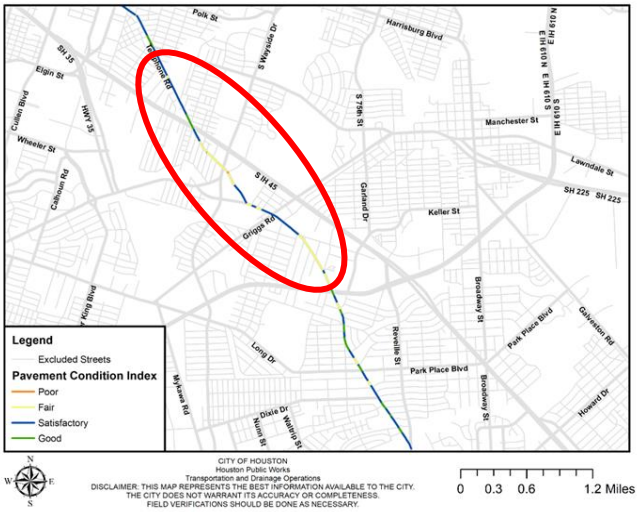
In fiscal year 2021, HPW awarded $897 million, of which $237 million or 26.5% was awarded to certified Small/Minority/Women – Owned Business Enterprises. These efforts earned Houston Public Works (HPW) recognition as the City Department of the Year at the Champions of Diversity Awards.

4.6 State of Good Repair

Numerous parts of the Telephone Road corridor are severely deteriorated, from the pavement to a lack of accessible sidewalks, making it difficult to traverse for cars, bikes, and pedestrians alike. Sidewalks are the responsibility of the property owner by ordinance, hence why they are neglected. Capital projects like this Project allow the City to upgrade sidewalks at no cost to property owners. The surface treatments outlined in the project design, allows the City to rebuild many deteriorated curbs, add ADA-accessible street infrastructure, and improve ITS safety features to support multimodal

travel, at no additional cost to the community. This project upgrades many of the existing conditions that inhibit greater accessibility, increasing efficiency, and adding greater value to the community.

Figure 4-9. Current Pavement Condition Index for Telephone Road



4.6.1 MAINTAINING THE PROJECT

The City has considered and factored in the cost of operating and maintaining the new bike lanes that are a main scope item of the project. The City of Houston observes an average cost of an estimated $4,000 to $25,000 to maintain facilities with High-Comfort Bike Lanes. These costs are already built into the annual operations and maintenance for the project corridor.

The City has developed an annual maintenance plan that is in place for bike lanes/facilities, which includes routine clearing of debris from curb lanes on bike lane facilities approximately four times a year on average. Annual assessments of restriping/signage and replacement are performed as part of street restriping work. Crews conduct major rehabilitation of facilities every three to five years, which includes replacing broken delineators, pavement treatments, signal upgrades, and other street infrastructure improvements.

4.6.2 CONSISTENCY WITH CITY ASSET MANAGEMENT POLICY

The City of Houston Public Works has an Infrastructure Asset Management Policy that balances service performance with acceptable levels of risk. The policy maximizes asset value during the asset life cycle through optimization of total operations and maintenance expenditures plus capital investments. The Project will be managed by this policy.

Policy Driven	Objectives should reflect desired system condition and level of service and address the asset for each state of its life cycle.
Performance Based	Plan objectives should translate into key system performance measures that are used for daily and long-term strategic management.
Knowledge-Based	Data on operation, performance, and condition of assets should be collected and kept current and accurate.
Accountability and Feedback	Performance results should be monitored and reported for both impacts and effectiveness.
Continuous Improvement	Asset management plans should be reviewed as part of the capital planning and budgeting process and updated based on new information, compliance, and performance monitoring.

4.7 Partnership and Collaboration

The City of Houston will continue to work alongside its project partners, including METRO, the Houston-Galveston Area Council ("H-GAC"), advocacy groups, resident associations, business improvement districts, and employers to plan, design, and program funding to support this project. The proposed Telephone Road: Main Street Revitalization Project has the endorsement of numerous supporters and stakeholders in elected office and the community development sector. TIRZ 23 and TIRZ 8 fully support the goals of the project as it connects the TIRZ projects to allow greater cohesion. The project is also adjacent to two historically under-resourced neighborhoods (relatively large high-poverty, low-income areas) that will reap significant tangential benefits from their proximity to the corridor and a redeveloped Telephone Road. Please see the Sections 1.3.1 and 1.3.2 for details on these connecting projects and how the project fits with numerous local and regional plans.

