

# US 90A

TRANSIT CORRIDOR STUDY



***Final Report***

November 2025

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**List of Acronyms**

<b>A</b>	Alternative
<b>ADT</b>	Average Daily Traffic
<b>BRT</b>	Bus Rapid Transit
<b>CIP</b>	Capital Improvement Project
<b>COVID-19</b>	Coronavirus Disease 2019
<b>CRIS</b>	Crash Record Information System
<b>DRYC</b>	Drycleaners
<b>EMST</b>	Ecological Mapping Systems of Texas
<b>FAA</b>	Federal Aviation Administration
<b>FEMA</b>	Federal Emergency Management Agency
<b>FM</b>	Farm to Market
<b>FRA</b>	Federal Railroad Administration
<b>GCRD</b>	Gulf Coast Rail District
<b>GIS</b>	Geographic Information System
<b>HCFC</b>	Harris County Flood Control District
<b>HCT</b>	High Capacity Transit
<b>HCTRA</b>	Harris County Toll Road Authority
<b>H-GAC</b>	Houston-Galveston Area Council
<b>HOT</b>	High Occupancy Toll
<b>HOV</b>	High Occupancy Vehicle
<b>IH</b>	Interstate Highway
<b>IHWCA</b>	Industrial Hazardous Waste Corrective Action
<b>IOP</b>	Innocent Owner Program
<b>IPaC</b>	Information for Planning and Consultation
<b>LEHD</b>	Longitudinal Employer-Household Dynamics
<b>LODES</b>	LEHD Origin-Destination Employment Statistics
<b>LPST</b>	Leaking Petroleum Storage Tank
<b>LRT</b>	Light Rail Transit
<b>METRO</b>	The Metropolitan Transit Authority of Harris County

<b>MSD</b>	Municipal Setting Designations
<b>NDD</b>	Natural Diversity Database
<b>NFHL</b>	National Flood Hazard Layer
<b>NHD</b>	National Hydrography Dataset
<b>NWI</b>	National Wetlands Inventory
<b>OD</b>	Origin-Destination
<b>P&amp;R</b>	Park & Ride
<b>PN</b>	Project Number
<b>PST</b>	Petroleum Storage Tank
<b>ROW</b>	Right-of-Way
<b>RRC</b>	Railroad Commission
<b>RTP</b>	Regional Transportation Plan
<b>SH</b>	State Highway
<b>T&amp;E</b>	Threatened and Endangered
<b>TCEQ</b>	Texas Commission on Environmental Quality
<b>THC</b>	Texas Historical Commission
<b>TMC</b>	Texas Medical Center
<b>TNW</b>	Traditionally Navigable Waters
<b>TPWD</b>	Texas Parks and Wildlife Department
<b>TSP</b>	Traffic Signal Priority
<b>TxDOT</b>	Texas Department of Transportation
<b>US</b>	United States
<b>UPRR</b>	Union Pacific Railroad
<b>US</b>	United States Highway
<b>USACE</b>	United States Army Corps of Engineers
<b>USFWS</b>	United States Fish and Wildlife Service
<b>USGS</b>	United States Geological Survey
<b>VCP</b>	Voluntary Cleanup Program

# **1 Introduction**

The Houston-Galveston Area Council (H-GAC) has established a partnership with the Gulf Coast Rail District (GCRD) to conduct a study and develop feasible and reasonable transit alternative(s) for the US 90A corridor. This corridor, which serves both Harris County and Fort Bend County, has been considered for transit improvements multiple times over the years and has been included as an element in previous long-range transit plans formulated by H-GAC, the Metropolitan Transit Authority of Harris County (METRO), and others. Many of these plans have suggested commuter rail (CRT) running parallel to US 90A as a high-capacity transit solution for this corridor. However, there are significant obstacles to the implementation of this type of modal option in this corridor, necessitating the consideration of other alignments and technologies.

## **1.1 Project Description**

The US 90A corridor parallels the Union Pacific Railroad (UPRR) Glidden Subdivision and passes through some of Fort Bend County's most significant and growing urban developments, including the cities of Missouri City, Stafford, Sugar Land, Richmond, and Rosenberg, as well as communities in Southwest Houston. At the corridor's eastern end is the Texas Medical Center (TMC), a major employment center that is the destination for many Fort Bend County commuters. US 90A itself does not currently have any transit priority infrastructure, even though it provides a key connection between Fort Bend County and the TMC.

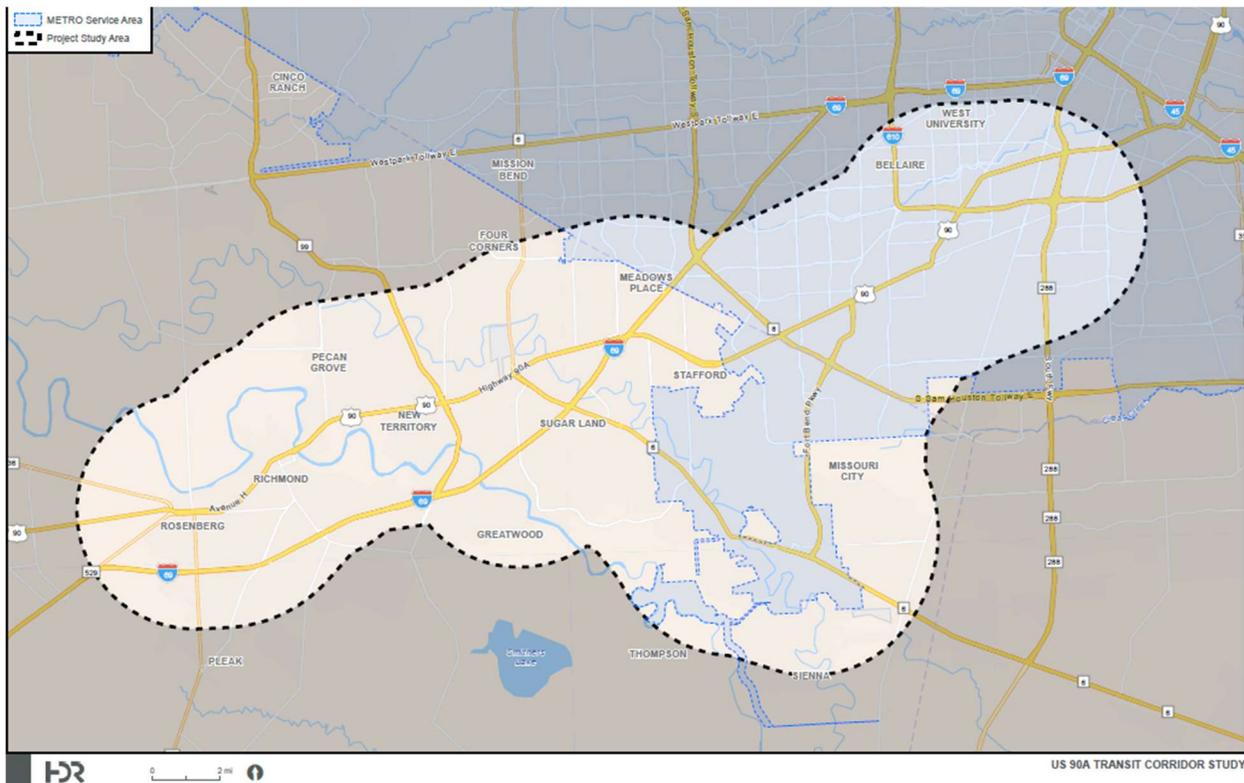
## **1.2 Purpose of the Study**

The purpose of this study is to assess the technological and economic feasibility of establishing and operating efficient commuter transit service along this corridor, using modal options, including light rail transit (LRT) and bus rapid transit (BRT), which could significantly benefit mobility within the region. The goal of this study is to generate feasible and reasonable transit alternative(s) for this corridor so that the GCRD can advance into a more detailed study and analysis, with an eye toward implementation of corridor improvements. Improvements along the corridor would require coordination between GCRD and other area jurisdictions.

## 2 Existing Conditions

US 90A and the parallel UPRR tracks extend approximately 26 miles from the vicinity of the Fannin South Transit Center at the corner of Fannin Street and West Belfort Avenue to 1<sup>st</sup> Street (State Highway (SH) 36) in Rosenberg. In addition to the area served by US 90A and UPRR, portions of Sugar Land served by IH-69/US 59 and Missouri City served by Fort Bend Parkway Toll Road are included in the Study Area. Using a 3-mile travelshed around these potential travel corridors creates a large Study Area covering a large portion of southwest Harris County and eastern Fort Bend County as shown in **Figure 2-1**. Naturally, such a large Study Area includes a variety of neighborhoods, communities, and associated land uses.

**Figure 2-1 US 90A Transit Corridor Study Area**



This chapter will present a summary of the existing conditions found in the Study Area. This information will help identify where people live, where they work, how they travel, and the challenges and opportunities to provide fast, efficient commuter service.

### 2.1 Demographics

Harris and Fort Bend Counties are among the top ten counties in the United States with the highest population growth over the past two years, according to the US Census Bureau.<sup>1</sup> US Census Decennial data shows that Fort Bend County has averaged 77 percent growth per decade since 1970, growing from 52,315 to over 822,000 people as of 2020. The Study Area

<sup>1</sup> <https://www.census.gov/newsroom/press-releases/2024/population-estimates-more-counties-population-gains-2023.html>.

contains 695,861 residents in the communities along US 90A listed in **Table 2-2**. A portion of the Study Area extends into southwest Harris County and southeastern Houston, home to approximately 2.3 million people (US Census Bureau, 2020).

Fort Bend County claims to be the most diverse county in Texas.<sup>2</sup> Harris County, and the City of Houston in particular, are also recognized as being very diverse.<sup>3</sup> **Table 2-1** also lists the Study Area’s diverse character compared to Fort Bend and Harris Counties.

The data shows that the Study Area is relatively balanced in ethnic representation, with Hispanics being the largest ethnicity at 30 percent and Asians the smallest ethnicity at 17 percent. Whites and Blacks make up 25 percent and 26 percent, respectively, while three percent identify as Other. Compared to the Fort Bend County and Harris County breakdown, in **Table 2-1**, there is an even greater balance among the ethnic breakdown in Fort Bend County, with the Asian population rising to 21 percent and the Hispanic population dropping to 25 percent. In Harris County the Hispanic population rises to 44 percent and the Asian population decreases to seven percent.

**Table 2-1 Study Area Demographics**

Category	Study Area	%	Ft. Bend County	%	Harris County	%
<b>Total Population</b>	<b>695,861</b>		<b>806,497</b>		<b>4,697,957</b>	
White	171,466	25%	251,084	31%	1,327,632	28%
Black	179,413	26%	160,594	20%	868,262	18%
Hispanic	210,285	30%	201,001	25%	2,049,914	44%
Asian	116,214	17%	167,327	21%	327,705	7%
Other	18,483	3%	26,491	3%	124,444	3%
<b>Employment</b>						
Employment	399,039		214,210		2,306,717	
<b>Households</b>						
Households	249,265		259,106		1,658,503	
<b>Household Income</b>						
Mean Income (2021 dollars)	\$92,624		\$128,974		\$97,219	
<b>Vehicles / Household</b>						
0	16,501	7%	7,428	3%	106,701	6%

<sup>2</sup> <https://www.niche.com/places-to-live/c/fort-bend-county-tx/>, 2022.

<sup>3</sup> <https://www.census.gov/library/visualizations/interactive/racial-and-ethnic-diversity-in-the-united-states-2010-and-2020-census.html>.

Category	Study Area	%	Ft. Bend County	%	Harris County	%
1	82,201	33%	54,963	21%	571,693	34%
2	99,546	40%	125,919	49%	645,573	39%
3	35,634	14%	49,774	19%	231,152	14%
More	15,483	6%	21,022	8%	103,384	6%
<b>English Proficiency</b>						
None	16,935	2%	10,491	1%	191,305	4%
Not Well	34,289	5%	28,264	4%	291,771	6%
Well / Very Well	224,233	32%	264,399	33%	1,462,658	31%
English Only	374,784	54%	450,336	56%	2,410,360	51%
<b>Age Cohorts</b>						
Under 18	187,202	27%	221,496	27%	1,254,881	27%
18-34	148,666	21%	161,061	20%	1,171,474	25%
35-64	273,071	39%	332,561	41%	1,772,324	38%
65 and Older	86,922	12%	91,379	11%	499,278	11%
<b>Households with Computers</b>						
Households with Computers	237,546	95%	252,055	97%	1,569,889	95%

Source: US Census Bureau, 2020 and American Community Survey 5-Year Estimates (2017-2021). LEHD/LODES Workforce Area Characteristics for 2021.

Another notable feature is the average annual household income, which is significantly higher in Fort Bend County than in Harris County. This difference may be indicative of the character of Fort Bend County, which reflects newer and more suburban development than much of Harris County, which contains the City of Houston. The average household income in the Study Area is higher than the H-GAC regional average of \$72,551.

The high-level demographic data presented provides an overview of the character of the Study Area; however, more specific demographic data can indicate unique qualities of the people in the Study Area, such as the likelihood that people need transit to get to work or to perform their daily activities. The age of a population, their income, ethnic origin, and car ownership are data points that can combine to indicate how dependent the population may be on public transportation. For instance, a high number of elderly households with low incomes and no cars could indicate a population dependent on transit services for mobility. Ethnicity can also be a factor in transit use. Many foreign-born people or first-generation Americans may come from a country where transit is the primary form of transportation and expect to use it for their daily travels.

Longitudinal Employer-Household Dynamics (LEHD) data shows that approximately 399,395 jobs are in the Study Area. Fort Bend County has a total of 214,210 jobs, indicating almost half of the jobs in the Study Area are in Harris County. **Table 2-2** shows that 140,687 (66 percent) of Fort Bend County jobs are centered in five communities along the US 90A corridor. The total available employment in Harris County and the concentration of jobs along the US 90A corridor support the concept of a linear commuter service linking this area to employment centers in Houston and Harris County.

**Table 2-2 Corridor Community Demographics**

	Missouri City	Stafford	Sugar Land	Richmond	Rosenberg	Total
Population	73,393	17,215	77,664	10,919	36,528	215,719
Jobs	15,435	26,181	77,019	3,306	19,826	140,687
Households	25,335	6,371	27,121	3,426	13,071	75,324
Average Household Income	\$109,631	\$88,287	\$161,116	\$74,728	\$71,682	\$87,625

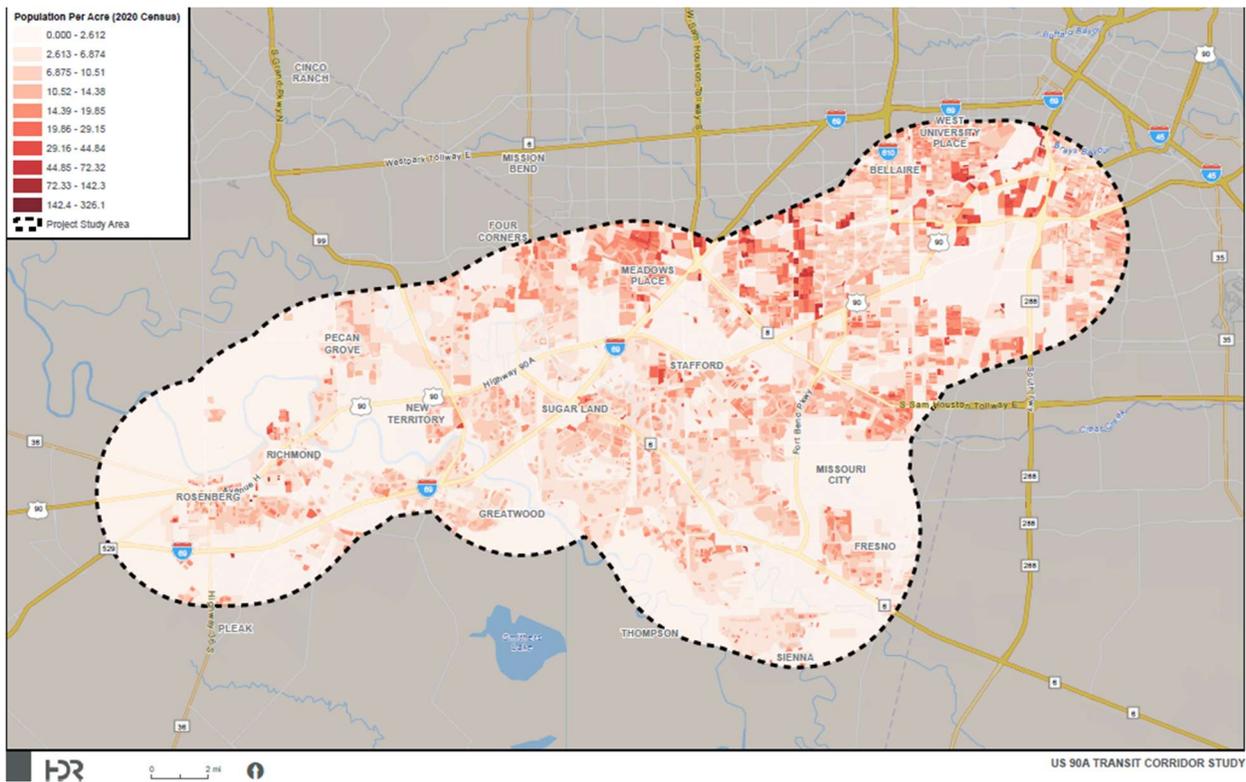
Source: US Census Bureau, 2020 and American Community Survey 5-Year Estimates (2017-2021)

### 2.1.1 Population and Employment Density

Population and Employment density data is used to help identify concentrations of trip origins and destinations. Due to the size of the Study Area and suburban nature of the communities, employment and population clusters are scattered throughout. The population and employment densities are noticeably less dense in the west of the Study Area than in the east, which falls within the City of Houston. **Figure 2-2** and **Figure 2-3** illustrate the population and employment density in the Study Area, respectively.

**Figure 2-2** shows low density development throughout the Study Area, which is typically single family suburban development. The darker shades of red are often large clusters of multifamily housing. Inside the Sam Houston Tollway there is a high concentration of multifamily housing on Fondren Road between US 90A and Brays Bayou and another at the Sam Houston Tollway and IH-69/US 59 intersection. Once outside the Sam Houston Tollway, the highest population density is in a cluster of multifamily housing on Bissonnet Street, South Dairy Ashford Road, and South Kirkwood Road in Meadows Place, and along Dulles Avenue and Murphy Road in Stafford.

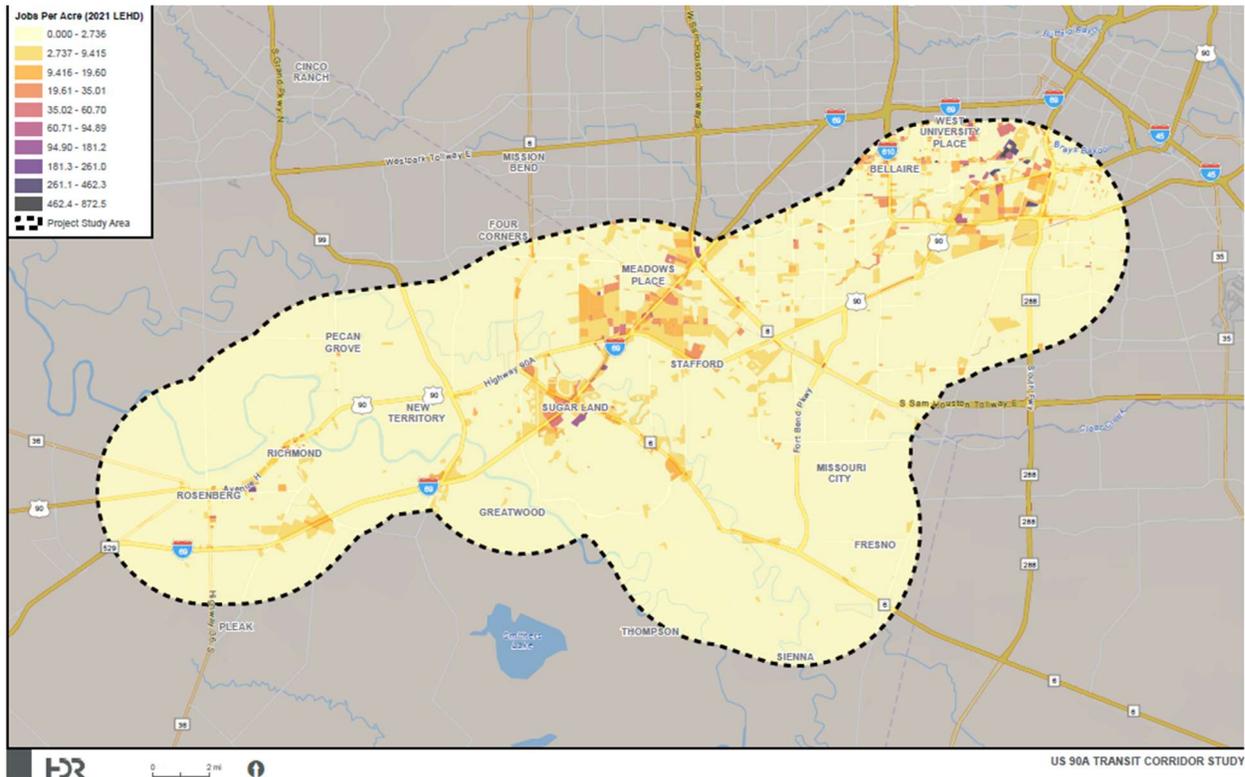
Figure 2-2 Population Density



Much of the employment density is concentrated in the northeast section of the Study Area shown in **Figure 2-3**. This includes the Texas Medical Center (TMC), NRG Park, and Rice University. Another large concentration is along the IH-69/US 59 corridor between the Sam Houston Tollway and US 90A in Stafford. This area is primarily commercial development, several business parks, and SLB’s<sup>4</sup> corporate campus in Sugar Land. The IH-69/US 59 and SH 6 intersection is the location of a dense employment cluster that includes Sugar Land Town Square, First Colony Mall, and Houston Methodist Sugar Land Hospital. In downtown Rosenberg, Lamar Consolidated School District (CSD) has a large concentration of employment.

<sup>4</sup> Company formerly known as Schlumberger

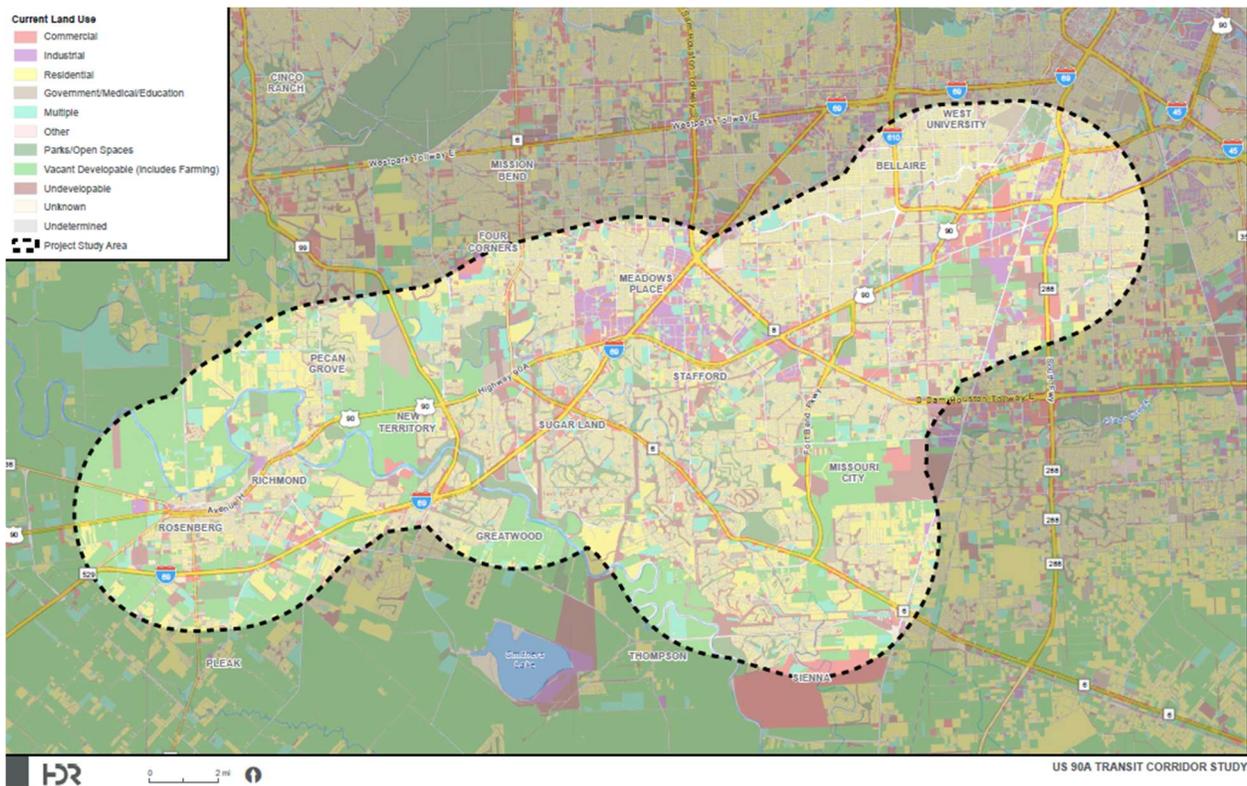
Figure 2-3 Employment Density



## 2.2 Land Use

There are several urban, suburban, and rural communities spread along the Fort Bend Parkway Toll Road, IH-69/US 59, the Sam Houston Tollway, SH 6, and US 90A, including Houston, Missouri City, Stafford, Sugar Land, Richmond, and Rosenberg. The built landscape in the Study Area is characterized by a mixture of low-density single family and multifamily, agricultural uses, commercial uses, public/institutional uses, parks and open spaces, industrial uses, wetlands/surface water, and vacant or underutilized land shown in **Figure 2-4**.

Figure 2-4 Study Area Land Use



Large master-planned suburban developments cover much of Missouri City and Sugar Land, while Richmond and Rosenberg are bedroom communities with neighborhood commercial, single family, and agricultural uses. Stafford’s predominant land use is commercial.

Single family land use comprises 35 percent of the Study Area, while multifamily makes up six percent. Developable land and agricultural uses, located predominantly in the western/southwestern portion of the Study Area, make up 27 percent of the land use. Commercial land use, which includes retail and office, makes up eight percent of the Study Area. Commercial uses are located primarily along major thoroughfares like the Fort Bend Parkway Toll Road, IH 69/US 59, the Sam Houston Tollway, SH 6, and US 90A. Public/institutional land uses are spread throughout the Study Area and make up two percent of the Study Area’s land uses. This land use includes educational services, public administration and other government functions, public safety, health and human services, places of worship, death care services (such as funeral homes, crematoriums and cemeteries), and associations and nonprofit organizations. Transportation/utility land uses are comprised of transportation infrastructure, telecommunications facilities, and utilities and utility services. This land use accounts for seven percent of land in the Study Area and includes two railroad subdivisions, the Glidden and Popp Subdivision, and several high transmission corridors as part of that percentage. All data is included in **Table 2-3**.

**Table 2-3 Study Area Land Use Acreages**

Land Use	Acreage	%
Single Family	67,452	35%
Multifamily	12,468	6%
Commercial	14,902	8%
Public/Institutional	4,148	2%
Industrial	5,319	3%
Parks and Open Space	15,127	8%
Vacant/Underdeveloped/Agricultural	52,170	27%
Transportation/Utilities	14,095	7%
Unknown/Unidentified	8,061	4%
<b>Total</b>	<b>193,742</b>	<b>100%</b>

Source: UrbanFootprint, 2024

## 2.3 Mobility

### 2.3.1 Trip Origins and Destinations

H-GAC’s Regional Origin-Destination (OD) Dashboard<sup>5</sup> provides trip data throughout the region based on data collected from 2019 to 2021. This data period includes the trip reduction caused by the COVID-19 shutdown, so while the average daily numbers may be lower than normal, the proportion of trips can still be indicative of the travel patterns in the Study Area.

The OD Dashboard can provide the number of daily trips between cities, communities, and counties, from which the trip distribution from a location can be calculated. The tool shows that of all the nearly 1.59 million daily vehicle trips originating in Fort Bend County, 72 percent (1.9 million) have internal destinations within the county, and approximately 25 percent of the trips (395,321) have destinations in Harris County. The remaining three percent of the trips (47,000) are bound for other surrounding counties.

The OD Dashboard can also be used to determine the average daily trips from the largest trip generators in the Study Area to the largest employment centers in Harris County. **Table 2-4** identifies the weekday trips to the primary employment destinations from the primary cities and communities in the Study Area. Of the 156,485 average daily trips that originate from the six identified communities and are destined for Harris County, 16,698, or almost 11%, are headed to one of the five identified major activity centers.

<sup>5</sup> Accessible at <https://datalab.h-gac.com/od/>

**Table 2-4 Primary Weekday Trip Destinations**

Community	TMC		Downtown Houston		Uptown-Galleria		Greenway Plaza		Westchase District		Subtotal
Missouri City	1,444	36%	893	22%	593	15%	351	9%	700	18%	3,981
Richmond	33	24%	31	23%	25	19%	17	13%	29	21%	135
Rosenberg	269	26%	260	25%	131	13%	73	7%	298	29%	1,031
Sienna	430	37%	332	29%	154	13%	81	7%	157	14%	1,154
Stafford	472	22%	470	22%	380	18%	179	8%	657	30%	2,158
Sugar Land	1,557	19%	2,000	24%	1,696	21%	939	11%	2,047	25%	8,239
<b>Total</b>	<b>4,205</b>	<b>25%</b>	<b>3,986</b>	<b>24%</b>	<b>2,979</b>	<b>18%</b>	<b>1,640</b>	<b>10%</b>	<b>3,888</b>	<b>23%</b>	<b>16,698</b>

Numbers represent one-way trips. Source: H-GAC Regional Origin-Destination Dashboard, 2024.

The results are evenly distributed, with approximately three-quarters of the trips destined to three employment centers: the TMC at 25 percent, Downtown Houston at 24 percent, and the Westchase District at 23 percent. The remaining 25 percent of the trips are split between the Uptown-Galleria at 18 percent, and Greenway Plaza at ten percent.

The Dashboard also shows the distribution of trips by time of day. Approximately 17 percent of all daily trips originating from Fort Bend County occur during the morning peak (6:00 a.m. – 9:00 a.m.), 31 percent occur during the afternoon peak (3:00 p.m. – 7:00 p.m.), and 33 percent during the midday period (9:00 a.m. – 3:00 p.m.). The remaining 19 percent are evening and overnight trips from 9:00 p.m. – 6:00 a.m.

Of the daily trips from the primary communities in the Study Area to the primary employment centers in Harris County, however, 45 percent occur during the morning peak (in the case of Downtown Houston, this share of trips rises to 55 percent), while 23 percent occur during the midday period and only 13 percent occur during the afternoon peak. This indicates travel patterns that are more commuter-focused than those of the county at large.

Based on this data, there is potential demand for regular daily transit service from the communities in the Study Area to employment centers such as the TMC and Downtown Houston, which attract almost half of the commuter traffic from the Study Area. The remaining half of the commuters could be served via strategic connections to the Westchase District and Uptown-Galleria/Greenway Plaza areas.

### 2.3.2 Transit

Within the Study Area, there are three alignments – US 90A, a portion of IH-69/US 59, and the Fort Bend Tollway - that have been previously identified for potential high-capacity transit (HCT) service. Existing transit services within a half-mile buffer of these alignments are provided by The Metropolitan Transit Authority of Harris County (METRO) and Fort Bend Transit. The existing transit services within the Study Area are illustrated in **Figure 2-5** and described in detail in the following sections.

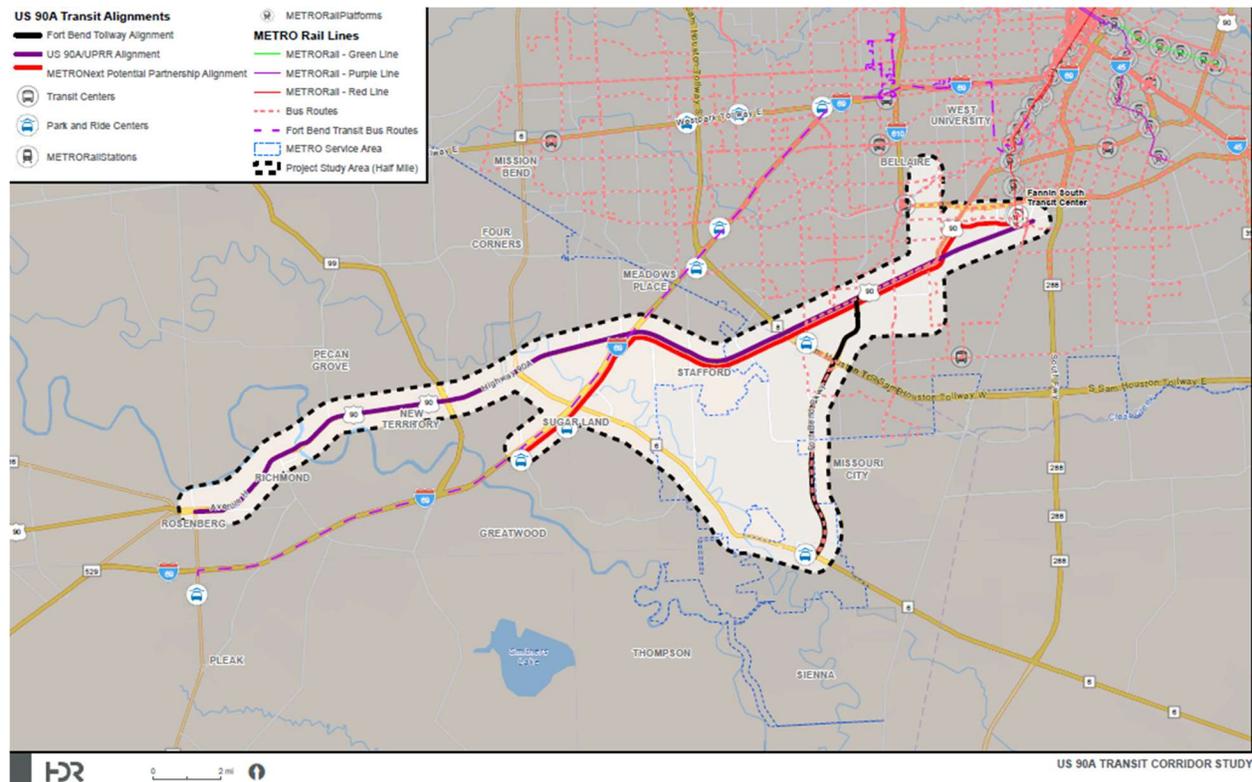
#### METRO

The METRO service area is concentrated in the northeastern portion of the Study Area. METRO currently had four facilities in the Project Area Buffer: one park & ride lot (Missouri City P&R), two transit centers (Fondren Transit Center and Fannin South Transit Center), and one METRORail station (Fannin South).<sup>6</sup> METRO operates one METRORail route, 12 local bus routes, one park & ride bus route, METROLift, METRO STAR, and curb2curb. Note: this analysis focused on transit routes within a ½-mile of the identified alignments.

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<sup>6</sup> In January 2025, METRO opened a new park and ride facility at the intersection of SH 6 and the Fort Bend Parkway Toll Road. This garage replaces the previous Missouri City/SH 6 Park and Ride, which was located in the parking lot of a nearby grocery store.

Figure 2-5 Existing Transit Services



METROLift provides transportation for persons with disabilities who cannot board, ride, or disembark from a METRO fixed-route bus. The METRO STAR Vanpool program caters to the diverse transportation needs of the extensive eight-county Houston-Galveston Region, spanning Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller counties. METRO curb2curb is a zone-based, on-demand shared-demand transportation service that operates primarily without a defined route but has connectivity to METRO’s local bus network, allowing for more flexibility to serve riders across the zone.

Weekday peak frequencies on these services range from 6 minutes (Red Line) to 60 minutes (Route 98 Briargate). Route 270 Missouri City is the only METRO service that currently operates within the US 90A corridor, from the TMC Transit Center to Missouri City P&R. These services are supported by the three METRO transit facilities in the Study Area: the Fannin South Transit Center, Fondren Transit Center, and Missouri City P&R. The operating characteristics of existing METRO services within the Study Area are summarized in **Table 2-5**. Information on the METRO transit facilities within the Study Area is provided in **Table 2-6**.

**Table 2-5 METRO Service Operating Characteristics**

Service Type	Weekday		Saturday		Sunday	
Route	Service Span	Frequency (Mins) <sup>1</sup>	Service Span	Frequency (Mins) <sup>1</sup>	Service Span	Frequency (Mins) <sup>1</sup>
<b>Rail</b>						
700 Red Line	3:30 a.m. – 12:30 a.m.	6 / 12 / 18	4:30 a.m. – 12:30 a.m.	12 / 18	4:30 a.m. – 12:30 a.m.	12 / 18
<b>Local Bus</b>						
7 West Airport	5:30 a.m. – 10:00 p.m.	30	5:30 a.m. – 10:00 p.m.	30	5:30 a.m. – 10:00 p.m.	30
8 West Bellfort	4:15 a.m. – 12:45 a.m.	15 / 20 / 30	5:00 a.m. – 12:45 a.m.	30	5:00 a.m. – 12:45 a.m.	30
10 Willowbend	5:00 a.m. – 10:30 p.m.	60	6:00 a.m. – 8:30 p.m.	60	6:00 a.m. – 8:30 p.m.	60
11 Almeda / Lyons	3:45 a.m. – 1:15 a.m.	30	3:45 a.m. – 1:15 a.m.	30	3:45 a.m. – 1:15 a.m.	30
14 Hiram Clarke	4:15 a.m. – 12:30 a.m.	15 / 30	4:45 a.m. – 12:30 a.m.	30	4:45 a.m. – 12:30 a.m.	30
47 Hillcroft	5:00 a.m. – 11:45 p.m.	15 / 30	5:30 a.m. – 11:45 p.m.	30	5:30 a.m. – 11:45 p.m.	30
49 Chimney Rock / S Post Oak	4:15 a.m. – 12:00 a.m.	30	5:00 a.m. – 12:00 a.m.	30	5:15 a.m. – 11:15 p.m.	30
63 Fondren	4:00 a.m. – 1:30 a.m.	15 / 30	4:00 a.m. – 1:30 a.m.	15 / 30	4:00 a.m. – 1:30 a.m.	15 / 30
73 Bellfort	4:30 a.m. – 12:45 a.m.	12 / 20	5:00 a.m. – 12:45 a.m.	15 / 20	5:00 a.m. – 12:45 a.m.	15 / 20
84 Buffalo Speedway	5:30 a.m. – 11:15 p.m.	12 / 20	5:30 a.m. – 11:15 p.m.	30	5:30 a.m. – 11:15 p.m.	30
87 Sunnyside	4:45 a.m. – 10:30 p.m.	30 / 60	5:15 a.m. – 9:30 p.m.	60	5:15 a.m. – 9:30 p.m.	60
98 Briargate	6:16 a.m. – 9:30 p.m.	60	6:15 a.m. – 8:15 p.m.	60	6:15 a.m. – 8:15 p.m.	60
<b>Park &amp; Ride</b>						
270 Missouri City	5:00 a.m. – 9:13 a.m.	10-20	No service	—	No service	—
	2:35 p.m. – 8:42 p.m.					

<sup>1</sup> Peak / off-peak / evening

Source: [METRO | Public Transit | Houston, Texas | Bus | Rail | Park & Ride](#), Accessed May 2024.

**Table 2-6 METRO Transit Facilities**

Name	Address	Facility Type	Routes	Parking Stalls	Average Daily Boardings <sup>1</sup>
Fannin South	1604 W Bellfort	Transit Center	Red Line, 008, 011, 073, 087	1,439	1,842
Fondren	13849 Fondren Road	Transit Center	063, 098, 270, 314, 363	779	285
Missouri City	SH 6 & Knight Road	P&R	270	200	183

<sup>1</sup> 1<sup>st</sup> Quarter, 2024

Source: [METRO | Public Transit | Houston, Texas | Bus | Rail | Park & Ride](#), Accessed May 2024.

### Fort Bend Transit

Fort Bend County operates Fort Bend Transit commuter services to the TMC, Greenway Plaza, and Downtown Houston areas. The routes operate on weekdays only and generally provide peak-period service, with limited service during the midday period. These services are supported by three park & ride facilities at the Fort Bend County Fairgrounds, the University of Houston (UH) Sugar Land, and AMC First Colony 24. The operating characteristics of existing Fort Bend Transit services within the Study Area are summarized in **Table 2-7**. Information on the Fort Bend Transit facilities within the Study Area is summarized in **Table 2-8**.

**Table 2-7 Fort Bend Transit Services Operating Characteristics**

Route	Weekday		Weekend	
	Service Span	Frequency (Mins) <sup>1</sup>	Service Span	Frequency (Mins) <sup>1</sup>
TMC	4:40 a.m. – 10:00 a.m. 1 midday trip 3:00 p.m. – 8:30 p.m.	10 / 45	No Service	—
Greenway / Galleria Transfer	4 inbound AM peak trips 4 outbound PM peak trips	—	No Service	—
Downtown	5:30 a.m. – 9:30 a.m. 2 midday trips 3:15 p.m. – 7:15 p.m.	10 / 20	No Service	—

Source: <https://www.fortbendcountytx.gov/government/departments/public-transportation/services/commuter-park-and-ride-services>; Accessed May 2024.

**Table 2-8 Fort Bend Transit Facilities**

Name	Address	Facility Type	Routes	Parking Stalls	Average Daily Boardings <sup>1</sup>
Fairgrounds P&R	4310 SH 36	P&R	TMC, Greenway / Galleria	371	11
UH Sugar Land	14000 University Blvd	P&R	TMC, Greenway / Galleria	201	105
AMC First Colony	3301 Town Centre Blvd	P&R	TMC, Greenway / Galleria	603	364

<sup>1</sup> April, 2024

Source: Fort Bend Transit, 2024

### Transit Performance

Existing transit performance was analyzed at both the route- and stop-level (note: route-level ridership was unavailable for Fort Bend Transit services). As summarized in **Table 2-9**, the Route 700 Red Line light rail is the highest ridership route that operates within the Study Area, with 36,415 average weekday boardings, followed by Route 63-Fondren (4,650) and Route 73 Bellfort (4,572). At the stop level, the Fannin South Transit Center is the most productive stop, with over 1,800 average weekday boardings.

**Table 2-9 METRO Transit Performance Data**

Route	Average Weekday Boardings	Boardings per Revenue Hour	Boardings per Revenue Mile
<b>Rail</b>			
700 Red Line	36,415	Not available	Not available
<b>Local Bus</b>			
007 West Airport	847	24.44	1.83
008 W Bellfort	3,149	32.87	2.51
010 Willowbend	617	15.45	1.48
011 Alameda / Lyons	2,252	16.74	1.29
014 Hiram Clarke	1,604	22.08	1.83
047 Hillcroft	3,755	30.86	2.86
049 Chimney Rock / S Post Oak	2,709	21.31	1.75
063 Fondren	4,650	35.03	3.43
073 Bellfort	4,572	36.14	2.61
084 Buffalo Speedway	1,597	13.34	1.28
087 Sunnyside	1,166	17.28	1.38

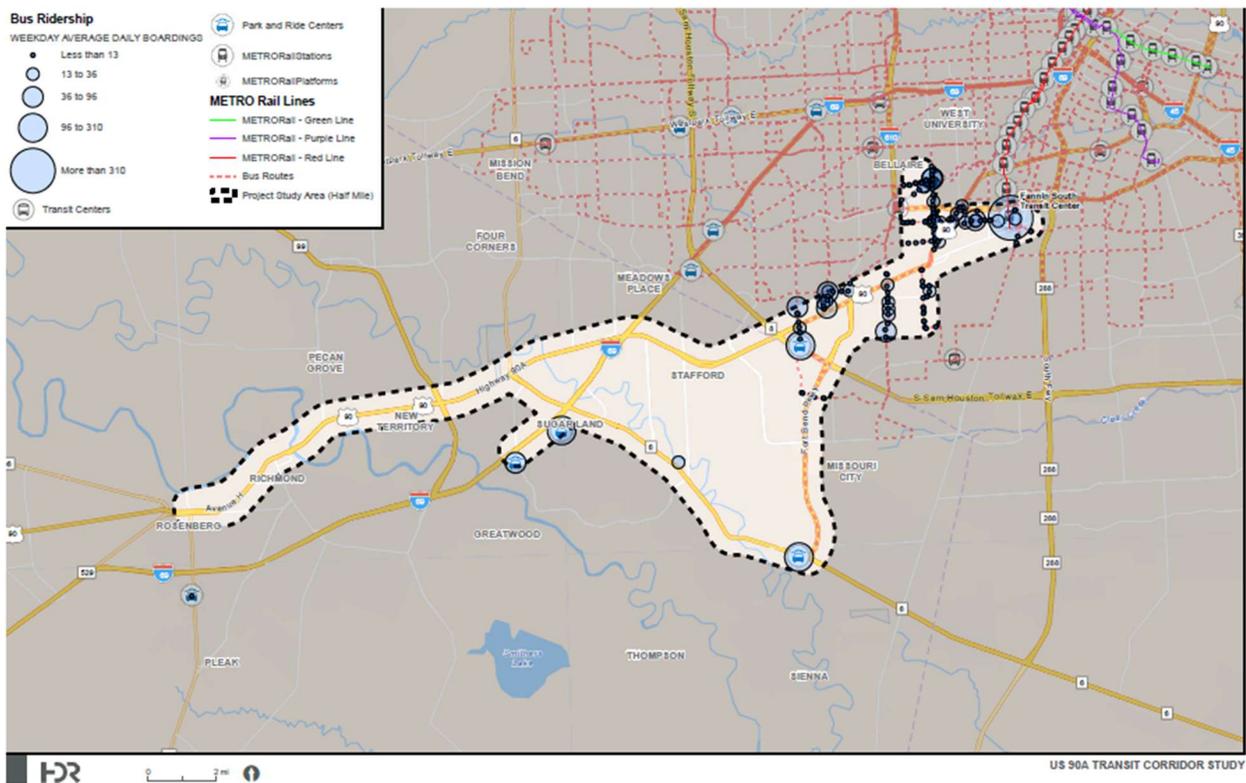
Route	Average Weekday Boardings	Boardings per Revenue Hour	Boardings per Revenue Mile
098 Briargate	326	21.36	1.41
<b>Park &amp; Ride</b>			
270 Missouri City	665	24.53	0.96

Source: METRO Ridership Report, April 2024.