Elected officials within and surrounding Telephone Road wholeheartedly support the goals of this Project. The Project is viewed as a catalyst for greater regional multimodal transportation development. Community stakeholders have embraced the Project because it returns to residents and visitors a long-awaited, restored "Main Street." It also enables greater access to park space, bike trails, and other amenities, and it promotes healthy, resilient communities through walking and cycling, with reductions in GHG emissions from vehicular travel. Finally, it prioritizes a shift toward transit-oriented development that encourages more responsible and inclusive land use.

Letters of support from all the stakeholders identified above are provided in Appendix C.

4.7.1 COMMUNITY OUTREACH PLAN

The City of Houston and its partners have engaged in community dialogue regarding Telephone Road through numerous public planning efforts during the past five years. See section 5.2.3 and 5.2.4 for more information on these efforts.

These communities are currently or have historically been disproportionately affected by local transportation projects and may be identified as low-income, racial/ethnic minorities, seniors, children, people experiencing disability, people with limited English proficiency, and households with no vehicle access. These community members have felt left out of previous decision-making and public engagement processes in Houston.

The City's approach will prioritize equitable processes and outcomes, engage with the community in meaningful, accessible, culturally relevant ways, and support involvement by respected community leaders and influencers.

Following the award of funds, the City will undertake a comprehensive, equity-driven community outreach and public engagement effort, with the associated public information required to effectively communicate with local constituencies once this project is awarded. The City will create a custom community engagement strategy based on the best

management practices outlined by the International Association of Public Participation (IAP2) that recommends three key phases.

- **Phase 1: Assess and Inform:** Understand community values and to not only provide a baseline of understanding for the City, but help establish common ground and buy-in. This includes Public Involvement Plan and Public Information development, and Public Meetings.
- **Phase 2: Integrate** – Connect technical information, data, and research with public input and comments, which in turn enables the City to provide timely, comprehensive updates back to the community, which reflect the shared values and priorities. This feedback loop is responsive, reflective, and authentic.
- **Phase 3: Activate** – Sets the stage for an informed and engaged community, ensuring the community is involved throughout the entire process, and that will serve future project phases. In this work, there is great need for equitable and Environmental Justice considerations given the understanding that historically and currently excluded and underserved communities are affected by the project.

4.8 Innovation

The Telephone Road Main Street Revitalization Project includes several innovative project components:

4.8.1 CCTV CAMERAS

Closed Circuit Television (CCTV) cameras are included on the three rebuilt, signalized intersections along the Telephone Road Main Street Revitalization Project, providing the ability to monitor traffic flow, verify incidents, and assist with timing plan implementation. These cameras observe all four approaches of an intersection, making them an efficient and effective investment. Video feed can also be made available to the media and public, as with the freeway cameras currently available through Houston Transtar. Active TSP can reduce transit delay significantly. **In some cases**, bus travel times have been reduced around 10%, and delay was reduced up to 50% at target intersections. Deployment of CCTV cameras is in progress throughout the City of Houston, through implementation of the City's 2014 TIGER grant for CCTV cameras, as well as through other projects.

4.8.2 TRANSIT SIGNALIZATION

As discussed in Section 4.4 Connectivity and Mobility, the City is planning to incorporate Transit Signal Priority at project intersections along the project corridor. TSP is an innovative tool that can be used to help make transit service more reliable, faster, and more cost effective.

5. PROJECT READINESS: ENVIRONMENTAL RISK

The Project can begin design and pre-construction activities immediately upon award and grant agreement implementation. The schedule assumes obligation of FY22 RAISE funds fully by the end of calendar year 2023 (once design is complete), and it anticipates the completion of construction elements by July 2025. The City will implement this project through a Design-Bid-Build contract, expediting the design and construction.

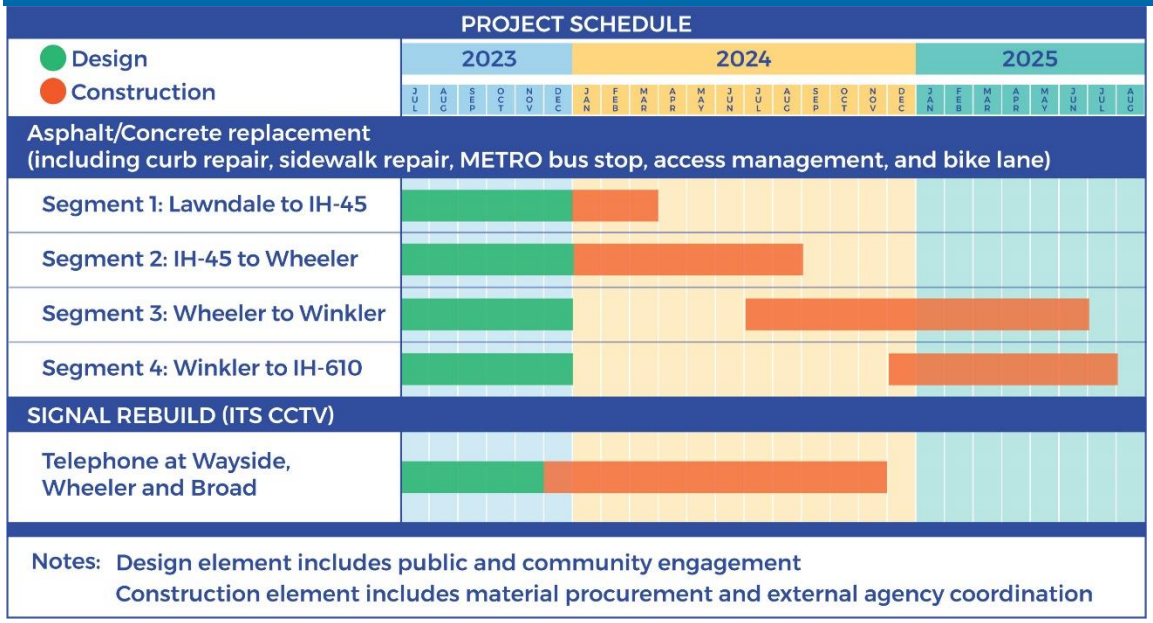
The risk associated with the Telephone Road: Main Street Revitalization Project is very low, as the Houston Public Works, Capital Projects Division, will manage design and construction. Once awarded, local funding will be approved by City Council, of which many members have indicated support. Discussed in more detail below, the City of Houston expects to file a Categorical Exclusion.

5.1 Project Schedule

Per the schedule detailed below:

- RAISE funds will be obligated far in advance of the statutory deadline (June 2026), and the project will begin design as soon as grant agreement is finalized (expected Summer 2023 at the latest).
- There is no expected right-of-way acquisition as part of this RAISE project.
- The City has meaningfully sought community input through a public involvement process in advance of this project and intends to develop a robust Public Involvement Plan, with an Equitable and Environmental Justice Outreach Subplan, to implement during Design.

Figure 5-1. Project Schedule



5.2 Required Approvals

5.2.1 NEPA

The City of Houston expects this project will require a C-26 Categorical Exclusion (CE) to comply with the National Environmental Policy Act of 1969. Given that the project will take place entirely on existing right-of-way in an urban area, no adverse impacts to the environment are expected.

Texas Department of Transportation (TxDOT) advises that projects requiring less than 30 acres of total new right-of-way, and less than 10 total displacements (residential and commercial), are commonly approved as open-ended (d) CEs, but they still require TxDOT Environmental Affair's review and approval using an approval form prior to processing the project as an open-ended (d) CE. The City has worked with TxDOT on multiple similar projects with no risks identified.

5.2.2 PERMITTING REQUIREMENTS

The Project does not include stormwater conveyance or any other large impact to the subsurface. Possible permits around lane closures, street-cut permits, and construction permits will be required and managed by the City as the implementing agency.

5.2.3 STATE/LOCAL PLANNING APPROVALS AND INCLUSION IN PLANNING DOCUMENTS

The project is not currently included in the TIP/STIP but will be added once federal funding is awarded, as well as to the H-GAC **Regional Transportation Plan** (RTP). The City of Houston has coordinated with TxDOT on this project and expects route reviews and approvals where City and State facilities intersect. The City frequently works with TxDOT on such projects, **including the recently completed Elysian Viaduct**.

There are no additional legislative approvals necessary for the project. The City of Houston's City Council will approve the local match amount included in this application upon award of grant notification.