Average weekday boardings at the stop-level are illustrated in **Figure 2-6**. The top five stops in terms of boarding volumes in the Study Area include:

- Fannin South Transit Center – 1,842 average weekday boardings
- AMC First Colony – 364 average weekday boardings
- Fondren Transit Center – 285 average weekday boardings
- Missouri City P&R – 183 average weekday boardings
- University of Houston Sugar Land – 105 average weekday boardings

**Figure 2-6 Average Weekday Boardings by Stop**



Source: METRO, 1<sup>st</sup> Quarter, FY 2024

### 2.3.3 Traffic

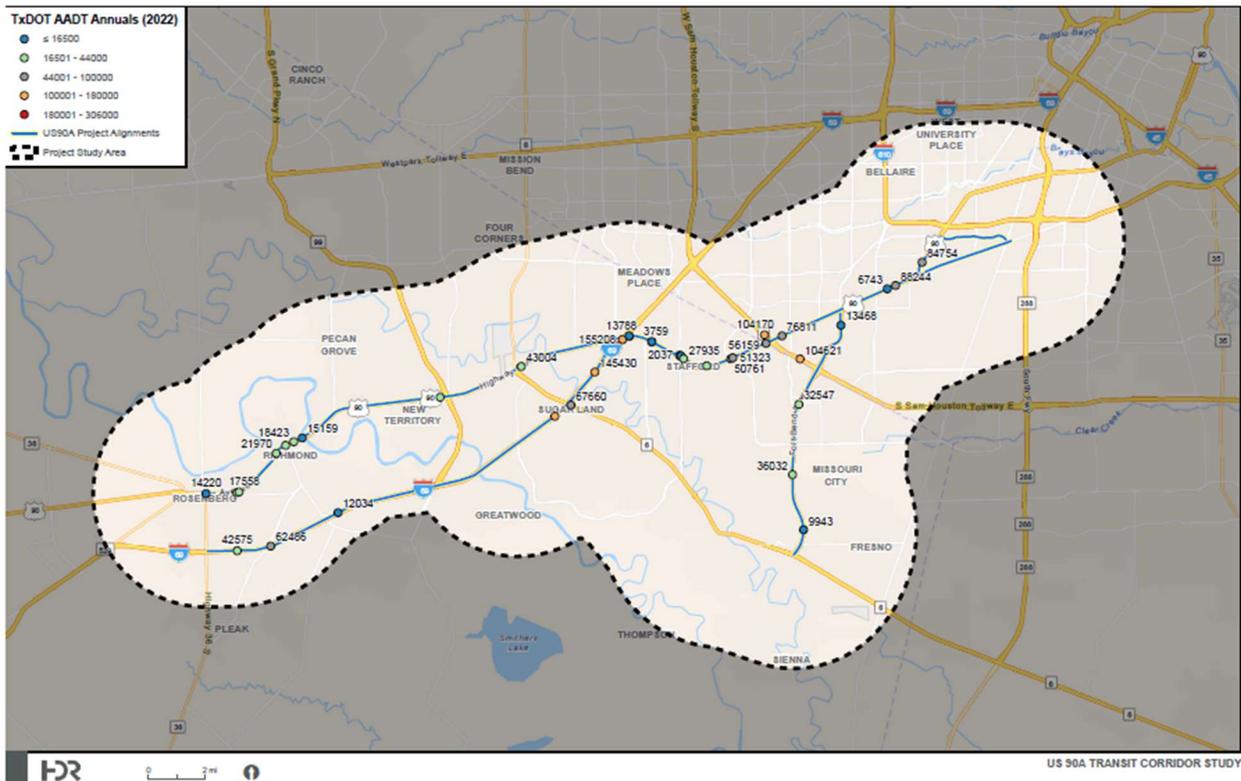
This section examines three distinct roadways: US 90A, IH-69/US 59, and the Fort Bend Parkway Toll Road. According to the TxDOT Statewide Planning Map, US 90A serves as a Principal Arterial with numerous access points along its western stretch, gradually reducing towards the east.

Meanwhile, both IH-69/US 59 and the Fort Bend Parkway Toll Road are classified as divided highways with fewer access points than US 90A.

### Average Daily Traffic

Traffic data offers valuable insights into the busiest locations within the Study Area, as measured by Average Daily Traffic (ADT). ADT quantifies the daily traffic flow on each roadway, illustrated in **Figure 2-7**. Notably, IH-69/US 59 and Sam Houston Tollway stand out with over 100,000 vehicles daily. ADT along US 90A varies significantly across different segments. It begins with lower volumes of 15,000 to 30,000 vehicles west of IH-69/US 59, gradually increasing to approximately 90,000 vehicles towards the east, and then drops to around 9,000 vehicles at Holmes Road. Major arterial cross streets show varying traffic volumes as well: the Grand Parkway ranges from 39,000 to 49,000 vehicles, SH 6 from 42,000 to 55,000 vehicles, Fondren Road from 23,000 to 24,000 vehicles, Fort Bend Parkway Toll Road from 10,000 to 30,000 vehicles, and South Post Oak Road from 44,000 to 45,000 vehicles. IH-69/US 59 experiences significantly higher ADT (125,000 to 155,000) compared to other highways, leading to frequent congestion and increased crash risks. The ADTs are obtained from the TxDOT Statewide Planning Map.

**Figure 2-7 Average Daily Traffic Volumes**

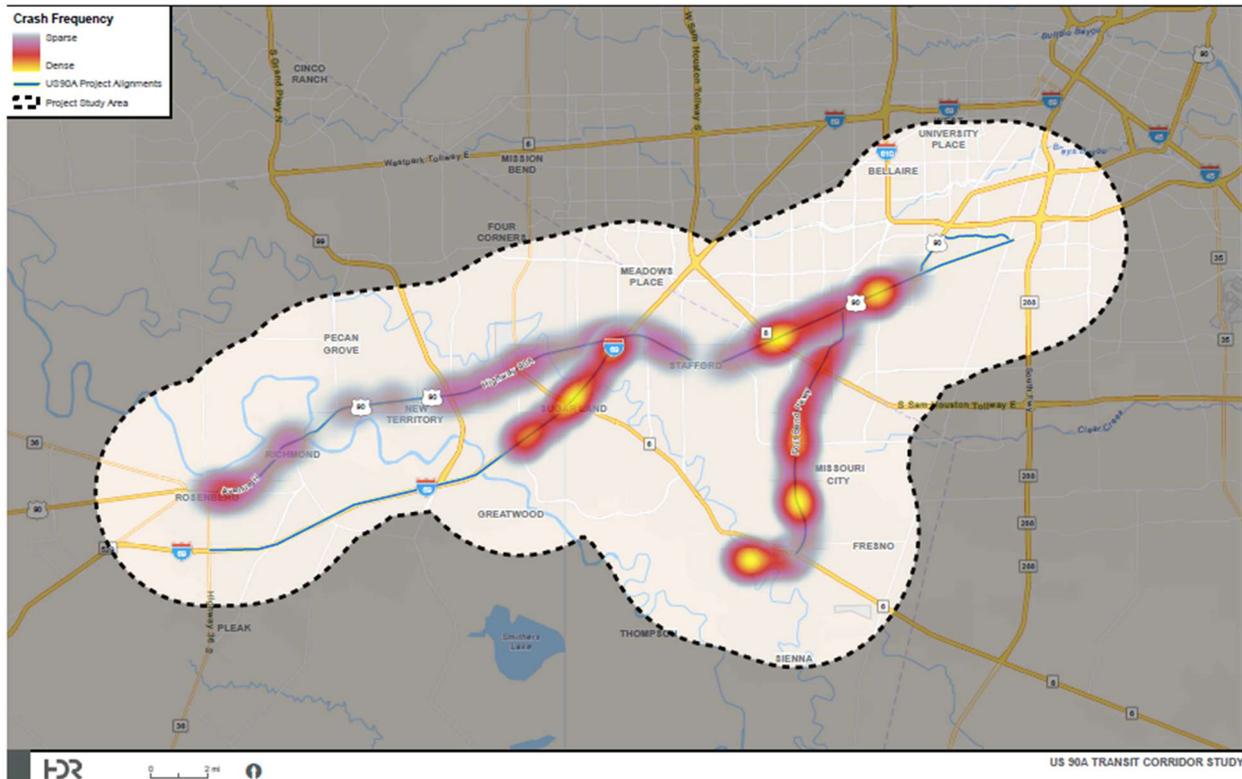


### Crash Data

Understanding crash patterns is equally critical. TxDOT’s Crash Record Information System (CRIS) data was reviewed and mapped to compare the various roadways considered for transit alignments. **Figure 2-8** includes a crash heat map, where blue indicates fewer incidents and

yellow signifies a higher frequency of crashes. Significant collisions are observed on IH-69/US 59, Fort Bend Parkway Toll Road, and US 90A. Frequent crashes are a concern along IH-69/US 59, particularly at the SH 6 interchange. Similarly, the south side of Fort Bend Parkway Toll Road, just east of the Sienna Parkway interchange, sees dense crash activity. Additionally, there are notable incidents at the Lake Olympia Parkway/Senior Road interchange. Lastly, further east on US 90A, significant crash occurrences are reported at the Sam Houston Parkway and South Post Oak Road interchanges.

Figure 2-8 Crash Data



## 2.4 Capital Improvements

Capital Improvement Projects (CIPs) are essential to anticipate future infrastructure developments or ongoing projects within the Study Area. These projects influence travel demand and potential conflicts during construction phases.

### TxDOT Projects

Figure 2-9 identifies several TxDOT projects occurring within the next ten years. Project Numbers 1 (PN1), PN2, PN4, and PN9 involve surfacing and roadway restoration, with construction scheduled within the next four years. PN3 focuses on base repair, planning, and a 2" asphalt concrete (ACP) overlay along Farm to Market (FM) 762 from US 90A to FM 1640, scheduled for 2024. PN5 spans from FM 762 to FM 259 and PN6 from FM 259 to the west of SH 99 (Grand Parkway), both widening projects along US 90A are planned within four years and within five to ten years, respectively. PN7 and PN8 include traffic management improvements from Pitts Road



**Table 2-10 TxDOT Capital Improvement Projects**

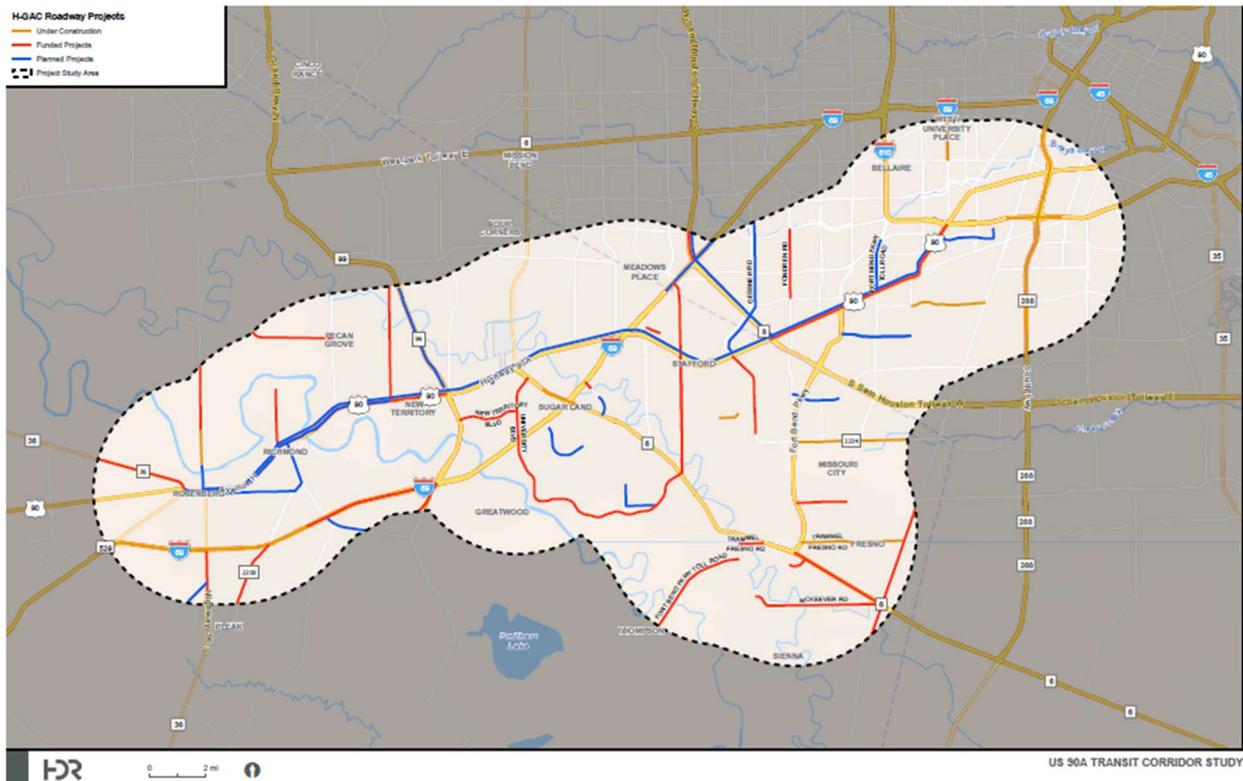
Project Number	Project Description	CSJ	Highway	From Limit	To Limit
1	Traffic Control Devices	002707044	US 90A	FM 723	FM 762
2	Overlay	322301010	FM 3155	Richmond State School	US 90A
3	Overlay	054303076	FM 762	US 90A	FM 1640
4	Traffic Control Devices	002708186	US 90A	FM 762	SH 6
5	Widen Non-Freeway	002708146	US 90A	FM 762	FM 359
6	Widen Non-Freeway	002708147	US 90A	FM 359	W of SH 99
7	Corridor Traffic Management	002708192	US 90A	Pitts Road	Cravens Road
8	Corridor Traffic Management	002709104	US 90A	Fort Bend County Line	IH-610 S
9	Traffic Control Devices	002709109	US 90A	SL 8 (S)	IH-610 S

Source: [https://www.txdot.gov/apps/statewide\\_mapping/StatewidePlanningMap.html](https://www.txdot.gov/apps/statewide_mapping/StatewidePlanningMap.html)

### H-GAC Projects

H-GAC’s Regional Transportation Plan (RTP) is the region’s long-range transportation plan. **Figure 2-10** illustrates several projects identified the RTP along the US 90A corridor. PN1 and PN3 focus on access management improvements: PN1 covers US 90A from Bamore Road to Harlem Road, while PN3 addresses FM 762 from US 90A to FM 1640. These projects involve constructing new intersections, installing raised medians, modifying driveways, adding or extending turn lanes, and optimizing traffic signal timings. PN2 involves median construction along 10<sup>th</sup> Street from the Brazos River North Bank to US 90A. PN4 is a widening and reconstruction project that will expand US 90A from FM 259 to SH 99 from four lanes to a six-lane divided highway. The H-GAC project shapefiles were obtained from the H-GAC RTP 2045 Web Map. **Table 2-11** provides a summary of the H-GAC projects.

**Figure 2-10 H-GAC Projects**



**Table 2-11 H-GAC RTP Projects**

Project Number	Project Description	CSJ	Highway	From Limit	To Limit
1	Access management treatments	—	US 90A	Bamore Road	Harlem Road
2	Construct 2-lane concrete divided w/ curb & gutter (in sections)	—	10 <sup>th</sup> Street	Brazos River North Bank	US 90A
3	Various access management treatments	—	FM 762	US 90A	FM 1640
4	Reconstruct and widen from 4 to 6 lanes divided	0027-08-147	US 90A	FM 359	SH 99
5	Widen from 4 to 6 lanes w/bridges	—	Harlem Road	Harlem Road	US 90A
6	Install new ITS equipment and infrastructure	0027-09-104	US 90A	Fort Bend County Line	IH-610 S

## Cross-Sections and Right of Way

Cross-sections were generated to analyze road geometries and their variations along different alignments. These cross-sections are instrumental in assessing alignment suitability. Road geometry and lane width measurements were conducted using Google Street View, while right-of-way (ROW) measurements were obtained from the Parcels GIS layers. Streetmix was utilized to create cross-sections.

Among the different alignments, US 90A exhibits the most varied roadway geometry, detailed in **Appendix A – Existing Cross Sections**. Starting from the western end, it spans four lanes in each direction before reducing to two lanes per direction and eventually accommodating a two-way continuous left turn lane (CLTL).. Similar transitions occur along the central and eastern stretches, where US 90A transforms into a divided highway with a 12'-40' length median. In contrast, IH-69/US 59, maintains a consistent profile as an eight-lane divided highway with five main lanes and three-lane frontage roads in both directions, except for a reduction to a two-lane frontage road just south of US 90A. The Fort Bend Parkway Toll Road maintains a stable configuration throughout its course, featuring a two-lane divided highway with shoulder lanes.

The ROW for US 90A is as narrow as 70' in the west but widens up to 180' towards the east, whereas IH-69/US 59 consistently has a more restricted ROW width. The Fort Bend Parkway Toll Road has maintains at least 150' of ROW allocation throughout its course. Approximate ROW widths are visually depicted in **Figure 4-2** in Section 4 below.

## 2.5 Environmental Factors

A desktop analysis was performed to review publicly available data to identify existing environmental conditions and potential constraints for the Study Area. The sections below provide a general description of the environmental existing conditions in the Study Area.

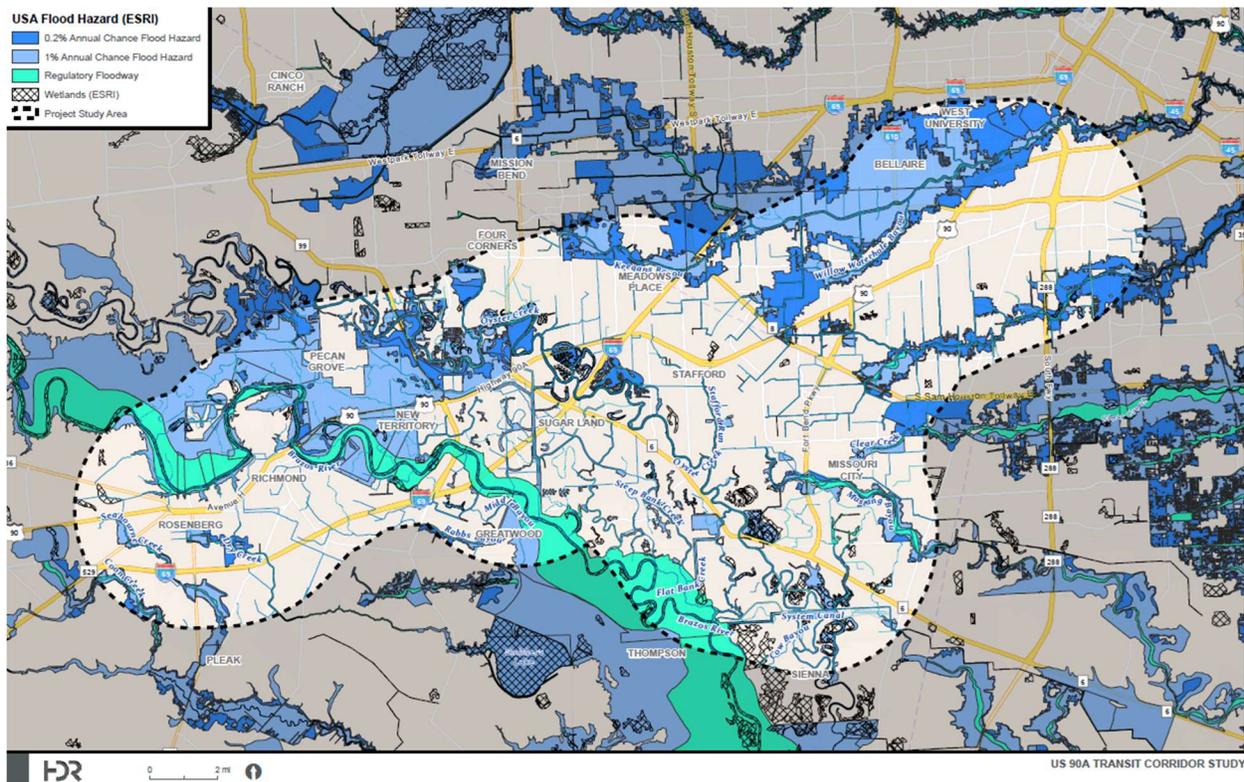
### 2.5.1 Water Resources

According to the Federal Emergency Management Agency's (FEMA) National Flood Hazard Layer (NFHL), approximate percentages of the Study Area within floodways and floodplains are as follows:

- **Floodway:** 7.81 percent of Study Area
- **100-year Floodplain:** 17.55 percent of Study Area
- **500-year Floodplain:** 9.32 percent of Study Area

Approximately 46,229 acres are in the floodway and 100-year floodplain of the Brazos River and Oyster Creek in the central and western portions of the Study Area and Brays and Sims Bayous in the eastern portion of the study area. These floodplains compose a major feature in the Study Area and are a significant constraint to alignment choices (**Figure 2-11**).

Figure 2-11 Study Area Floodplains and Wetlands



The desktop analysis identified 3,304 United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) features totaling approximately 17,613 acres. The NWI features consist of 8,124 acres of riverine features, 2,193 acres of freshwater emergent wetlands, 4,833 acres of freshwater forested/shrub wetlands, 1,263 acres of freshwater pond, and 1,032 acres of lake features. As expected, wetlands are commonly associated with waterways and floodplains in the Study Area.