This project is supported by multiple City and Regional Master Plans, including:

- **City of Houston Climate Action Plan**
- **Resilient Houston: Resilience Strategy**
- **Houston Metro Climate Action Plan**
- **Houston Bike Plan**
- **Vision Zero Action Plan**

5.2.4 PUBLIC ENGAGEMENT

The City of Houston and its partners have engaged in community dialogue regarding Telephone Road through four public planning efforts during the past five years. While

varying based on specific geographical segment, redesigns consistent with this application's proposal were recommended by:

- **The East End Bike Plan** (2021)
- **The Eastwood Livable Centers Study** (2021)
- The Southeast Houston Mobility Plan (2019)
- **The Hobby Area Livable Centers Study** (2017)

A plan to develop a substantive public outreach plan is noted in Section 4.7.1.

5.3 Assessment of Project Risks and Mitigation Strategies

The City of Houston understands that all major transportation capital projects include a level of risk and takes pride in fully assessing and addressing any potential risks associated with its projects before they begin. The City also understands the reporting requirements and financial best practices associated with responsibility as a federal funding recipient. Furthermore, the City has its own significant financial stake in the Project and has taken necessary precautions to ensure this Project is completed on time and within budget. The City has identified the following project risks and considered the most feasible mitigation strategies for each. As recently as 2019, the City has received BUILD funding and has proved to be excellent stewards of federal funding.

5.3.1 RISK 1. FUNDING AND PROJECT READINESS

While the Project is in early stages of development process, it has been demonstrated that design activities can commence as soon as funding is awarded through the RAISE grant. The City of Houston has undergone multiple similar projects and is a proven steward of federal, state, and local funds. However, if RAISE funding is not awarded in FY22, this necessary community safety and connectivity project will not be realized. The significant contingency (25% of hard construction costs) included in the project cost will allow for flexibility as the project moves through the design phase of the project.

5.3.2 RISK 2. ROW ACQUISITION AND CONTINGENCY

This Project is not expected to require the acquisition of any private real estate or any local business easements. A few of the intersections may require small right-of-way acquisition that could have operational benefits. As shown in the budget of this Project, a contingency of 25% of hard construction costs has been added to the project in case minor right-of-way acquisition is required for the project. This is significantly more than what is needed, even if right-of-way is required as part of the intersection scope. The City of Houston has an experienced team of real estate specialists that have a record of success with negotiating right-of-way acquisitions.

5.3.3 RISK 3. ACCESS MANAGEMENT

Access management was not considered in a previous BUILD grant prepared by the City of Houston, and as a demonstration of internal mitigation, this RAISE grant **does** consider significant access management to help balance allowing access to businesses along the Telephone Road corridor with providing safety to travelers. The City is in the process of developing a comprehensive Access Management Code so that properties with nonconforming access connections will be allowed to continue but must be brought into compliance to the maximum extent possible when modifications to the roadway are made.

6. BENEFIT – COST ANALYSIS

BCA METRIC	PROJECT LIFECYCLE DISCOUNTED (7%)
Total Benefits	$53,537,089
Travel Time Savings	($418,073)
Safety	$28,219,069
Bike/Pedestrian Facility Improvements (Active Transportation)	$10,715,298
Mortality Reduction (Health)	$15,447,212
O&M Increases	($426,418)
Total Costs	$19,065,263
Net Present Value (NPV)	$34,471,826
Benefit Cost Ratio (BCR)	2.81
Internal Rate of Return (IRR)	20%
Payback Period	7 years

Table 6-1 presents the Benefit Cost Analysis (BCA) evaluation results for the Project. Results are presented in discounted at 7 percent as prescribed by the USDOT. All benefits and costs were estimated in constant 2020 dollars over an evaluation period extending 20 years beyond the project opening date, slated for 2026. The total benefits from the project improvements within the analysis period represent $53.5 million when discounted at 7 percent. The total capital costs are calculated to be $19.1 million when discounted at 7 percent. The difference of the discounted benefits and costs equal a net present value of $34.5 million, resulting in a benefit-cost ratio (BCR) of 2.8.

See Appendix A for the Benefit Cost Analysis Technical Memorandum and Appendix B for the BCA Model.

7. APPENDICES

A. Benefit-Cost Analysis Technical Memorandum
B. Benefit-Cost Analysis Spreadsheets
C. Letters of Support
D. EJ Screen Analysis