Review of the United States Geological Survey (USGS) National Hydrography Dataset (NHD) indicates that there are 2,144 features or stream segments within the Study Area, consisting of unnamed tributaries, Brays Bayou, Oyster Creek, Mustang Bayou, Snake Slough, Stafford Run, Steep Bank Creek, Sims Bayou, Middle Bayou, Alcorn Bayou, Coon Creek, Cow Bayou, Clear Creek, Jones Creek, Keegans Bayou, Long Point Creek, Brazos River, Stafford Run, Bullhead Bayou, Dry Creek, Browns Bayou, Rabbs Bayou, Black Lake, Brooks Lake, Clear Lake, Fish Lake, Frost Lake, Gannoway Lake, Horseshoe Lake, Kitty Hollow Lake, Old River Lake, Sawmill Lake, Venetian Lake, White Lake, Willow Waterhole Bayou, and Cleveland Lake. The NHD stream segments total approximately 562.28 linear miles of stream. Furthermore, portions of Brays Bayou, Sims Bayou, Middle Bayou, Cow Bayou, Clear Creek, Brazos River, Oyster Creek, and Mustang Bayou are likely considered traditionally navigable waters (TNWs) by the United States Army Corps of Engineers (USACE) - Galveston District and measure approximately 113 linear miles.

## 2.5.2 Biological Resources

Review of the USFWS Information for Planning and Consultation (IPaC) Official Species List of Harris and Fort Bend Counties identified eight species listed as Endangered, Threatened, Listed Endangered, Listed Threatened, and/or Proposed Threatened; one species listed as a candidate for federal listing; and one proposed critical habitat as occurring within the Study Area. According to the Texas Parks and Wildlife Department (TPWD) List of Rare Species for Harris and Fort Bend Counties, there are 14 Federally listed species, two federally proposed listed species, and 30 state listed species with potential to occur within the Study Area. Based on the TPWD Natural Diversity Database (NDD) information, four observations of listed threatened and endangered (T&E) species have been recorded within the Study Area.

A large variety of vegetative communities mapped by the TPWD Ecological Mapping Systems of Texas (EMST) occur within the Study Area. The five predominant vegetative communities within the Study Area include the following<sup>7</sup>:

- **Urban Low Intensity** (67,960 acres): Developed areas not entirely covered by impervious surfaces.
- **Gulf Coast: Coastal Prairie** (25,542 acres): Mid- to tallgrass prairie dominated by graminoid species within Pleistocene surfaces of the Texas and Louisiana coast.
- **Columbia Bottomlands: Grassland** (23,917 acres): Herbaceous dominated sites occupying bottomland soils and lacking significant shrub or overstory canopy cover. They are mostly managed grasslands dominated by grasses such as *Cynodon dactylon* (bermudagrass) and *Lolium perenne* (Italian ryegrass).
- **Urban High Intensity** (19,531 acres): Developed areas dominated by impervious surfaces and wide transportation corridors.
- **Columbia Bottomlands: Hardwood Forest and Woodland** (17,762 acres) Forest and woodland area characterized by a deciduous canopy of species including *Ulmus* spp. (elms), *Fraxinus* spp.(ashes), *Quercus* spp.(oaks), and *Carya* spp.(hickories).

## 2.5.3 Cultural Resources

Based on a review of the Texas Historical Commission (THC) database; nine historic districts, six historic properties, 64 cemeteries, and 85 state historical markers are located within the Study Area. Prominent cultural resources within the Study Area include Edward Albert Palmer Memorial Chapel and Autry House, Alameda Road Bridge over Brays Bayou, Hermann Park Municipal Golf Clubhouse, Holy Rosary Catholic Parish, Beth Yeshurun Synagogue, Trinity Lutheran Church, Hodge's Bend Cemetery, The Astrodome, Fort Bend County Courthouse, Medical Towers, Imperial Sugar Company Refinery District, Mechanical Laboratory and Power House (Rice University), Lamar-Calder House, and John M. and Lottie D. Moore House.

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<sup>7</sup> Elliot, Lee. 2014. Descriptions of Systems, Mapping Subsystems, and Vegetative Types for Texas. Retrieved from: [https://tpwd.texas.gov/landwater/land/programs/landscape-ecology/ems/emst/texasecologicalsystemsdescriptions\\_2016.pdf](https://tpwd.texas.gov/landwater/land/programs/landscape-ecology/ems/emst/texasecologicalsystemsdescriptions_2016.pdf)

### 2.5.4 Hazardous Materials

According to the publicly available data from the Texas Commission on Environmental Quality (TCEQ), there are potential hazardous materials present within the Study Area. **Table 2-12** identifies the databases and occurrences within the Study Area.

**Table 2-12 Potential Hazardous Materials within the Study Area**

Database	Occurrence
Leaking Petroleum Storage Tank (LPST)	577
Petroleum Storage Tank (PST)	444
Industrial Hazardous Waste Corrective Action (IHWCA) Program	124
Wastewater Outfalls	64
Voluntary Cleanup Program (VCP)	108
Drycleaners (DRYC)	27
Innocent Owner Program (IOP)	51
Brownfields	0
Superfunds	5
Municipal Setting Designations (MSD)	23
Landfills	2

In addition, Texas Railroad Commission (RRC) publicly available data identified 661 pipelines transecting the Study Area that transport a variety of chemicals including, but not limited to, natural gas, crude oil, and highly volatile liquid. Additionally, 3,169 surface wells, and 3,181 bottom wells are located within the Study Area.

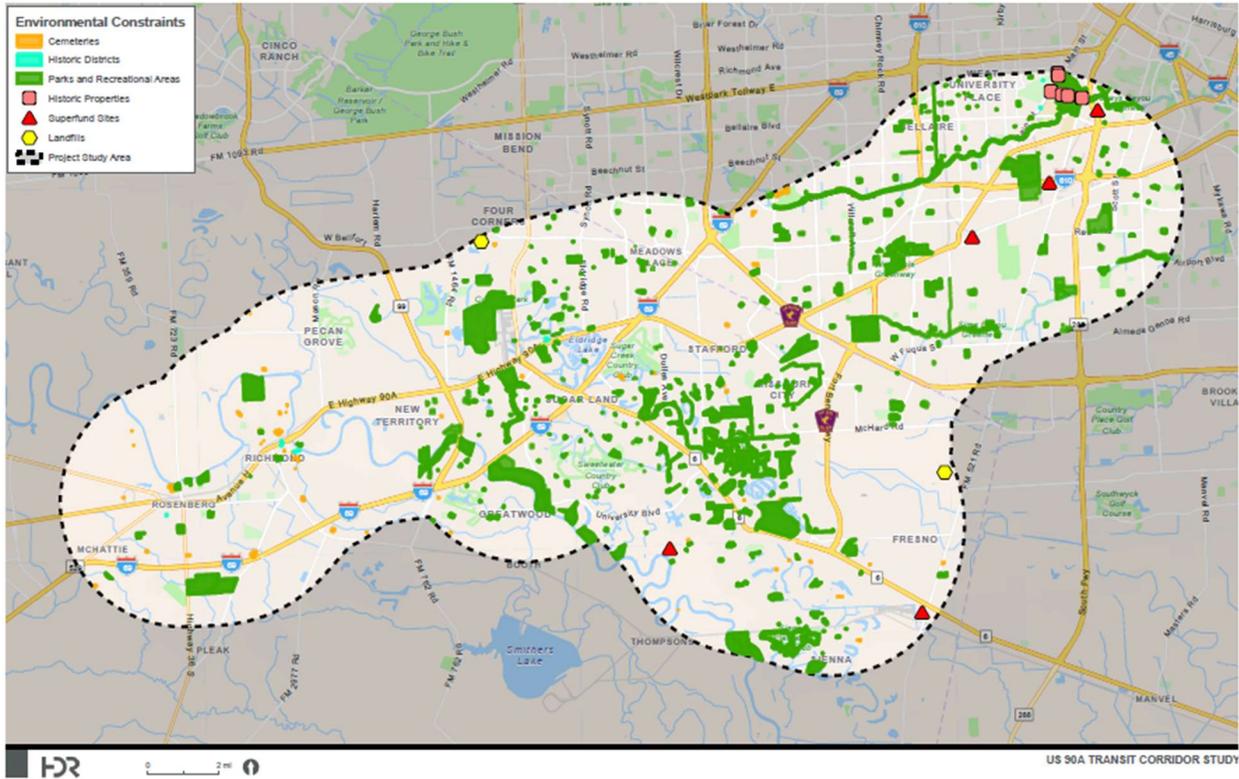
### 2.5.5 Protected Lands

Based on a review of the United States Geological Survey (USGS) Protected Lands database; 297 conservation easements, 297 local parks, 82 private parks, 71 other easements, 28 recreation or education easements, 26 local recreation areas, four local conservation areas, one mitigation land or bank, one local historic or cultural area, and one Approved or Proclamation Boundary are located within the Study Area. These areas include Hermann Park, San Bernard National Wildlife Refuge, Oyster Creek Park, Mayfield Park, Sugarland Memorial Park, Colonial Park, Harris County Bonham Nature Park, Reliant Park, Sienna Park, River Bend Park, Seabourne Creek Nature Park, Highlands Park, Post Oak Village, Meyerland Park, Sienna Park and associated complexes, The Crown Festival Park, and Gus & Lyndall Wortham Park.

**Figure 2-12** shows the locations of some of the environmental features listed above within the Study Area, including historic districts, historic properties, cemeteries, superfund sites and

landfills. Areas reserved for parks or recreational purposes are shown as well. These features represent potential constraints that must be considered when planning transit infrastructure.

Figure 2-12 Environmental Constraints Map



### **3 Previous Studies**

The US 90A corridor has been the subject of extensive study over several years. A comprehensive review of previous research and planning is imperative for guiding project development and minimizing redundant efforts. This review enables planners to build upon existing knowledge, ensuring that new initiatives are grounded in established findings and insights. Such an approach enhances the credibility of the project and aids in identifying gaps in the current understanding, thereby directing subsequent work toward areas that require further investigation

For instance, as will be illustrated in the summary of studies below, the majority of research conducted thus far has not examined the feasibility of Bus Rapid Transit (BRT), indicating a need to explore this technology further within the current study. A meticulous review of all prior studies ensures that resources are utilized efficiently and that efforts are concentrated on generating novel insights and advancements instead of reiterating what has already been accomplished.

Several studies have indicated that integrating commuter rail services with freight rail operations poses significant challenges, particularly in terms of installing new tracks alongside existing freight rail ROW. Future discussions with freight rail operators will take these challenges into consideration and will focus on formulating new inquiries, such as how their operational requirements may evolve with the implementation of BRT technology. Furthermore, many studies have concluded that while acquiring additional rights-of-way to widen major corridors is complex and costly, it remains feasible; additionally, the construction of elevated structures for both US 90A and IH-69/US 59 is recommended to mitigate the need for expanded ROW.

Finally, it was clear from the previous studies reviewed that there is a need for high capacity transit to alleviate congestion on area roadways and provide a choice for those that don't want to drive in these growing communities.

The following pages provide an overview of various studies relevant to the Study Area, including a summary of key recommendations and identified challenges and opportunities discussed in each study. The studies reviewed in depth in this section are:

- Houston-Galveston Area Council US 90A Corridor Rail Feasibility Study (April 2004)
- Houston-Galveston Area Council Regional Commuter Rail Connectivity Study (September 2008)
- Fort Bend Subregional Plan (2012)
- Gulf Coast Rail District Regional Commuter Rail Feasibility Study (February 2015)
- H-GAC High-Capacity Transit Task Force Priority Network (July 2019)
- METRO Southwest Corridor Alternatives Review (June 2019)

In addition to those listed above, the following studies were also reviewed as part of this effort.

- H-GAC 2022 Regionally Coordinated Transportation Plan
- H-GAC Regional Transit Framework Study Interim Update (November 2017)
- H-GAC Livable Centers Studies: Rosenberg

- H-GAC Livable Centers Studies: Brays Oaks
- H-GAC Livable Centers Studies: Houston Southwest
- H-GAC 2045 Regional Transportation Plan Update
- H-GAC Regional Plan for Sustainable Development (2040 Our Great Region Plan)
- H-GAC FM 1092 Corridor Access Management Plan
- H-GAC 2040 Regional Pedestrian & Bicycle Plan
- H-GAC Transportation Improvement Program
- METRONext Moving Forward Plan
- City of Sugar Land – Comprehensive Plan and Amendments
- City of Sugar Land – Land Use Plan
- City of Sugar Land – Pedestrian & Bicycle Plan
- City of Missouri City – 2017 Comprehensive Plan
- City of Missouri City – ITS Master Plan
- City of Missouri City – FY2019 Annual Action Plan
- City of Missouri City – Bicycle and Pedestrian Plan
- City of Missouri City – Thoroughfare Plan
- US Highway 90 Corridor Enhancement Plan and Zoning
- City of Stafford – Comprehensive Plan

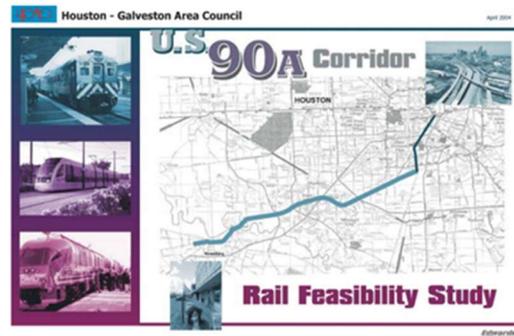
### 3.1 Summary

#### Houston-Galveston Area Council US 90A Corridor Rail Feasibility Study

April 2004

##### Document Description

H-GAC, along with METRO, the Texas Department of Transportation (TxDOT), Fort Bend County, Harris County, and the cities of Houston, Meadows Place, Missouri City, Richmond, Rosenberg, Stafford, and Sugar Land, performed an evaluation to determine the need for high capacity transit and assess the technological and economic feasibility of establishing and operating passenger rail service between METRORail’s Fannin South Transit Center light rail station and the City of Rosenberg.



##### Key Recommendations Relevant to the Study Area

Service options were evaluated and ranked by considering operations and service characteristics, ridership, institutional constraints, and other key implementation-related issues, engineering feasibility and constructability, capital cost, operating cost, and major social, economic/or environmental constraints. All recommended alternatives utilize the existing Union Pacific Railroad (UPRR) Glidden Subdivision right-of-way and propose constructing one or two additional tracks. Three of the five recommended alternatives would utilize exclusive operation within the ROW, meaning a new track would be used exclusively for passenger rail service. Within these three alternatives, commuter rail (diesel-locomotive hauled coaches, push-pull train sets), diesel multiple units, and light rail transit vehicles (LRVs) were investigated.

Two additional alternatives were proposed that would require three tracks along the length of the corridor, with one track used primarily for freight operations and the other two for both passenger and freight use. These alternatives are referred to as “shared operation.” In these shared operation scenarios, the study investigated commuter rail technology and diesel multiple units, but not LRVs.

##### Challenges

- The introduction of commuter rail or diesel multiple units, which represent new technologies for the region, would require all new storage and maintenance facilities, increasing the overall cost.
- Light rail adjacent to the UPRR ROW results in institutional barriers to implementation due to the required separation from freight operations.
- UPRR has indicated that the most favorable service options in the US 90A corridor are the exclusive operating scenarios as they have less potential for impact on their current and future freight operations.

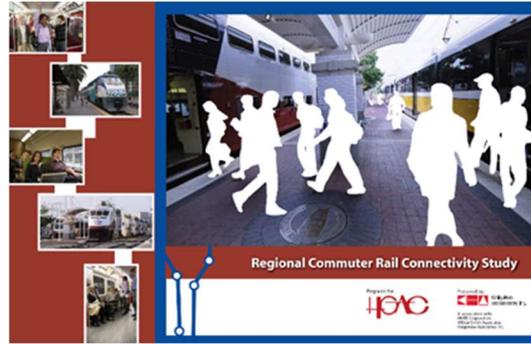
##### Opportunities

- Shared operations scenarios can improve freight infrastructure by providing an additional track and improved signalization and communication systems.
- A light rail solution allows for potential integration with existing METRORail service.

**Houston-Galveston Area Council Regional Commuter Rail Connectivity Study**  
 September 2008

Document Description

In this study, H-GAC prepared a “systems-level” approach to commuter rail in the Houston area compared to a “corridor-level” approach. The conclusions of this study offer a complete conceptual definition of a passenger rail system from the city's outskirts into the urban core of Houston. The US 90A corridor is one of many alignments evaluated in this study. A fundamental concept maintained throughout the study is that commuter rail will work in concert with the existing and future freight rail system and that passenger trains will share track with freight trains wherever possible.



Key Recommendations Relevant to the Study Area

The US 90A corridor was identified as a Principal Corridor based on evaluation criteria, including capital costs per mile, implement ability, and economic development potential. In addition to analyzing the possibility of passenger rail along the UPRR Glidden subdivision, the study considered a route that follows the Burlington Northern and Santa Fe (BNSF) Galveston Railroad Subdivision that then connects to the Popp Industrial Lead Freight Line along FM 521 before reconnecting with the Glidden line. The alternative route is referred to as the Popp-Fort Bend Alternative. This alternative resulted in a lower overall system ridership as it is more circuitous than the direct route along the US 90A corridor and transverses different areas of the city with lower overall boardings at the time of report publication. Despite having lower overall system ridership, the Popp-Fort Bend Alternative is recommended over the US 90A UPRR Glidden subdivision route due to capacity constraints along this freight rail corridor.

**Challenges**

- The UPRR Glidden subdivision operates at or near its capacity. As long as the current freight rail network remains the same, the implementation of commuter rail cannot be realistically considered.
- The liability constraints currently imposed on the freight railroads will require changes to state law to allow passenger service to be provided on the railroad’s property and infrastructure.
- An overall upgrade to a higher level of train control and signaling will be needed for all corridors served by commuter rail.

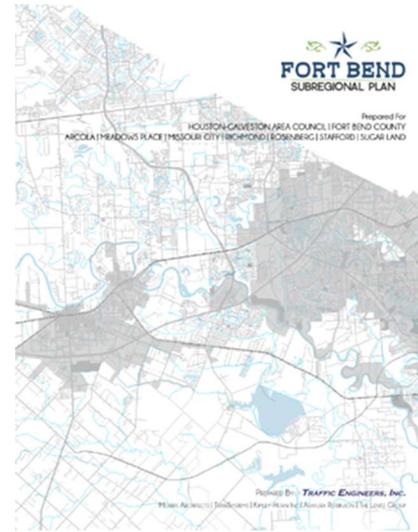
**Opportunities**

- The Popp-Fort Bend Alternative performed reasonably well in ridership modeling and would provide service from the southern end of Fort Bend County into the edge of the Texas Medical Center.
- Public/private development of infrastructure and facilities will foster railroad company participation, public support, and political viability.

## Fort Bend Subregional Plan 2012

### Document Description

The Fort Bend Subregional Plan is a joint effort between H-GAC, seven local stakeholder cities, and Fort Bend County to develop a common vision and strategic framework to help Fort Bend County manage the growth projected for the region. The plan was developed through a collaborative, phased approach that included the development of a Vision. By comparing a needs assessment and future trends impacting the region with the Vision and goals, three key strategic priorities were identified: 1) Strengthening Activity Centers, 2) Enhancing Multimodal Transportation Links, and 3) Creating Sustainable Neighborhoods that Retain their Value. The second priority is the most relevant to this project.



### Key Recommendations Relevant to the Study Area

The study recommends that high-capacity fixed route transit options such as light rail or commuter rail should be evaluated, especially for high ridership routes like those connecting to Downtown, the Galleria, and the Texas Medical Center. The transit system should be developed in a phased approach that can evolve and grow through the years, and in a way that is scalable so that transit systems implemented in the short or medium term can be redefined or upgraded in the long term.

The study identifies IH-69/US 59 as the main transportation spine for the Study Area and recommends that the existing corridor ROW should be leveraged to build transit. In terms of technologies, the study investigates applying gradually more complex construction and technology applications over time, beginning with at-grade bus rapid transit (BRT) within the existing ROW, followed by grade-separated BRT in the form of an aerial transitway.

The US 90A corridor was also investigated as part of this study and, similar to the IH-69/US 59 corridor recommendation, concludes that a phased approach of commuter express bus service to bus rapid transit is most appropriate.

#### Challenges

- Acquiring additional ROW to widen major corridors is increasingly difficult and expensive, so utilizing existing ROW in efficient manner is critical.
- Stations and stops built along an existing freeway must be carefully thought through to ensure that riders can access their destinations safely and conveniently and that the freeway itself does not act as a barrier.
- At grade BRT along the IH 69/US 59 corridor would require the removal of the existing HOV/HOT lanes.
- The UPRR rail line has significant volumes of freight traffic that makes commuter rail infeasible along its ROW.

#### Opportunities

- Implemented Traffic Signal Priority (TSP), queue jumping, and a dedicated ROW for transit can allow for high quality transit service along US 90A.
- The current HOV/HOT lane along IH 69/US 59 can likely be converted to a bidirectional transitway for BRT, understanding that there are a few areas where there may be capacity constraints and width restrictions and thoughtful design would be required.

## Gulf Coast Rail District Regional Commuter Rail Feasibility Study

February 2015

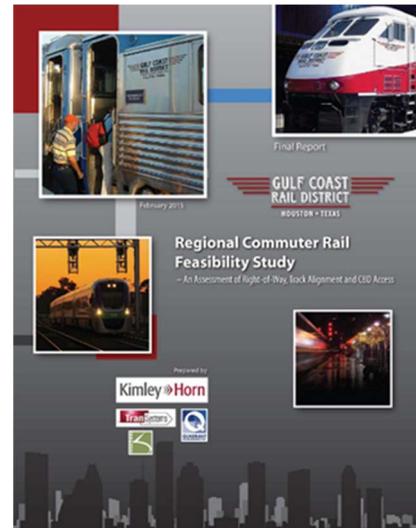
### Document Description

The Gulf Coast Rail District (GCRD) reviewed long distance commuter rail options in the Houston region. A workshop hosted by GCRD and the Texas Transportation Institute concluded that the most promising alternative was to create new rail infrastructure on new ROW adjacent to the existing freight rail network.

### Key Recommendations Relevant to the Study Area

The study reviewed the feasibility of three freight rail corridors, including US 90A (UPRR Glidden Subdivision). It assumes that the new track and ROW would be dedicated to commuter rail services, likely those that are compliant with Federal Railroad Administration (FRA) passenger trains. Most of the US 90A corridor route would follow the UPRR Glidden subdivision on the north side of the existing freight rail tracks, which will likely result in impacts to farmland and more rural properties. The easternmost portion of the alignment would follow the freight rail east along Holmes Road before turning north to run between Almeda Road and the Columbia Tap freight line to a terminus in the Texas Medical Center.

Several segments of the alignment would require an elevated structure, including those areas crossing over US 90A, freight rail tracks, and other local roadways.



### Challenges

- The region's railroads have indicated that moving freight through the existing freight rail network precludes any further consideration of adding passenger trains on the same tracks.
- Any crossing of a rail line over the Brazos River will require a major new bridge structure.
- Passage at-grade near the end of the Sugar Land Airport runway clear zone must obtain Federal Airport Administration (FAA) concurrence.

### Opportunities

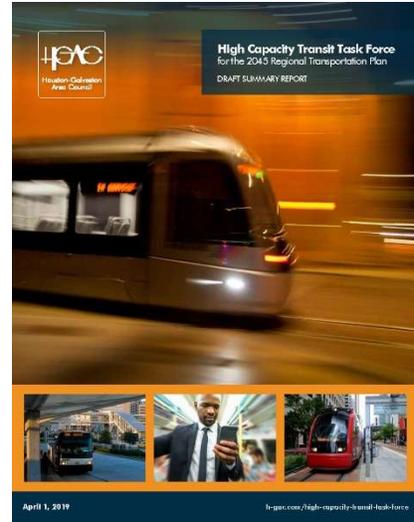
- Three existing METRO park-and-ride facilities are located along the corridor and could be reduced or discontinued if shown to provide duplicate service to the commuter rail.
- The placement of the new ROW on the north side of the UPRR Glidden Subdivision in the vicinity of Beltway 8 takes advantage of several miles of property currently owned by the Harris County Toll Road Authority (HCTRA) and METRO.

## High Capacity Transit Task Force for the 2045 Regional Transportation Plan

July 2019

### Document Description

The High Capacity Transit Task Force (HCTTF) was formed to support development of H-GAC’s 2045 Regional Transportation Plan (RTP) and advance High Capacity Transit (HCT) in the region. The Vision Network Map is a fiscally unconstrained, complete network to meet transit needs in the region by 2045. It includes mode/technology-neutral proposed HCT lines with either peak or all-day service. Travel demand modeling and benefit-cost analysis was conducted to understand potential ridership based on multiple scenarios regarding capital expenditure on creation of lines (ex. grade-separated rail versus at-grade BRT). Elements of the Vision Network were included in the financially-constrained Priority Network, which is included in the 2045 RTP as its long-range transit plan element.



### Key Recommendations Relevant to the Study

#### Area

Peak HCT was included on the 2045 RTP Priority Network along US 90A from South Fannin Park and Ride to Rosenberg. It was modeled as at-grade BRT, at-grade LRT, at-grade commuter rail, and grade-separated rail in the low, medium-low, medium-high, and high capital expenditure scenarios, respectively. Unconstrained capacity modeling indicated moderate ridership, similar to that of other lines connecting the Houston core to suburbs.

#### Challenges

- Multiple funding sources will be required for large-scale expansion of HCT in the region as most municipalities have reached the local sales tax limit.
- The HCTTF recommendations are mode-, technology-, and alignment-neutral, requiring additional study to determine these features.
- HCT must be paired with other transit services such as local fixed route and first/last mile improvements.

#### Opportunities

- Potential stations and park and ride locations for the US90A corridor are identified on the Priority Network.
- Overall, benefits outweigh cost with a comprehensive, region-wide HCT network.

## METRO Southwest Corridor Alternatives Review

June 2019

### Document Description

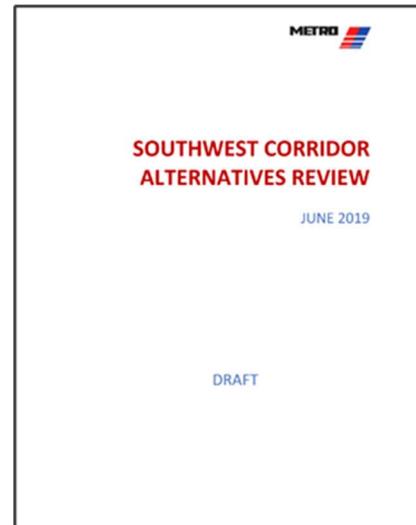
A Southwest Corridor Task Force was assembled to explore transit options in the Southwest Corridor, roughly parallel to US 90A. METRO prepared the Southwest Corridor Alternatives Review to assess potential transit modes and alignments from Sugar Land to the Texas Medical Center. The review describes the alternatives and provides ROW estimates for each.

### Key Recommendations Relevant to the Study Area

The study examined its study area in two sections – the western portion which extends from Sugar Land to the METRO service area and the eastern portion which begins at the limits of the METRO service area and terminates at the Texas Medical Center.

In the western portion, regional express bus service to Sugar Land is an option that may be considered in the short-term. However, space is limited within the US 90A ROW so the alignment would require either new ROW or the use of existing travel lanes. The Southwest Freeway, IH-69/US 59, could have accommodated a route by utilizing the reversible HOV lane, but it does not serve the communities along US 90A. In the eastern portion there is an opportunity for new ROW north of the UPRR tracks. Additionally, multiple BRT alignment options are identified within the US 90A ROW and along north-south arterial streets towards the Texas Medical Center.

The study included an overview of 24 potential alternatives, many that are relevant to this study. The potential alternatives include a combination of LRT and BRT solutions, both elevated and at-grade, using the IH-69/US 59, US 90A, CenterPoint, and UPRR alignments. Each alternative has its pros and cons including costs, travel time, ROW needs, and traffic impacts.



#### Challenges

- Space is limited in US90A right-of way, requiring new ROW or the use of existing lanes.
- For those alternatives traveling through neighborhoods, greater likelihood of traffic impacts, acquisition issues, and increased travel times.
- Elevated stations require vertical connections to street level.

#### Opportunities

- LRT has greater capacity than BRT and could interline with the existing METRORail system.
- BRT in a dedicated guideway provides an opportunity for additional bus routes to use guideway.
- BRT has the potential for future automation to decrease the need for more vehicles and operators.

## 3.2 Conclusions

Fort Bend County has undergone considerable growth over the years, primarily with an emphasis on suburban residential development, which encompasses approximately 32.6 percent of the county's land area. While there are some neighborhood commercial activities, the majority of employment opportunities are located in Harris County. A significant portion of the county, amounting to approximately 32.7 percent of its land area, remains dedicated to agricultural use or undeveloped open space, including floodplains. This suggests that significant future development is yet to come.

Travel data reveal that almost seventeen thousand daily trips originating from communities within the study area are directed towards employment centers in Houston, with almost half of those trips destined for either downtown Houston or the Texas Medical Center. The Study Area's predominantly suburban development, characterized by a household income level that exceeds the regional average and a high rate of car ownership at 93 percent, indicates that the principal transit requirement is for commuter services to Houston.

The US 90A corridor is regarded as a vital transportation route linking communities in Fort Bend County to various employment centers and other key destinations within the Houston metropolitan area. Numerous studies have investigated the feasibility of implementing commuter rail and light rail along the US 90A corridor and the adjacent UPRR tracks, uncovering several obstacles that complicate implementation.

Recent advancements in transit opportunities necessitate a re-assessment of services in this corridor. Bus Rapid Transit, which has been introduced by METRO in Houston's Uptown district, may provide a flexible transit solution suitable for the Study Area. Furthermore, the opening of the Fort Bend Parkway Toll Road has improved access from southern Houston through Missouri City to Sienna, thus enhancing connectivity to a rapidly growing segment of the Study Area. These developments present new opportunities for improved access and mobility that warrant further examination.

## 4 Alternatives Evaluation

### 4.1 Definition of Alternatives

#### 4.1.1 Alignments and Zone Designations

Five initial alignments have been identified within the designated Study Area. These alignments were identified in previous studies or suggested by the study Steering Committee:

- **US 90A (HCT Peak) Alignment:** Identified as a peak-period high-capacity transit alignment in the 2019 High Capacity Transit Task Force Priority Network
- **UPRR Alignment:** Utilizes the UPRR Glidden Subdivision; identified in several previous studies including the H-GAC US 90A Corridor Rail Feasibility Study
- **US 90A to IH-69 (METRONext) Alignment:** Identified by Houston METRO as a “Potential Partnership Alignment” in the 2019 METRONext Long Range Plan
- **CenterPoint Alignment:** Utilizes a utility easement; identified by the Steering Committee as a potential alternative
- **Fort Bend Tollway Alignment:** Identified by the Steering Committee as a potential alternative

Figure 4-1 shows these five alignments are within the designated Study Area which is structured into five zones extending from east to west. Each alignment corresponds to a specific segment within its respective zone; however, it is noteworthy that the Fort Bend Tollway Alignment concludes in Zone 4. A comprehensive description of the segments is provided in Table 4-1, while Table 4-2 presents a matrix that delineates the initial alignments and their respective segments. The shading in Table 4-2 is assigned according to the letter designations of each segment.

**Table 4-1 Breakdown of Study Area Zones and Segments**

Zone	Segment	Description
1	1A	Fannin Street to West Belfort Avenue to Buffalo Speedway to Holmes Road, terminating at the start of US 90A.
	1B	Fannin Street to Holmes Road, terminating at the start of US 90A.
2	2A	US 90A from Hiram Clark Road to Beltway 8.
	2C	CenterPoint easement from Hiram Clarke Road at US 90A to Beltway 8.
	2D	US 90A from Hiram Clark Road to Fort Bend Tollway and Fort Bend Tollway to Beltway 8.
3	3A	US 90A from Fort Bend Tollway to SH 6.
	3C	CenterPoint easement from Fort Bend Tollway to Lexington Boulevard and Lexington Boulevard to SH 6.
	3D	Fort Bend Tollway from Beltway 8 to SH 6.

Zone	Segment	Description
4	4A	US 90A from IH 69 to SH 6.
	4B	IH 69 from SH 6 to SH 99.
	4C	SH 6 from Lexington Boulevard to IH 69.
	4D	Fort Bend Tollway from SH 6 to terminus near SH 99.
5	5A	US 90A from SH 99 to SH 36.
	5A <sup>8</sup>	UPRR easement from SH 99 to SH 36.
	5B	IH 69 from SH 99 to SH 36

**Table 4-2 Initial Alignments and Associated Segments**

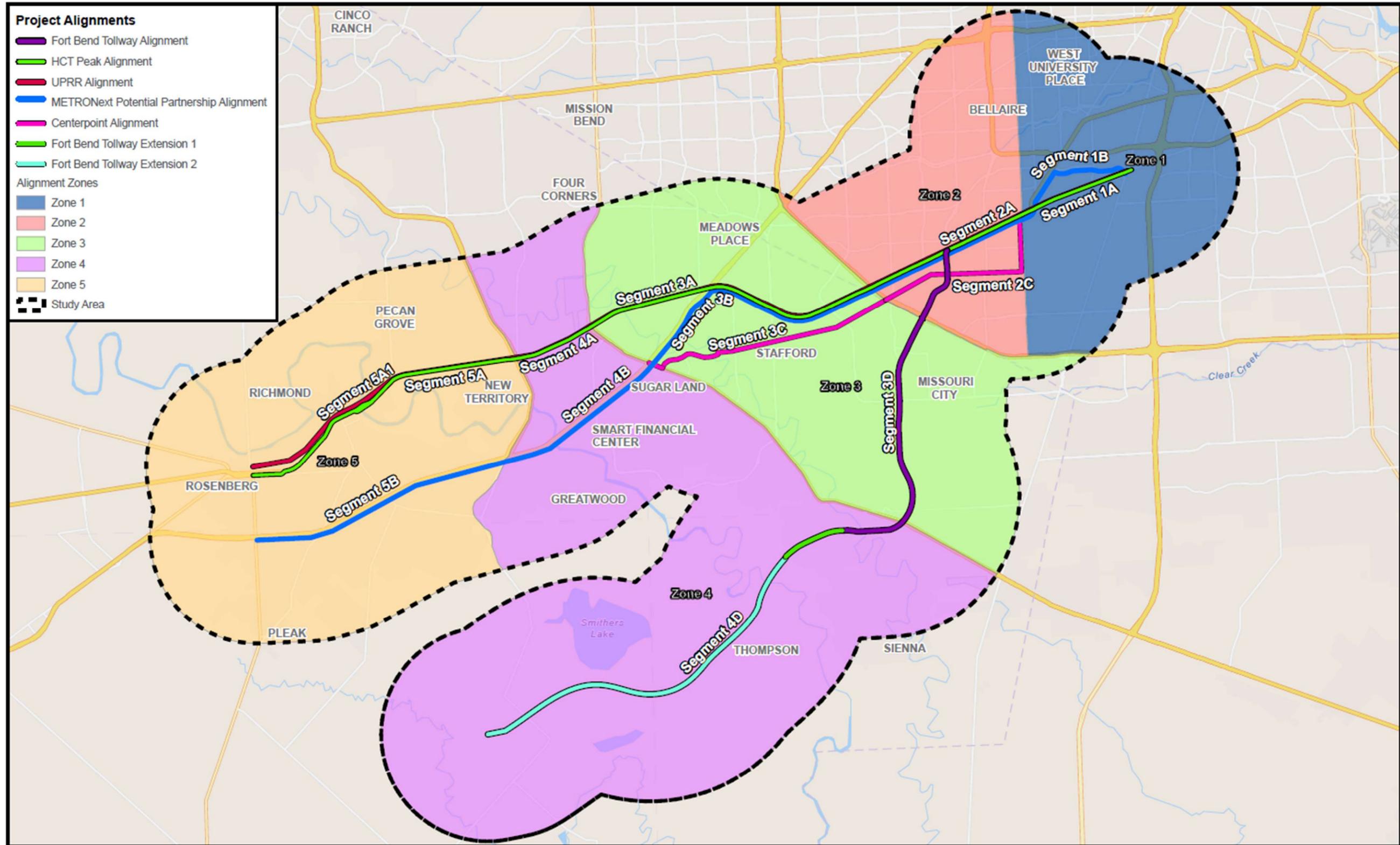
Zone	1	2	3	4	5
<b>Limits</b>	Fannin Street to Holmes Road	Holmes Road to Beltway 8	Beltway 8 to SH 6	SH 6 to SH 99	SH 99 to SH 36
US 90A (HCT Peak)	A	A	A	A	A
UPRR	A	A	A	A	A <sup>9</sup>
US 90A to IH-69 (METRONext)	B	A	B	B	B
CenterPoint	A	C	C	B + C	B
Fort Bend Tollway	A	D	D	D	—

Shading is assigned according to the letter designations of each segment

<sup>8</sup> The US90A highway corridor parallels the UPRR Glidden Subdivision and passes through southwest Houston as well as the cities of Missouri City, Stafford, Sugar Land, Richmond, and Rosenberg.

<sup>9</sup> The US90A highway corridor parallels the UPRR Glidden Subdivision and passes through southwest Houston as well as the cities of Missouri City, Stafford, Sugar Land, Richmond, and Rosenberg.

Figure 4-1 Alignment Segments



## 4.2 Evaluation Process

The five identified alignment alternatives were then evaluated through a two-step screening process.

### 4.2.1 Tier 1 Screening

Preliminary screening criteria were developed to evaluate the feasibility and reasonableness of the initial five potential alignments. Since many of the alignments share the same ROW for some of the route, initial screening criteria were analyzed segment by segment to reduce duplicative analysis. For example, the US90A alignment and the UPRR alignment utilized the same approximate area for the length of the route.

Four major criteria were used to evaluate the initial alignments. Two were evaluated quantitatively and two were evaluated qualitatively; however, all were “scored” using Harvey balls in line with the high-level evaluation approach.

The quantitative criteria combined multiple performance measures and were evaluated on a segment-by-segment basis. Low score thresholds and high score thresholds were selected for each performance measure and used to interpolate scores for each performance measure. If the performance measure was at or below the low score threshold, an empty Harvey ball would be indicated, and if the performance measure was at or above the high score threshold, a full Harvey ball would be indicated. The performance measures were then summarized in the following two quantitative criteria:

- **Environmental Factors:** environmental constraints, including 100-year floodplain, wetlands, and hazardous material sites, along the segment and sensitive receptors, including sites qualifying for protection.

With regards to the 100-year floodplain, According to Federal Emergency Management Agency’s (FEMA) National Flood Hazard Layer (NFHL), approximate percentages of each Alignment are as follows:

- **Fort Bend Tollway Alignment:** Approximately two percent within the floodway, four percent within the 100-year floodplain, and two percent within the 500-year floodplain.
- **METRONext Alignment:** Approximately three percent within the floodway, one percent within the 100-year floodplain, and one percent within the 500-year floodplain.
- **HCT Alignment:** Approximately one percent within the floodway, eight percent within the 100-year floodplain, and two percent within the 500-year floodplain.
- **UPRR Alignment:** None of the Alignment is within the floodway, 13 percent within the 100-year floodplain, and one percent within the 500-year floodplain.
- **CenterPoint Alignment:** Approximately one percent within the floodway, and none of the Alignment falls within the 100-year floodplain or within the 500-year floodplain.

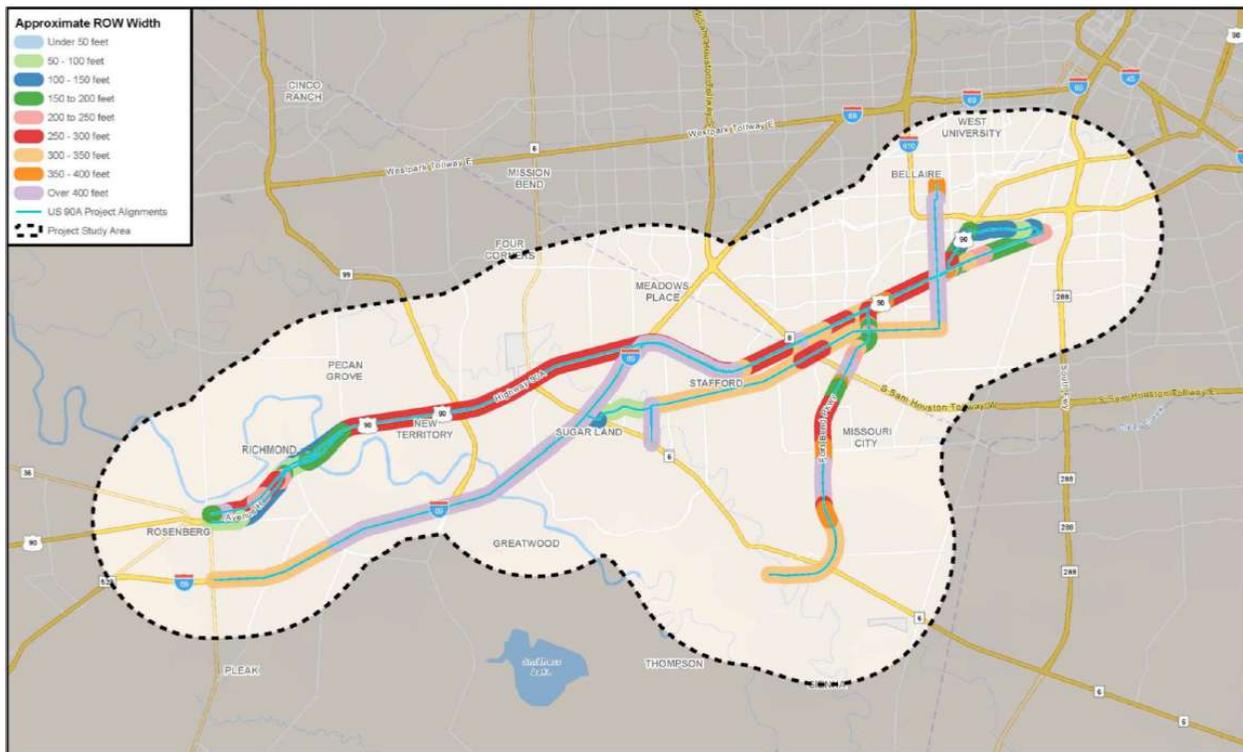
- **Density:** existing and future population and employment density within 2 miles. A visual overview of these densities was previously provided in **Figures 2-2** and **2-3**.

The scoring of performance measures contributing to Environmental Factors and Density and scores for each segment are shown in **Table 4-3**.

Segment scores for Environmental Factors and Density were combined using a weighted average by segment length to develop alignment scores. The two quantitative criteria were then combined with the two qualitative criteria: ROW Availability and Stakeholder Support. The qualitative criteria were evaluated on an alignment basis.

- **ROW Availability:** availability, usability, and potential cost of ROW based on current ownership and aerial imagery. Approximate ROW widths for each alignment are illustrated in **Figure 4-2**.
- **Stakeholder Support:** feedback and support from community and agencies, including members of the Steering and Stakeholder Committees.

**Figure 4-2 Approximate Right-of-Way Widths for Alignments Under Consideration**



A summary of the Tier 1 screening is shown in Error! Reference source not found.. Each alternative was ranked (with a full Harvey ball being the most favorable alignment and an empty Harvey ball being the least favorable alignment) to summarize the four criteria.

Each alternative was then ranked to summarize the four criteria. In this first round of screening, the US 90A to IH 69, US 90A, and Fort Bend Tollway alignments scored the highest, while the

UPRR and Centerpoint alignments scored the lowest. A significant reason for the low scores on the latter two alignments was lack of stakeholder support. With regard to the UPRR alignment, Union Pacific staff expressed opposition to sharing their right-of-way with transit. With regard to the Centerpoint alignment, members of both the Steering and Stakeholder Committees expressed concerns about conflicts with utilities as well as proximity to residences.<sup>10</sup>

Based on this first round of screening, the UPRR and CenterPoint Alignment were eliminated from further consideration. Three alternatives – US 90A, US 90A to IH-69, and the Fort Bend Tollway - were selected to continue the Tier 2 evaluation.

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<sup>10</sup> H-GAC staff attempted to contact Centerpoint representatives to get their feedback on this alignment but did not receive a response.

**Table 4-3 Environmental Factors and Density Evaluation by Segment**

Criteria	Performance Measure	Low Score	High Score	1		2			3				4				5		
				1A	1B	2A	2C	2D	3A	3B	3C	3D	4A	4B	4C	4D	5A	5A <sup>11</sup>	5B
<b>Segment length (miles)</b>		-	-	3.3	3.9	4.7	5.6	2.2	8.4	7.6	6.8	6.0	2.3	4.9	0.4	14.1	9.1	8.3	7.5
<b>Environmental Constraints</b>	Percentage of the segment is within the 100-year floodplain or wetland area	15%	0%	0%	0%	16%	12%	17%	3%	3%	8%	2%	6%	17%	0%	39%	20%	4%	1%
	Number of hazardous material (TCEQ LPSTs and superfund) sites within 0.1 miles of the segment (# / mile)	3	0	1.8	1.3	2.8	1.1	0.0	3.1	3.0	0.4	0.0	0.4	0.0	0.0	0.0	2.7	0.4	0.4
<b>Sensitive Receptors</b>	Number of sites qualifying for protection (schools, medical facilities, places of worship, and identified cultural resources) within 0.1 miles of the segment (# / mile)	3	0	0.0	0.3	0.6	0.2	0.0	1.1	0.8	0.4	0.0	0.9	0.0	0.0	0.0	2.2	1.7	0.0
<b>Environmental Factors</b>	Environmental Constraints and Sensitive Receptors	○	●	◐	◑	◒	◓	◔	◕	◖	◗	◘	◙	◚	◛	◜	◝	◞	◟
<b>Existing Density</b>	Existing population density within 2-mile buffer (people/mile)	2,000	5,000	3,048	4,335	4,991	4,600	4,581	2,904	2,873	3,124	2,981	2,606	1,405	2,907	577	1,808	1,802	2,090
	Existing employment density within 2-mile buffer (jobs/mile)	1,000	2,500	1,881	3,160	704	511	533	2,304	2,487	1,652	216	1,583	222	1,854	145	591	556	697
<b>Future Density</b>	Future population density within 2-mile buffer (people/mile)	2,000	5,000	6,835	8,783	4,194	4,440	3,867	3,014	3,000	2,846	3,744	2,384	2,035	2,665	1,755	2,543	2,540	2,743
	Future employment density within 2-mile buffer (jobs/mile)	1,000	2,500	2,784	4,296	1,492	1,320	1,151	3,064	3,257	2,476	673	1,409	189	1,725	251	973	947	1,058
<b>Density</b>	Existing and projected population and employment density	○	●	◐	◑	◒	◓	◔	◕	◖	◗	◘	◙	◚	◛	◜	◝	◞	◟

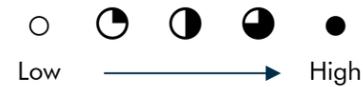
Refer to **Table 4-1** for a description of each segment



<sup>11</sup> The US90A highway corridor parallels the UPRR Glidden Subdivision and passes through the cities of Missouri City, Stafford, Sugar Land, Richmond, and Rosenberg.

**Table 4-4 Assessment of Initial Alignments**

	US 90A (HCT Peak)		Union Pacific Rail Road		US 90A to IH 69 (METRONext Potential Partnership)		CenterPoint (CenterPoint Easement to IH 69)		Fort Bend Tollway (US 90A to Fort Bend Tollway)	
<b>Length (mi)</b>	27.8 miles		27 miles		28.5 miles		28.4 miles		25.6 miles	
	Score	Description	Score	Description	Score	Description	Score	Description	Score	Description
<b>Environmental Factors</b>		2.9 miles in 100-year floodplain; high number of hazardous material and protected sites, particularly in Segment 5		1.5 miles in 100-year floodplain; high number of hazardous material and protected sites		1.8 miles in 100-year floodplain; high number of hazardous material sites and moderate number of protected sites		2.1 miles in 100-year floodplain; moderate number of hazardous material sites and minimal number of protected sites		6.1 miles in 100-year floodplain; minimal hazardous material sites and no protected sites
<b>Density</b>		Stronger population and employment density in eastern segments		Stronger population and employment density in eastern segments		Stronger population and employment density in eastern segments		Lower existing and future employment density than other alignments		Lowest existing and future population and employment density
<b>Right-of-Way (ROW) Availability</b>		Entire alignment location along US 90A (TxDOT) ROW with pinchpoints in Segment 5		Nearly entire alignment is located along Union Pacific Rail Road ROW with pinchpoints in Segment 5		Majority of alignment is located along IH 69 (TxDOT) ROW		Alignment is split between CenterPoint ROW and IH 69 (TxDOT) ROW		Majority of alignment is located along Fort Bend Tollway (Fort Bend County Toll Road Authority)
<b>Stakeholder Support</b>		Strong stakeholder support		Minimal stakeholder support (Union Pacific Rail Road staff have confirmed that sharing of their ROW is not part of their business model)		Very strong stakeholder support		Low stakeholder support (Steering and Stakeholder Committees expressed concerns about conflicts with utilities and proximity to residences)		Moderate stakeholder support
<b>Rank</b>	<b>2</b>	Continue to Tier 2 Evaluation	<b>5</b>	Do not continue to Tier 2 Evaluation	<b>1</b>	Continue to Tier 2 Evaluation	<b>4</b>	Do not continue to Tier 2 Evaluation	<b>3</b>	Continue to Tier 2 Evaluation



## 4.2.2 Tier 2 Evaluation

The three alignments carried forward to the Tier 2 evaluation, which focuses on quantitative measures directly related to cost and ridership for three alignments with varying technologies and service types. The following criteria were used in evaluation:

- Ridership
- Capital Cost
- Right-of-Way (ROW) Need
- Annual Operations and Maintenance (O&M) Cost

### 4.2.2.1 Assignment of Station Locations

To conduct the Tier 2 evaluation using these criteria, station locations needed to be designated for each of the remaining alignments. Determining locations where passengers might board and alight the potential service is required to conduct ridership analysis. The number of stations also directly affects capital and operating cost estimates for each of the alignments.

Station locations were assigned to the three alignments based on station criteria that can be found in Table 5-2 in the following section and are indicated below in **Table 4-5**. It should be noted that these station locations are preliminary in nature; the actual design and location of the HCT stations for the alignments under consideration are contingent on a number of factors, such as land use, connectivity, operating concept, station spacing, available right of way, surrounding constraints, and public input. The actual location of potential stations is an iterative process that will be finalized in the design phase of the project.

**Table 4-5 Potential Stations**

Station location	Alignments		
	US 90A (HCT Peak)	US 90A to IH-69 (METRONext)	Fort Bend Tollway
Fort Bend Toll Road @ Grand Pkwy			X
Fort Bend Toll Road @ Thompson Road			X
Rosenberg - Avenues H & I @ First Street	X		
Rosenberg – IH-69/US 59 @ First Street		X	
Richmond - US 90A @ Fourth Street	X		
Richmond - IH-69/US 59 @ FM 762		X	
Sugar Land - US 90A @ Grand Pkwy	X		
Sugar Land - IH-69/US 59 @ Grand Pkwy		X	
Sugar Land - US 90A @ SH 6	X		
Sugar Land - IH-69/US 59 @ SH 6		X	

Station location	Alignments		
	US 90A (HCT Peak)	US 90A to IH-69 (METRONext)	Fort Bend Tollway
Sugar Land - US 90A @ Dairy-Ashford	X		
Sugar Land - US 90A @ US 59		X	
Stafford - US 90A @ Murphy Road	X	X	
Missouri City - Fort Bend Toll Rd @ SH 6			X
Missouri City - US 90A @ Beltway 8	X	X	
Missouri City - Fort Bend Toll Rd @ McHard Rd			X
Missouri City - Fort Bend Toll Rd @ Beltway 8			X
Houston – US 90A at Fort Bend Toll Rd			X
Houston - US 90A @ Hiram Clarke Rd	X	X	X
Houston - Fannin South P&R	X	X	X
<b>Total stations</b>	<b>9</b>	<b>9</b>	<b>8</b>

#### 4.1.2.2 Ridership Estimation and Consideration of Future Development

**Ridership** potential is one of the metrics used to determine the viability of a transit route, corridor, or alignment. Historically, the higher the ridership potential would determine the success of the route. Ridership is modeled using a forecasting tool which examines both current and future demographic data. This data includes population, employment, number of vehicles per household, household income and other factors.

The ridership modeling for this study was conducted in the H-GAC Regional Model (CUBE) by H-GAC staff, using population and employment projections for a target year of 2045. This model integrates proposed transit enhancements with projections of regional population and employment figures, while also accounting for both existing and prospective transportation improvements, including roadway and transit initiatives. Subsequently, the model forecasts the potential ridership for the new service by analyzing prevailing travel patterns and available capacity. The outputs generated by the model encompass ridership statistics, travel durations, and the number of boardings at each station. Daily boardings for each station in both directions were summed to calculate overall daily ridership.

The detailed results of these modeling runs are provided in **Appendix F – Ridership Modeling Results**, showing overall ridership for each alignment as well as modeled boardings at each conceptual station location. Modeled travel times are shown as well.

Upon initial evaluation the US 90A to IH-69 alignment ranked the highest for potential ridership, while the Fort Bend Tollway alignment ranked the lowest. This was due to the current estimated population and employment density along the corridor and near the proposed station locations. However, during this evaluation feedback was received from the Steering and Stakeholder Committees, as well as the GCRD Board of Directors, that the model was underestimating potential ridership along the Fort Bend Parkway Toll Road alignment. This was due to the significant amount of development being planned in the vicinity of the alignment west of the Brazos River that might not have been fully captured in the previous analysis.

H-GAC staff worked with the Fort Bend County Engineering Department to collect the most up-to-date data related to planned and proposed developments along Fort Bend Parkway Toll Road. The modeling team then developed a methodology to capture the data for these new developments and incorporate the projections into the model. Once this was complete the model was re-run and the ridership potential for Fort Bend Parkway Toll Road increased exponentially, making it highly competitive with the ridership modeled for the US 90A to IH-69 alignment.

### Other Criteria and Scoring

**Right-of-Way (ROW) Need** was estimated based on high-level estimates of existing ROW width, needed ROW width, and roadway length where existing ROW is insufficient for needed improvement. This was a more in-depth analysis than the Right-of-Way availability analysis undertaken in the Tier One screening. For the purposes of this analysis, ROW impacts were evaluated by incorporating the width of the proposed guideway into the existing ROW widths along the designated alignments. In instances where accommodating the guideway necessitated additional ROW, the required width and extent of the supplementary ROW were estimated and subsequently compared to other sections of the alignment.

**Capital Cost** was estimated based on estimated construction cost of the line infrastructure and station infrastructure. Cost of line infrastructure was based on National Transit Database (NTD) [Agency Profile](#) (2022) data for METRO LRT, BRT, and HOV lane capital costs per mile. Construction cost estimates at this level of analysis are typically linearly related to length of the alignment. A cost savings factor was applied to the section of Fort Bend Tollway that has not yet been constructed since there is opportunity for cost savings if implementation of the transit corridor is concurrent with the extension construction. Additionally, for the METRONext alignment, a portion of the alignment has existing HOV lanes, so no construction cost was calculated for that segment.

An estimated cost per station was multiplied by the number of stations along each alternative to calculate estimates cost of station infrastructure. Cost of line infrastructure and station infrastructure were added together and then scores for LRT, BRT, and HOV lane were averaged together for a single Capital Cost score.

**Annual O&M Cost** is influenced by the operation of the proposed transit service. Factors such as headways, service span, travel time, and trip length all contribute to the revenue hours of service

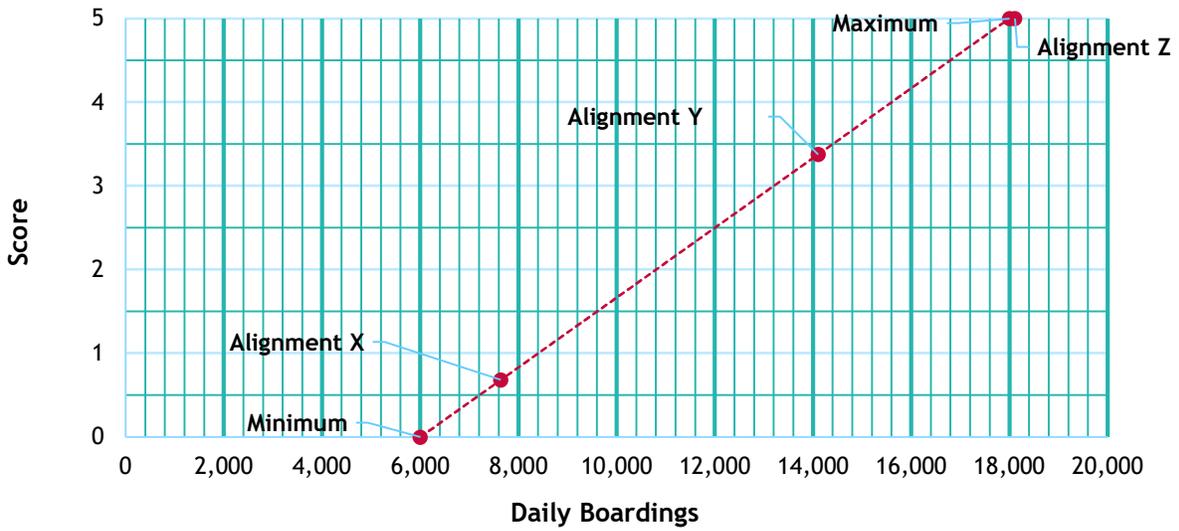
required to be provided. These costs were estimated based on average speed for BRT from American Public Transit Association (APTA) *Public Transportation Fact Book (2024)* and estimated existing METRO LRT speeds of 15 mph and 20 mph, respectively. Speed data was combined with preliminary operating plans and NTD *Agency Profile (2023)* operating costs per revenue mile and hour. The preliminary operating plans assumed schedules similar to that of an express service to correspond with the ridership modeling. Annual O&M Cost scores for BRT and LRT were averaged to create a single score for Annual O&M Cost for each alternative.

Scores were assigned for each alternative for each criterion between 0 and 5 points. Minimum values and maximum values related to 0 points and 5 points, respectively, were determined and used for linear interpolation to calculate the scores. The values selected as bounds for each score are presented in **Table 4-6** and an example of scores based on Ridership results are shown in *Error! Reference source not found.*. The Tier 2 assessment matrix is shown in *Error! Reference source not found.*.

**Table 4-6 Tier 2 Evaluation Scoring Values**

		Maximum Score (5 points)	Minimum Score (0 points)
Ridership	<i>Daily Boardings</i>	18,000	6,000
Right-of-Way Need	<i>ROW Need (SF)</i>	0	50,000
Capital Cost (\$1 Million)	<i>BRT Construction</i>	\$1,500.00	\$3,500.00
	<i>LRT Construction</i>		
	<i>HOV Lane Construction</i>	\$500.00	\$600.00
Annual O&M Cost (\$1 Million)	<i>BRT</i>	\$20.00	\$60.00
	<i>LRT</i>		

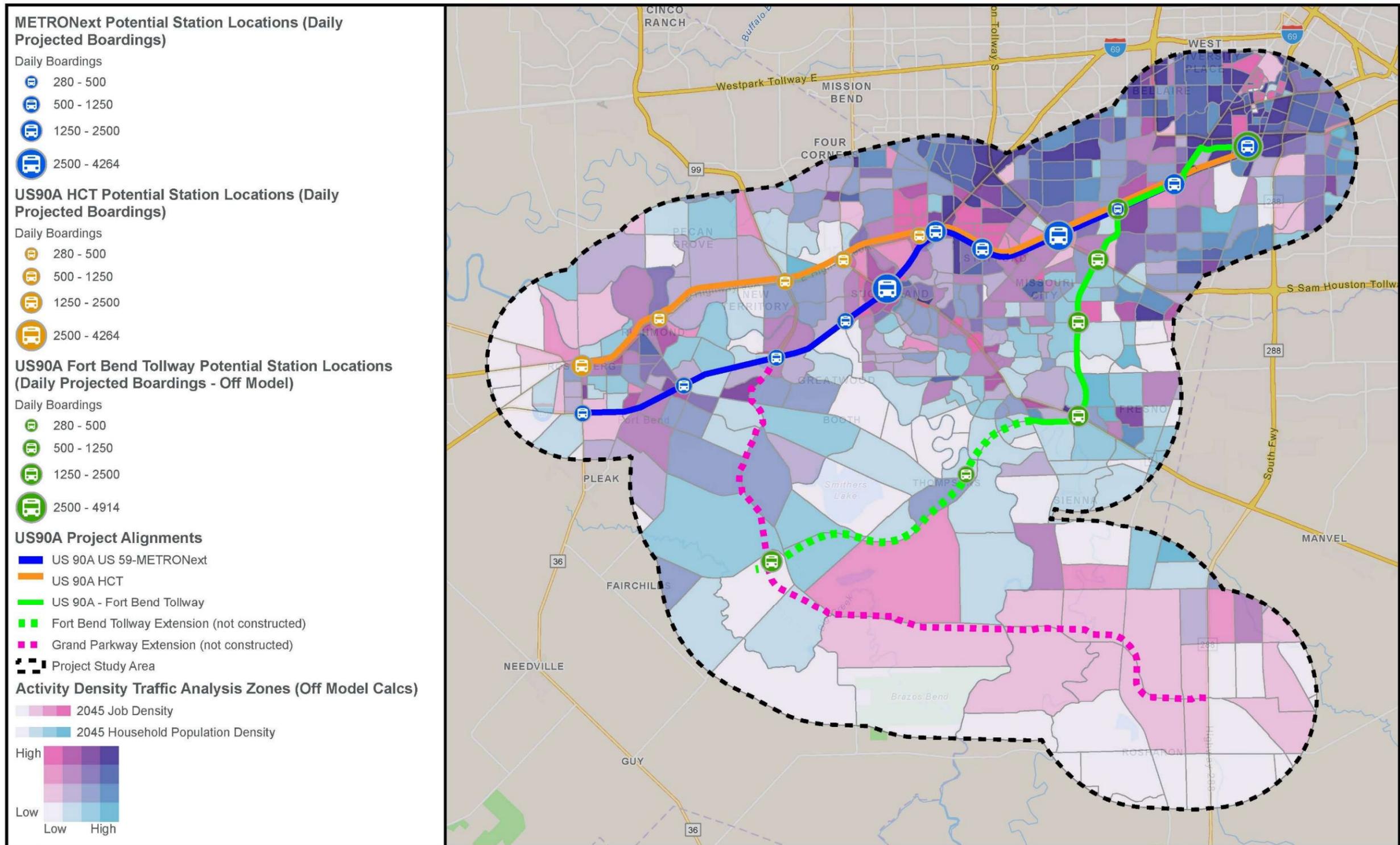
Figure 4-3 Ridership Values and Scores (Example)



**Table 4-7 Tier 2 Assessment Matrix**

		HCT Peak (US 90A)		METRONext (US 90A to IH 69)		Fort Bend Tollway (without development projections)		Fort Bend Tollway (with anticipated development)	
Length (mi)		27.84		28.55		25.59		25.59	
Number of Stations		10		11		8		8	
		Value	Score	Value	Score	Value	Score	Value	Score
Ridership	Daily Boardings	14,104	3.4	18,109	5.0	7,638	0.7	17,022	4.6
<b>Ridership Score</b>			<b>3.4</b>		<b>5.0</b>		<b>0.7</b>		<b>4.6</b>
Right-of-Way Need	ROW Needs (SF)	117,000	0.0	39,000	1.1	0	5.0	0	5.0
<b>ROW Score</b>			<b>0.0</b>		<b>1.1</b>		<b>5.0</b>		<b>5.0</b>
Capital Cost (\$1 Million)	BRT	\$1,840.85	4.1	\$1,890.23	4.0	\$1,389.82	5.0	\$1,389.82	5.0
	LRT	\$3,371.93	0.3	\$3,460.42	0.1	\$2,541.91	2.4	\$2,541.91	2.4
	HOV Lane	\$615.99	0.0	\$316.97	4.0	\$468.15	1.9	\$468.15	1.9
<b>Capital Cost Score</b>			<b>1.5</b>		<b>2.7</b>		<b>3.1</b>		<b>3.1</b>
Annual O&M Cost (\$1 Million)	BRT	\$22.61	4.7	\$23.18	4.6	\$20.78	4.9	\$20.78	4.9
	LRT	\$60.76	0.0	\$62.31	0.0	\$55.85	0.5	\$55.85	0.5
<b>O&amp;M Cost Score</b>			<b>2.3</b>		<b>2.3</b>		<b>2.7</b>		<b>2.7</b>
<b>TOTAL SCORE</b>			<b>7.2</b>		<b>11.1</b>		<b>11.5</b>		<b>15.4</b>

Figure 4-4 Station Locations and Ridership



US 90A TRANSIT CORRIDOR STUDY

### 4.3 Screening Results

Once the Tier 2 analysis was completed, the Fort Bend Tollway (without development projections) alternative scored the highest of the three alternatives with the US 90A to IH 69 alignment scoring just 0.4 points less. While the US 90A to IH-69 alignment has higher ridership, the Fort Bend Tollway alignment has less initial investment with lower capital cost and minimal to no right-of-way needs. The roadways along both the US 90A and US 90A to IH 69 alignments have segments with limited available ROW and higher capital costs with longer routes and more stations. In contrast, the existing Fort Bend Tollway has available ROW and there is an opportunity to build out the southernmost segment of the transit corridor during construction of the future Fort Bend Tollway, saving on construction cost.

The Steering Committee, the Stakeholder Committee, and the GCRD Board of Directors all provided feedback to adjust the projected population and employment density of areas in proximity to the Fort Bend Tollway alignment based on development that is anticipated to occur within that part of the Study Area once the Fort Bend Tollway is built over the Brazos River. To incorporate this feedback, a fourth alternative was added which reflects the density adjustments and results in higher ridership. Based on the Tier 2 quantitative evaluation, the **Fort Bend Tollway (with anticipated development) alternative reports the highest score.**

## 5 Operational and Technology Options

The purpose of the US 90A Transit Corridor Study is to identify a feasible alignment alternative for future high-capacity service in the corridor. It is intended to be a high-level analysis that produces a transit alternative that the Gulf Coast Rail District and other prospective partners in the facility’s eventual implementation can advance into more detailed study and analysis.

As this concept is moved forward into more detailed analysis and design, important decisions will need to be made related to how the service will operate, the type (mode) of technology that will be used, the final number and location of stations (including whether they are at-grade or elevated), and the manner in which the service connects to the METRORail Red Line at its eastern end. This section presents options that may be considered as this project continues to move towards implementation.

### 5.1 Service Concepts

Two potential service concepts were developed for this project: a “Commuter Service” scenario which features fewer stops and faster travel times, and an “Express Service” scenario that features more station locations but would have slower travel times. The trade-off between the two service concepts is between speed and ridership; the Commuter Service would be faster but would have less potential ridership because it has fewer stations (and therefore fewer places for riders to access the service), while the Express Service concept would serve more people and transit connections along the corridor by virtue of having more stations, but would also see lower travel times because more stops are required. The Express Service concept might also be more expensive to operate, because of lower revenue speeds and the need for more vehicles to maintain adequate frequency (headways). **Table 5-1** breaks down some of the characteristics between Commuter and Express service scenarios.

**Table 5-1 Commuter and Express Service Characteristics**

Characteristic	Commuter Service Scenario	Express Service Scenario
Station Spacing	3-5 miles between stations	2-3 miles maximum between stations
Service Speed	Faster travel speeds and shorter travel times	Slower travel speeds and longer travel times
Trip Purposes Served	Work-based travel between suburban to urban areas, usually during peak hours; longer trip distances	Local or regional travel for work, shopping, appointments; shorter trip distances
Vehicle Frequency and Capacity	Less frequent but with larger capacity vehicles	More frequent service with smaller capacity vehicles

Station Design	More elaborate infrastructure for stations and larger parking facilities; focused on quick ingress and egress with direct connections to highways	Stations have simple and basic facilities with smaller parking facilities; □ Prioritize walkability and integration with local bus routes, bike/ped infrastructure
Station Environment	Generally located around more commercial land uses – office complexes, business parks, hotels	Generally located around mixed use development – housing, retail, and office

For the purposes of the Tier Two Evaluation described in Section 4 of this study, an Express Service scenario was assumed. Choosing the actual service scenario for this alignment will require a careful weighing of the respective benefits and drawbacks of each, including rider and community preferences.

## 5.2 Station Locations

For purposes of estimating ridership, capital and operating costs in the Tier Two Evaluation, provisional station locations were assigned to each alignment. These station locations are not final; additional analysis will be required as this project moves into its next phase of development, and factors such as the type of service concept chosen (Commuter or Express), the availability of right-of-way at prospective locations, potential obstacles to station construction or access, connectivity with other transit services, the potential for development around stations, and community input will need to be considered.

Error! Reference source not found. provides proposed station location criteria based on the type of service proposed in the corridor.

**Table 5-2 Station Criteria and Location Considerations**

Criteria		Commuter	Express
Location	Proximity to residential, suburban, urban areas	Within 0.5 miles of urban areas / activity centers.	Within 1 mile of residential / suburban development.
	Proximity to multimodal infrastructure	<ul style="list-style-type: none"> <li>▪ Direct highway access.</li> <li>▪ Personal vehicle access points.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Local road access.</li> <li>▪ Dedicated bike and pedestrian friendly access points.</li> </ul>
	Surrounding land use	<ul style="list-style-type: none"> <li>▪ Within a 1-mile radius of commercial, office, and mixed-use development.</li> <li>▪ Min. 30% of land used in the surrounding station is commercial.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Residential and mixed-use development within 1 mile of station.</li> <li>▪ Min. 30% of land use surrounding station is residential, mixed-use, and retail.</li> </ul>

Criteria		Commuter	Express
Demographics	Population density	<ul style="list-style-type: none"> <li>Lower population density.</li> <li>2,000-3,000 people per square mile.</li> </ul>	<ul style="list-style-type: none"> <li>Higher population density.</li> <li>3,000-4,000 people per square mile.</li> </ul>
	Underserved populations	<ul style="list-style-type: none"> <li>Population within 1 mile with household income less than \$30k/year (FPL).</li> <li>Population within 0.5 miles with zero-vehicle household.</li> </ul>	<ul style="list-style-type: none"> <li>Population within 1 mile with household income less than \$30k/year (FPL).</li> <li>Population within 1 mile with zero-vehicle household.</li> </ul>
Facility Design	Real estate requirements	<ul style="list-style-type: none"> <li>Minimum of 250 parking spaces.</li> <li>Platform space of at least 600 feet.</li> <li>Accommodates 4-5 bus bays.</li> <li>Real estate available for expansion.</li> </ul>	<ul style="list-style-type: none"> <li>Minimum of 100 parking spaces.</li> <li>Platform space of at least 400 feet.</li> <li>Accommodates 1-3 bus bays.</li> </ul>
	Station facilities/amenities	Adequate space for enclosed waiting facility for 100 passengers, and restrooms.	Adequate space for shelters for 50 people, and TVM.
	Passenger capacity	<ul style="list-style-type: none"> <li>High volume.</li> <li>500-1000 passengers during peak hours.</li> </ul>	<ul style="list-style-type: none"> <li>Moderate volume.</li> <li>200-500 passengers during peak hours.</li> </ul>
Operations	Service frequency	<ul style="list-style-type: none"> <li>Lower frequency.</li> <li>Peak hours.</li> <li>20-30 minutes headways.</li> <li>Longer distance travel.</li> </ul>	<ul style="list-style-type: none"> <li>Higher frequency.</li> <li>Peak commute hours.</li> <li>10-20 minute headways.</li> <li>Shorter distance travel.</li> </ul>
	Connections	Can connect to other transit modes.	Can connect to local feeder bus service.
	Catchment Area	Located within 10 minutes driving distance to station.	Located within 10-minute walk of station.

**Table 5-3** provides an example of station locations along the US 90A alignment, based on the above criteria and service scenario chosen. Where there is less available right-of-way, stations may need to be elevated, rather than at-grade. Where sufficient right-of-way is available and a large percentage of riders are expected to drive in to access the service, comprehensive park and ride facilities should be considered. Examples of a conceptual plan for a large park and ride facility (including adjacent development) are depicted in **Appendix B – Conceptual Design**.

Table 5-3 US 90A - HCT Alignment Stations

Station location	Service Scenario		Station Type	Parking
	Express	Commuter		
Rosenberg - Avenues H & I @ First Street	X	X	at-grade	N
Richmond - US 90A @ Fourth Street	X		at-grade	Y
Sugar Land - US 90A @ Grand Pkwy	X	X	at-grade	Y
Sugar Land - US 90A @ SH 6	X		elevated	Y
Sugar Land - US 90A @ Dairy-Ashford	X	X	elevated	Y
Stafford - US 90A @ Murphy Road	X		at-grade	Y
Missouri City - US 90A @ Beltway 8	X	X	elevated	Y
Missouri City - US 90A @ Fort Bend Toll Rd/Hillcroft	X		elevated	Y
Houston - US 90A @ Hiram Clarke Rd/S. Post Oak	X	X	elevated	Y
Houston - Fannin South P&R	X	X	at-grade	N
<b>Total stations</b>	<b>10</b>	<b>6</b>		

When deciding where to locate stations, the potential for Transit-Oriented Development (TOD) should be considered. TOD refers to concentrated, mixed-use development located within one-half mile of a transit facility, allowing for easy walking access to public transportation. Successful TOD has the potential to provide multiple benefits, including:

- Increased public transit use and fare revenue
- Reduced congestion and air pollution
- Improved job access and sense of place in a community
- Reduced low-density development sprawl

TOD potential should consider factors such as land use, available vacant land, pedestrian and bicycle access, community policies, and potential physical constraints, including floodplains and wetlands. **Appendix C – Transit-Oriented Development Potential** analyzes the potential for TOD along each of the three alignments carried into the Tier Two Evaluation.

### 5.3 Technology

Various transit modes and technologies can provide the high-capacity service planned for the US 90A corridor. Vehicles can either be rubber-tired (buses) or on rails (trains), while vehicle propulsion can be by way of traditional fuels (gasoline or diesel), alternative fuels (compressed natural gas or hydrogen fuel cell) or electric (either by way of overhead catenary or on-board battery).

Each mode of transit has unique capacity characteristics that impact service delivery and passenger experience. Generally speaking, buses will require a lower initial investment and less extensive initial infrastructure, while trains will require higher upfront infrastructure and vehicle costs. However, trainsets generally have a longer service life than buses, and can provide higher passenger capacities on a per-vehicle basis.

Capacity is a fundamental concept in transit planning, representing the maximum number of passengers a transit vehicle can accommodate in a certain period. For each transit mode, different variables define this capacity, including seated capacity, standing capacity, and crush load capacity. These variables are essential for understanding the operational limits and performance of transit systems, especially during peak travel periods when demand is highest.

Currently, Park & Ride service operates in the IH-69/US 59 corridor with a single reversible High Occupancy Vehicle (HOV) lane that stretches from Spur 527 near Downtown Houston to the area around Airport Boulevard, along with two-way diamond lanes extending to Farm to Market (FM) 762 in Richmond. However, there are no dedicated HOV or diamond lanes on US 90A.

The existing METRORail technology is light rail transit (LRT), which runs on tracks with an overhead electric power source. LRT can operate on city streets or on its own ROW and can run as single cars or as multi-car trains. Other technologies, such as diesel commuter rail transit (CRT) and bus rapid transit BRT, may also be considered for the US 90A corridor. The ability of each of these transit modes to connect with the current METRORail line will be a crucial factor in the final decision-making process, which is discussed in further detail below.

The following are a list of potential high-capacity transit modes and technologies warranting further study for their applicability in the US 90A Corridor. It should be noted that both the Commuter and Express service scenarios described for this project aim to offer commuters quicker trips with fewer stops compared to typical local bus services, while also providing greater accessibility than traditional Park & Ride (P&R) options, which often only serve point-to-point travel.

- **Express Bus Service** – Express bus includes buses making less frequent stops than a local service, which stops every 1,000 feet to quarter mile. Express service can range from a special service that skips existing stops to only stopping at key locations for a quicker trip to a special commuter service in the form of a P&R.
- **Park & Ride (P&R) Service** – P&R bus service is designed to provide commuter service from suburban areas to employment centers such as Downtown Houston or the Texas Medical Center. P&R service typically offers point-to-point service from a remote parking lot to the final destination. Occasionally, an interim stop is made, depending on demand in the corridor and time of day. Given these buses' role in longer-distance commutes on expressways, analyses should focus exclusively on seated capacities, as these buses are not designed to accommodate standing passengers.
- **Trolleybus** – A trolleybus is an electric bus that draws power from dual overhead wires using spring-loaded or pneumatically raised trolley poles. Unlike streetcars and LRT

vehicles, trolleybuses have rubber tires and do not use rails. They provide a quiet, zero-emission urban transport service, but are confined to routes with installed overhead lines. Newer "in-motion charging" (IMC) trolleybuses also carry batteries, allowing them to travel away from the wires for greater flexibility and potentially lower infrastructure costs.

- **Bus Rapid Transit (BRT)** – BRT is typically a bus running in a dedicated lane or guideway, mimicking rail. The stations are situated farther apart than local bus service and would be designed similar to a light rail station, with off-vehicle fare collection and synchronized operations. BRT vehicles can be larger than normal buses, such as articulated buses, can accommodate both seated and standing passengers, and can have multiple doors for quick loading and unloading.
- **Light Rail (LRT)** – LRT is a train of one or more vehicles powered by overhead electric source, like the METRORail lines. LRT is typically used in urban environments with smaller vehicles than CRT. Current LRT vehicles reach speeds of up to 66 mph, making them feasible for faster commuter service. Both seated and standing passengers are accommodated.
- **Commuter Rail (CRT)** – Commuter rail is typically a series of passenger cars powered by a locomotive on freight rail tracks. CRT vehicles are longer and have a higher capacity than LRT vehicles. CRT stations are typically adjacent to the freight rail corridor because CRT does not leave the freight corridor to operate along the street. **Note:** with respect to this technology within US 90A Corridor, Union Pacific Railroad has expressed their opposition to using their trackage or right-of-way for transit service.

The characteristics for each of these modes are shown in **Table 5-4**. Additional conceptual renderings of selected vehicles and stations can be found in **Appendix B – Conceptual Design**.

Table 5-4 Transit Technology Evaluation Matrix

Mode	Description	Station Spacing	Operating Guideway	Capital Costs (per mile)	Operating Costs (vehicle/ hour)	Vehicle Capacity (seated, standing and crush load)	Travel Speed
 <p><b>Commuter Rail Transit (CRT)</b></p>	Train service connecting suburban areas and city centers, often using freight rail corridors.	2-5 miles	Fixed guideway	\$10M	\$250-300	Seated: 44-74 Standing: 100-225	30-80 mph
 <p><b>Light Rail Transit (LRT)</b></p>	Rail system that operates on tracks within urban or suburban areas, providing	0.25-1 mile	Fixed guideway or dedicated travel lane	\$120-\$180M	\$250-400	Seated: 72 Standing: 148 Crush Load: 200	25-66 mph
 <p><b>Bus Rapid Transit (BRT)</b></p>	High-efficiency bus system that operates on dedicated lanes similar to rail.	0.25-1 mile	Exclusive guideway or mixed flow	\$40-\$65M	\$100-150	Seated:59 Standing: 55-65 Crush Load: 120-130	20-65 mph

Mode	Description	Station Spacing	Operating Guideway	Capital Costs (per mile)	Operating Costs (vehicle/ hour)	Vehicle Capacity (seated, standing and crush load)	Travel Speed
<b>Express Bus</b> 	Frequent bus service that provides quicker over with fewer stops than local service	0.2-0.5 miles	Mixed traffic	\$600-\$800k per vehicle	\$150-250	Seated: 55-70 (Standees not recommended)	20-50 mph
<b>Park &amp; Ride</b> 	Commuter service linking suburban areas to employment centers with no or one interim stops.	10-20 miles	Diamond or HOV lanes	\$500M \$550-\$600 per vehicle	\$250-\$260	Seated: 55-80 (Standees not recommended)	55-65 mph
<b>Trolleybus</b> 	Electrically-powered urban or suburban service similar to LRT but with rubber wheels.	0.50-1 mile	Mixed traffic	\$10-\$50M	\$220-\$260	Seated: 25 Standing: 68	43-50 mph

## 5.4 End-of-Line Options

The Fannin South Transit Center has been designated as the eastern terminus for the US 90A Transit Corridor Study. The METRORail Red Line ends at the Fannin South Station, and the adjacent parking facilities make it a logical endpoint for the proposed HCT corridor. Three types of HCT modes are potential candidates for this corridor are LRT, BRT, and CRT. However, it is important to examine the implications of using Fannin South as the terminus, as each option may present unique challenges.

If the chosen mode for the US 90A corridor facility is LRT, connecting it to the existing Red Line would be straightforward, as both systems use LRT and interlining is possible. Interlining allows passengers to enjoy a one-seat ride, meaning they will not need to switch to another mode of transit. However, this could negatively impact the current operations of the Red Line.

The Red Line currently operates with a six-minute headway, which is about the maximum frequency achievable for an at-grade, street-running LRT line, even with transit signal priority (TSP) favoring LRT operations. Adding another LRT vehicle to the existing Red Line service would reduce the headways, complicating the maintenance of consistent train timing and efficient traffic flow along the corridor, both parallel and perpendicular to the transit route.

If the chosen transit mode for the corridor is BRT, a closer look will need to be taken at how it connects to the Fannin South Station. One option for this connection could be to have the BRT vehicles use the existing transit center bus bays for transfers. Modifications will be needed to accommodate BRT vehicles. If that is not feasible, the installation of BRT platforms along Fannin Street adjacent to the current Fannin South Station could be considered. Another possibility for the BRT service is to extend the US 90A route closer to a key destination, such as the TMC, via Alameda Road or SH 288, which has managed lanes that could help expedite travel to the TMC.

The CRT would run along the UPRR freight rail corridor near Holmes Road, approximately half a mile south of the Fannin South Station. To facilitate this connection, either the CRT tracks would need to be extended to Fannin South Station, or the Red Line LRT would need to be extended south to a new LRT station next to the UPRR. Both options are expensive and come with design challenges. However, this intermodal connection no longer requires further consideration since the UPRR corridor has been eliminated at the request of Union Pacific.

To summarize, the options for terminating the US 90A corridor fall into the following three categories:

- **Interlining** – The LRT mode can join the existing Red Line and operate on existing tracks.
- **Transferring** – BRT vehicles stop at Fannin South Transit Center for transfers between LRT and BRT.
- **Extending** – Taking the BRT beyond the Fannin South Transit Center and connecting to the TMC via Alameda Road or SH 288.

Each of these options pose a unique set of challenges that must be addressed to adequately determine the most favorable solution. **Table 5-** shows the opportunities and challenges of each.

**Table 5-5 US 90A End of Line Options – Fannin South Transit Center**

Option	Opportunities	Challenges
Interlining	<ul style="list-style-type: none"> <li>▪ Smoothest option – limited capital cost to use existing infrastructure.</li> <li>▪ One seat ride to TMC and CBD – interlining avoids forcing transfers which adds time and discourages ridership.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Cost of LRT vehicles and operation – interlining extends the time of operation for LRT vehicles and may require additional vehicles.</li> <li>▪ Red Line capacity – Previous studies by METRO have indicated an operational capacity concern inserting an additional vehicle in the existing 6-minute headways</li> </ul>
Transferring	Potentially less costly – limited cost of improvements, potentially just a station platform near Fannin South Station.	<ul style="list-style-type: none"> <li>▪ Adds time to trip – transferring adds time to trip waiting for connecting trip.</li> <li>▪ Reduces ridership – time added to trips discourages a percentage of riders.</li> <li>▪ Bus capacity at P&amp;R platforms – METRO currently has four routes that stop at the Fannin South bus platforms. Three of those routes end at the Fannin South facility and layover for several minutes.</li> </ul>
Extending	<ul style="list-style-type: none"> <li>▪ Offers one seat ride to TMC – direct service to the TMC eliminates the transfer delay.</li> <li>▪ Uses existing bus stops in TMC – avoids cost to modify/add platforms at Fannin South.</li> </ul>	Increases operating costs – extending the BRT service to the TMC instead of stopping at Fannin South will add approx. 3.5 miles requiring additional service hours and vehicles.

A closer examination of the eastern terminus of the US 90A corridor is necessary, regardless of the chosen transit technology. LRT eliminates the need for a transfer but raises concerns about capacity for the METRORail Red Line. BRT, on the other hand, offers the most flexibility; it can either provide a convenient transfer to the Red Line or be extended to the TMC using various routes. Due to UPRR’s position on sharing passenger rail within their ROW, CRT is no longer considered a viable transit technology, removing the most expensive and complex option from consideration.

## 6 Public Outreach and Community Input

At the US 90A Transit Corridor Study's inception, a Public Involvement Plan (PIP) was developed to provide an outline for engagement, outreach methods and activities that would ensure meaningful public participation in the Study. The goal of H-GAC and the study team was to ensure an open planning process that supports interaction and dialogue with stakeholders and the public by making people aware of the study and making access to information about it easily available.

The public involvement plan focused on three primary groups:

- **Key Agencies:** agencies most likely to be involved in the implementation of the study's recommendations
- **Stakeholders:** elected officials, local government staff, neighborhood leaders, Management District and Chamber of Commerce representatives, industry and advocacy group representatives, business owners
- **General Public:** people who live, work or otherwise interact within the Study Area

The public involvement plan's key strategies included:

- **Collaborating** with key agencies by establishing a Steering Committee to guide the technical development of the plan.
- **Engaging** public and private stakeholders through a series of stakeholder meetings to provide input on the development of the plan.
- **Involving** residents in the planning process by providing adequate public notice of information with sufficient time to review and comment at public meetings.
- **Targeting** diverse groups including youth, young adults, and limited English proficiency populations.

A full report on public outreach is available in **Appendix D – Public Involvement Summary**.

### 6.1 Steering and Stakeholder Committees

#### 6.1.1 Steering Committee

At the Beginning of the Study, a Steering Committee was formed to guide the Study and assist in the guidance and oversight of the program, goals and objectives, public outreach, alternatives, recommendations, and reports. The Steering Committee was comprised of representatives from the following key agencies closely involved with the Study:

- The Houston-Galveston Area Council (H-GAC)
- The Gulf Coast Rail District
- The Metropolitan Transit Authority of Harris County, Texas (METRO)
- Fort Bend Transit
- The Texas Department of Transportation (TxDOT)

The Study Steering Committee met at key milestones on four times over the course of the study: May 2024, August 2024, February 2025, and August 2025.

### 6.1.2 Stakeholder Committee

A Stakeholder Committee was created to receive feedback on proposed recommendations and solicit and build continuing support for all recommendations. Members of the Stakeholder committee included county, city, and neighborhood representatives, Management District and Chamber of Commerce representatives, and other entities or specific groups with interests in the Study Area. Potential stakeholder groups were identified by H-GAC staff and the study team, with concurrence from the Steering Committee, although not all invited entities responded. The participating entities included:

- Brays Oaks Management District
- Brays Oaks Super Neighborhood
- City of Houston
- City of Missouri City
- City of Sugar Land
- City of Rosenberg
- Fort Bend Chamber of Commerce
- Fort Bend County Engineering Department
- Fort Bend County Toll Road Authority
- Harris County Engineering Department
- Harris County Toll Road Authority
- Hiram Clarke Fort Bend Redevelopment Authority
- Texas Medical Center
- Union Pacific Railroad
- Westbury Super Neighborhood

The Stakeholder Committee met twice over the course of the Study, in October 2024 and March 2025.

In addition to the Steering and Stakeholder Committee meetings, over the course of the Study updates were also provided to the Gulf Coast Rail District Board of Directors as well as H-GAC's Regional Transit Coordination Subcommittee.

## 6.2 Public Survey

H-GAC staff created a public involvement website for the US 90A Transit Corridor Study. Hosted by H-GAC's licensed public outreach software, Engagement HQ, this website's purpose was to engage the public, disseminate information, and receive feedback regarding the study. The platform had multiple functionalities, such as an online survey and interactive mapping tools, and included the opportunity for individuals lacking a wi-fi connection to use cellphones to text and interact by phone for information on the website. This section details the results of the public survey that was hosted on this website.

### 6.2.1 Objective

A survey was posted to the study website to gather feedback from members of the general public who use the US 90A Corridor. Survey respondents answered questions regarding their experiences with the US 90A corridor, their primary forms of transportation, their primary destinations along the corridor, and their vision and priorities for the corridor including suggested transportation improvements. Demographic information about the respondents was collected as well.

The survey was open from the beginning of October 2024 through the middle of January 2025. A total of 922 responses were received, which greatly exceeded H-GAC's staff's initial expectations. Survey responses are summarized below; complete details of the Survey can be found in the **Survey Response Report** in **Appendix D – Public Involvement Summary**.

### 6.2.2 How Survey Respondents Use the US 90A Corridor

- About 97% of respondents indicated that their primary form of transportation in the US 90A Study Area was driving alone, while about 12% indicated that they regularly carpool. Most respondents indicated they do not regularly use alternative forms of transportation, such as ride-sharing services, biking, walking, or public transportation.
- Approximately 51% of respondents indicated they travel along US 90A daily, while about 25% indicated they use the corridor two to three times a week.
- About 36% of survey respondents live within the US 90A Corridor Transit Study area, while approximately 25% rely on this corridor for their regular commute.
- The two primary destinations using this corridor were the Texas Medical Center (36%) and downtown Houston (23%).

### 6.2.3 Top Priorities for Survey Respondents

- **Biggest Concerns:** The top two concerns regarding the US 90A Corridor were traffic congestion (82%) and lack of transportation options (58%), followed by roadway condition and maintenance (38%) and motor vehicle safety (37%).
- **Level of Comfort/Safety While Traveling the Corridor:** Many respondents indicated some level of discomfort with using the corridor; 31% were somewhat uncomfortable, 26% were somewhat comfortable, and 25% were neutral or had no opinion.
- **Top Preferences for Additional Transportation and Mobility Options:** Many respondents, about 61%, would like to see an expansion of the current bus routes and public transit options along the corridor. The next largest group (39%) called for operational improvements to the corridor, followed by multi-use trails (33%).
- **Top Preferences for Corridor Improvements:** 62% of respondents would want to see improved signal timing, followed by more HOV/Bus Lanes (44%), and grade separations at railroad crossings (29%).
- **Open-Ended Suggestions and Concerns Related to Addressing Congestion, Speeding, or Safety:**
  - **Public Transit and Rail:** Many respondents expressed a strong desire for improved public transit options, particularly light rail or commuter rail systems. They believe

this would alleviate traffic congestion, provide a reliable alternative to driving, and connect key areas such as Sugar Land, the Texas Medical Center, and downtown Houston.

- Traffic Congestion and Safety: Traffic congestion, especially at intersections and railroad crossings, is a significant concern. Suggestions include better traffic signal timing, grade separations at railroad crossings, and the addition of HOV lanes or toll roads to improve traffic flow.
- Pedestrian and Cyclist Infrastructure: There is a call for safer infrastructure for pedestrians and cyclists, including protected bike lanes, sidewalks, and pedestrian bridges. Respondents emphasized the need for safe crossings and better connectivity to existing trails.
- Speeding and Enforcement: Speeding and reckless driving are major issues. Many respondents suggested increased police presence and enforcement of speed limits to enhance safety.
- Concerns About Public Transit: Some respondents are opposed to public transit options, citing concerns about increased crime, homelessness, and the potential negative impact on property values.
- Environmental and Sustainable Solutions: Several participants advocated for sustainable transportation solutions, such as rail systems, to reduce pollution and promote healthier lifestyles.
- Infrastructure Improvements: Suggestions for infrastructure improvements include adding overpasses, improving road conditions, and ensuring better maintenance of existing infrastructure.

#### 6.2.4 Demographic Breakdown

- Most respondents fell between the ages of 26 to 65, with 42% in the 26-45 age range, and 34% in the 46-65 age range.
- It is notable that 59% of respondents made \$75,000 or more, or “Prefer Not to Answer” at 26%.
- 76% of respondents indicated that no one in their household was living with a disability.
- The gender responses were nearly even – 47% of respondents identified as male, while 42% identified as female. 11% marked “Prefer Not to Answer,” and 0.2% marked “Other.”
- Most respondents reported that they were either White/Caucasian (46%), or Asian/Pacific Islander (21%). Only 11% of respondents were Hispanic Latino, and 8% were Black or African American.
- The primary reported languages of those who spoke a language other than English in the home were Spanish (34%), Hindi (6%), and Urdu (6%). The list of reported languages also included Mandarin Chinese, German, Malayalam, Vietnamese, Gujarati, and more. Of those who reported that they spoke a primary language other than English, 96% described their proficiency in English as fluent.

### 6.2.5 Survey Takeaways

- Most respondents agree that traffic and congestion along the US 90A Corridor must be addressed, however there are differing opinions on how to address this issue. While many expressed support for additional and expanded public transportation options, some respondents would rather see operational improvements and more safety and speeding enforcement from local law enforcement.
- There is a smaller but significant group of respondents that would like more connected trails, pedestrian bridges, and more expanded options for alternative forms of transportation, citing environmental sustainability and reduced traffic congestion as reasons for more expanded and connected options.
- Survey responses are heavily skewed to those who are proficient in the English language, make more than \$75,000 a year, and whose primary form of transportation was driving alone. It is suggested that this is taken into consideration when considering equity in designing alternative transportation for the US 90A Corridor Transit Study.

## 6.3 Public Meeting

There was one in-person public meeting associated with the Study. The meeting was held on the evening of Wednesday, April 23, 2025, at the Fort Bend County Libraries Missouri City Branch. The meeting was held after the Study's Alternatives Analysis was completed, in order to solicit feedback on the proposed alignments. The meeting was organized as a presentation, followed by an open house format. Attendees could ask questions of H-GAC and Study Team staff and could provide comments via comment cards or notes on a map of the US 90A Study Area.

62 people, including multiple elected officials and other key stakeholders, were in attendance. Comments from attendees indicated a general interest in additional transit services within the Study Area, including high-capacity transit within the US 90A corridor. Concerns about traffic congestion, safety, flooding and hurricane evacuation were expressed as well. Complete details of the public meeting, including meeting materials, comment cards and photographs, are included in the **Documentation of Public Meeting** in **Appendix D – Public Involvement Summary**.



April 23, 2025 public meeting attendees listen to the presentation. Photo: H-GAC Staff

## 6.4 Resolutions of Support

In any planning process, feedback from elected bodies such as city councils is an especially significant form of public input. After the public meeting concluded, the city councils of Missouri City and Stafford passed resolutions in support of their preferred alignment alternatives.

The City Council of the City of Missouri City passed a resolution, dated May 5, 2025, in support of the Fort Bend Tollway alignment. The resolution cites the Fort Bend Tollway alignment's connectivity to future high-growth areas within Missouri City as a key reason for council support.

The City Council of the City of Stafford passed a resolution, dated May 21, 2025, in support of a station at the intersection of US 90A and IH-69/US 59. The location of this station would suggest a preferred alignment of US 90A (HCT Peak) or US 90A to IH-69 (METRONext Potential Partnership), either of which would provide direct service to the City of Stafford.

Copies of both resolutions, as well as additional comments and emails received from elected officials and members of the public, can be found in **Resolutions of Support and Additional Comments Received** in **Appendix D – Public Involvement Summary**.

## 7 Identification, Phasing and Funding

Five corridor options were considered at the beginning of the study and were evaluated through the Tier 1 analysis which included environmental constraints and existing and future density.

### 7.1 Alignment

Through the Tier 1 evaluation two corridors, UPRR and CenterPoint Alignment, were eliminated and therefore did not advance to Tier 2 analysis. Both UPRR and CenterPoint exhibited low stakeholder support and UPRR expressed opposition to sharing their corridor with transit. The remaining three corridors, US 90A, IH-69 / US 59 and Fort Bend Parkway Toll Road, were then evaluated through an additional tier of analysis which included review of right of way needs, capital costs, O&M costs, and ridership potential. After reviewing the Tier 2 analysis and evaluation it was determined that Fort Bend Parkway Toll Road would be the most viable option for HCT to serve Fort Bend County and support future growth. The Fort Bend Parkway Toll Road alignment begins at US 90A from Fort Bend Parkway Toll Road to SH 6 and will travel along the proposed Fort Bend Parkway Toll Road extension to the future extension of the Grand Parkway. The Fort Bend Parkway Toll Road alignment ranked the highest amongst the three remaining alignments and had the high ridership potential due to new developments that are being planned along the tollway extension.

Many different transit technologies to provide service along the alignment were identified, including commuter rail, commuter bus, bus rapid transit and light rail as part of this study. While a technology is not being recommended as part of this study, it is worth noting that the capital costs and O&M costs generated during the Tier 2 analysis indicated that BRT may be the most cost-effective technology option, at least in the near term. Commuter buses could be implemented quickly with minimal capital expenditure. Light rail could potentially be a viable future option as the ridership grows and demand increases; however, an LRT option would need to consider how to integrate into existing transit services in Harris County. While light rail could potentially integrate at Fannin South connecting to METRORail Red Line there are operational and right of way challenges. For rail to advance these challenges would need to be further identified and addressed.

Due to Union Pacific's opposition to use of trackage and right-of-way owned by them for transit service, commuter rail is unlikely to be a viable technology option in this corridor.

### 7.2 Implementation

Considering the potential costs associated with integrating high-capacity transit along the US 90A and IH-69 ROW, the construction of a comprehensive transit system within the entire Study Area, from Fannin South Park and Ride to Rosenberg, currently may not be feasible. Therefore, a phased implementation of the proposed transit services presents a more pragmatic approach.

The establishment of a Minimal Operable Segment (MOS) is a widely recognized method for managing substantial transit investments. MOS entails the development of a component of the larger project that can function independently while delivering essential services. This strategy

enables the sponsors of the transit initiative to effectively manage their cash flow and maximize the benefits derived from the project.

For this project, the recommended MOS would involve the development of high-capacity transit service operating in its own guideway in three phases, from the Fannin South Park and Ride to the future intersection of the Fort Bend Parkway Toll Road and the Grand Parkway (H 99), with a branch along US 90A to the vicinity of IH-69 in Sugar Land. This approach is advantageous as the majority of anticipated ridership is projected to originate from Sugar Land and areas to the east and south, thereby allowing for the deferral of a commitment to extend the alignment westward to Rosenberg. Should priorities evolve, or new developments emerge that render the extension along US 90A to Rosenberg more appealing, that option will remain viable.

### 7.3 Phased Approach

A three-phase approach allows for staggered implementation including an option to begin service quickly and not delaying implementation until the proposed roadways are constructed. The three-phase approach is outlined below by phase along with implementation strategies.

- **Phase 1A** – This initial alignment would begin at the Fannin South Park and Ride and follow US 90A to the Fort Bend Parkway Toll Road to SH 6. This phase, which is located entirely within METRO’s Service Area, would provide service to established neighborhoods in southwest Houston and provide connectivity not only to the METRORail Red Line but several METRO local bus routes operating in the area as well. In the short term, the operator of the service could partner with a developer to allow riders to use a facility such as an underused parking lot of a retail center as a temporary site as ridership builds. METRO currently operates the Missouri City Park & Ride, which is located within a mixed-use development that includes retail and multi-family residential, along with a parking garage for commuters.<sup>12</sup> Additional station locations along the Fort Bend Parkway Toll Road, for example at McHard Road (FM 2234) and at Sienna Parkway, should be considered as well. The GCRD and its implementing partners should consider approaching developers in the area to discuss station locations, temporary facilities, and joint development opportunities similar to that at the Missouri City Park and Ride.
- **Phase 1B** – Once the proposed Fort Bend Parkway Toll Road is extended south across the Brazos River and towards the future Grand Parkway extension, the second phase can be implemented. Phase 1B terminates at Fort Bend Parkway Toll Road and Grand Parkway where many new developments are planned, including the 15,000-acre George Ranch Foundation development and the 4,700-acre Austin Point development. By ensuring that the necessary space is preserved during the design and construction phases of the Fort Bend Parkway Toll Road, HCT will continue to be a viable option within this corridor. The

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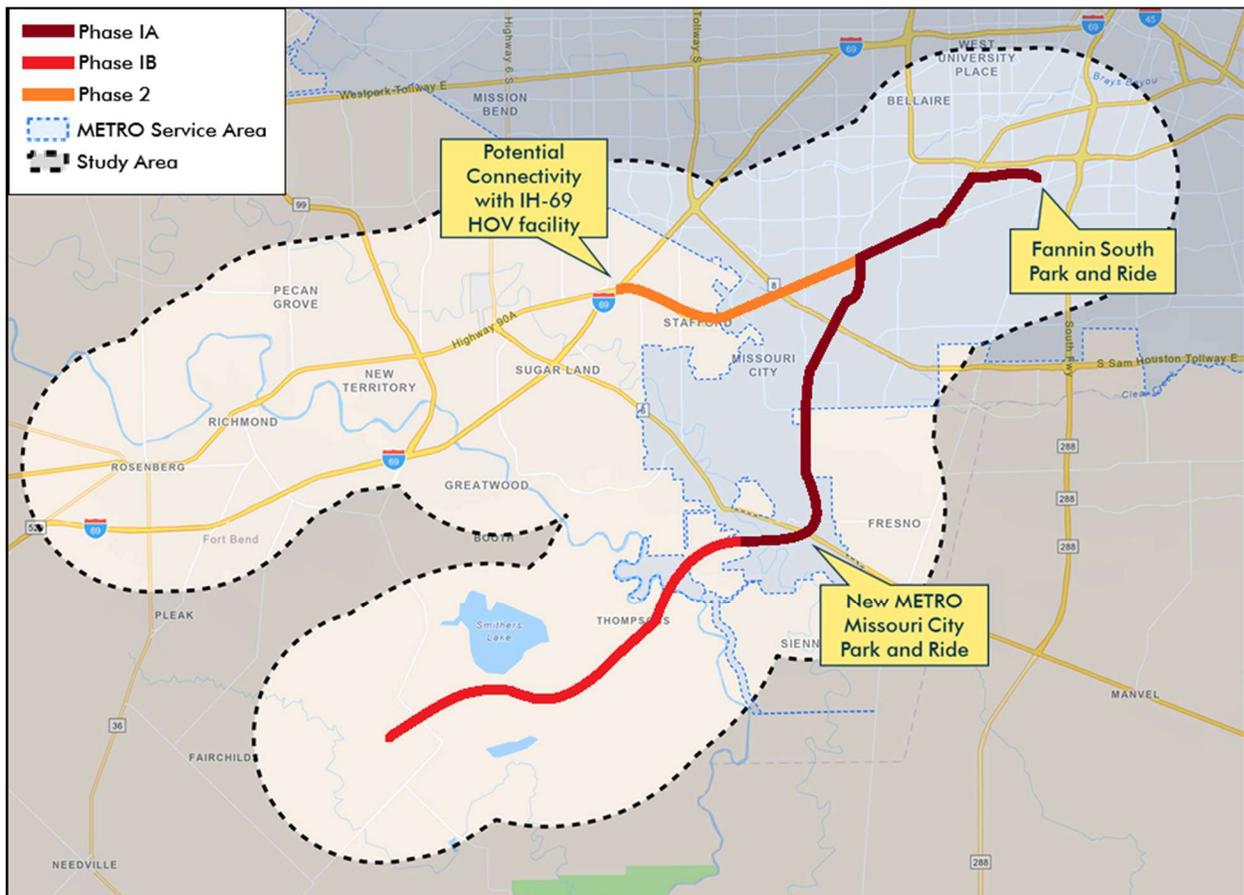
<sup>12</sup> The original facility was in a Kroger shopping center; METRO and a developer had a Memorandum of Understanding that METRO riders would use a portion of the parking lot as a temporary park & ride facility during the daytime. This arrangement allowed METRO to build ridership which would warrant a permanent facility. The permanent parking garage became operational in 2024, and ridership demand has increased such that METRO now provides additional trips into the Texas Medical Center.

same station location philosophy discussed for Phase 1A – approaching developers to discuss station location and TOD opportunities, and identifying temporary park & ride facilities until ridership demand has increased enough to warrant a permanent facility – should be employed in this phase as well.

- Phase 2** – Phase 2 is a branch alignment following US 90A from the intersection of US 90A and the Fort Bend Toll Road Parkway to the intersection of US 90A and IH-69/US 59. Because this alignment phase passes through more heavily-developed areas within the Study Area, it may be more challenging to implement. However, it will provide service to additional established neighborhoods and employment concentrations in southwest Houston, Missouri City and Stafford, as well as connectivity to additional METRO local bus routes including the high-frequency services along Fondren and Gessner. Phase 2 will also provide connectivity to the diamond HOV lanes operating along IH-69/US 59, which in turn will allow service to Sugarland, Richmond, and Rosenberg, including park and ride facilities operated by Fort Bend County transit. The manner of connection between the Phase 2 alignment and the HOV lanes along IH-69/US 59 will depend on the mode and technology chosen.

The three phases of the high-capacity transit alignment are depicted in **Figure 7-1** below.

**Figure 7-1 Suggested Phasing of the Identified US 90A Corridor Facility**



## 7.4 Funding Options and Approach

Securing sustainable and diverse funding is crucial for the successful planning, development, and implementation of transit and transportation projects. These initiatives often demand significant capital investment, long-term financial planning, and coordination among multiple jurisdictions and stakeholders.

A comprehensive funding approach utilizes a combination of public and private sources, including federal and state grants, local taxes, public-private partnerships, and value capture strategies, to address the unique financial needs of each project. By aligning funding mechanisms with project goals, governance structures, and community requirements, agencies can ensure both fiscal responsibility and the long-term viability of transportation systems. **Table 7-1** identifies different funding sources, characteristics, and for what each funding source is beneficial.

**Table 7-1 Summary of Funding Options**

Funding Source	Characteristics	Best For
Federal Grants	Competitive, matching funds required.	Large-scale infrastructure.
State/Local Taxes	Stable, but politically sensitive.	Long-term capital investment.
Public-Private Partnerships (P3s)	Shares risk with private sector.	Toll roads, transit infrastructure.
Value Capture	Links real estate growth to funding.	Station-area development.
Developer Fees	Growth-driven, regulatory.	Expanding networks in urban areas.

Potential funding types are further described below and summarized in Tables 7-2 and 7-3.

### 7.4.1 Public Funding

#### FTA Capital Investment Grants (CIG) Funding Category Descriptions

[FTA’s CIG Program](#) is FTA’s largest discretionary grant program and has the highest single-source funding potential for transit projects.

The following provides a general overview of the differences between the CIG funding categories and incorporates changes based on the new administration:

- **Small Starts:** Projects that have a capital cost estimate of less than \$400 million (YOE \$) and are seeking less than \$150 million in CIG funds. The maximum CIG funding share is 80 percent, and total federal funds may not exceed 80 percent. Activities eligible for reimbursement following execution of the grant agreement include design and construction of new fixed guideways or extensions to fixed guideways.
- **New Starts:** Projects that have a capital cost estimate of \$400 million (YOE \$) or more or that are seeking \$150 million or more in CIG funds. The maximum CIG funding share is 60 percent, and total federal funds may not exceed 80 percent. Activities eligible for

reimbursement following execution of the grant agreement include design and construction of new fixed guideways or extensions to fixed guideways.

- **Core Capacity:** There are no maximum or minimum cost thresholds for Core Capacity projects. The maximum CIG share is 80 percent, and total federal funds may not exceed 80 percent. Eligible activities for reimbursement following the execution of the grant agreement include design and construction of a corridor-based investment in an existing fixed guideway system that improves capacity not less than 10 percent in a corridor that is at capacity today or will be in 10 years.
- **Joint Intercity Rail/Public Transportation Project:** Design and construction elements attributable to the public transportation portion of the total project cost based on projected use of the new segment or expanded capacity of the project corridor, not including elements designed to achieve a state of good repair.

## 7.4.2 Other FTA Funds

### Urbanized Area Formula Program (Section 5307)

Formula funds are available through the [FTA Section 5307 Urbanized Area Formula Program](#). These funds are apportioned based on population and transit use through a direct recipient agency. The direct recipient with respect to the US 90A corridor is Houston METRO because the corridor is located within the Houston Urbanized Area (UZA).

Eligible activities for [Section 5307](#) funds include planning, engineering, design, safety, and security equipment; vehicle acquisition and replacement; construction of maintenance and passenger facilities; and capital investments in new and existing fixed guideway systems.

Specifically related to HCT projects, [Section 5307](#) could support planning and engineering as well as the construction of project elements such as stations, park-and-ride lots, or communication systems.

### Bus and Bus Facilities Discretionary Grant Programs (Section 5339)

The [Section 5339\(b\) Bus and Bus Facilities Competitive Grant Program](#) (Bus Program) and [Section 5339\(c\) Low or No Emissions Bus Competitive Grant Program](#) (Low-No Program) are discretionary grant programs authorized under the FAST Act. Similar to the FTA formula fund programs described previously, while these programs may not provide direct funding to a BRT project, funding could be used to support other capital expenses and potentially free up other funds that could support implementation of the BRT corridors.

Eligible activities for [Section 5339](#) funds include capital projects to replace, rehabilitate and purchase buses, vans, and related equipment, and to construct bus-related facilities.

### FHWA Formula Funds

FHWA formula funds include sources that are eligible to be “flexed” or transferred to the FTA to support implementation of transit projects. These funds are programmed by the local Metropolitan Planning Organization (MPO; in this case, H-GAC) and would require adoption into

the Long-Range Regional Transportation Plan (RTP) and Transportation Improvement Plan (TIP) to be used to fund a portion of the HCT project's capital costs.

### Surface Transportation Program

The Surface Transportation Program (STP) provides funding for projects that preserve and improve the conditions and performance on any federal-aid highway, bridge, and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects. Potential HCT project elements that could be eligible for STP funds include operational improvements, parking facilities, and safety improvements.

### Congestion Mitigation and Air Quality Improvement

The Congestion Mitigation and Air Quality Improvement (CMAQ) Program provides funds to States for transportation projects designed to reduce traffic congestion and improve air quality, particularly in areas of the country that do not attain national air quality standards. Created by the [Intermodal Surface Transportation Efficiency Act \(ISTEA\) of 1991](#), and continued in subsequent authorizations, the CMAQ program has been a key funding mechanism for helping urban areas meet air quality goals and supporting investments that encourage alternatives to driving alone and improve traffic flow.

Many types of projects are eligible under the CMAQ program including electric vehicles and charging stations, diesel engine replacements and retrofits, transit improvements, bicycle, and pedestrian facilities, shared micromobility projects including shared scooter systems, and more. In addition to improving air quality and reducing congestion, CMAQ projects can improve access to transportation services for all users, improve safety, and promote application of new and emerging technologies.

## 7.4.3 Additional Funding Options

### USDOT BUILD Grants (formerly known as RAISE and TIGER)

The program, [Better Utilizing Investments to Leverage Development \(BUILD\)](#) formerly known as the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Discretionary Grant and Transportation Investment Generating Economic Recovery (TIGER) Grant Program, is one of USDOT's largest multimodal discretionary grant programs and supports innovative projects that would be otherwise difficult to fund through traditional federal programs. USDOT seeks projects that will catalyze long-lasting, positive changes in economic development, safety, quality of life, environmental sustainability, and state of good repair. Successful projects include those seeking to improve access to reliable, safe, and affordable transportation to enhance connectivity and provide ladders of opportunity for communities in urban, suburban, and rural areas.

### Transit Oriented Development Pilot Program

The Transit Oriented Development (TOD) Pilot Program provides funding to advance planning efforts that support TOD associated with new HCT projects. The grants are intended to provide funding to integrate land use and transportation planning efforts along eligible transit projects in

order to support transit ridership, multimodal connectivity, and mixed-use development near transit stations.

#### 7.4.4 Private and Alternative Funding

##### Public-Private Partnerships (P3s)

Public-Private Partnerships (P3s) enhance infrastructure development by leveraging private sector capital and expertise to supplement public budgets. This approach accelerates project delivery and encourages innovation. Additionally, P3s transfer risks to private partners, which improves long-term asset management and accountability. This collaborative model enables governments to meet infrastructure needs more efficiently, spreading costs over the asset's lifespan. It also ensures higher-quality, well-maintained facilities by aligning private incentives with public objectives.

##### Value Capture Financing (VCF)

Value capture financing (VCF) uses various mechanisms to recover a portion of the increased property value or economic activity resulting from public infrastructure investments. Rather than relying solely on general taxes, VCF collects a share of the private benefits created by public works to fund these projects, their ongoing maintenance, or other community needs. This approach not only helps finance infrastructure projects but also accelerates their delivery, promotes transit-supportive land use, and supports public policy goals by applying the beneficiary-pays principle.

Examples of value capture financing include Tax Increment Financing (TIFs), special assessment districts such as Tax Increment Reinvestment Zones (TIRZs), and joint development around transit and multimodal stations.

##### Developer Contributions / Impact Fees

Developer impact fees are charges applied to new development projects to fund public facilities and infrastructure improvements needed to support that growth. These fees ensure that new developments contribute fairly to the increased demand for services such as roads, water and sewer systems, parks, schools, and other community services. Typically, these fees are one-time payments calculated based on the specific impact of a project and must be legally connected to the development they support.

##### Summary

Funding transit and transportation projects requires a strategic and multi-layered approach that balances public investment, private sector involvement, and innovative financing tools. No single source of funding can cover the diverse and often significant costs associated with these initiatives. Therefore, it is essential to tailor funding strategies to the specific scope, location, and objectives of each project.

By combining traditional funding mechanisms, such as federal and state grants, with emerging models like value capture and P3s, agencies can improve financial resilience, speed up project

delivery, and maximize public benefit. Ultimately, well-structured funding strategies are crucial for developing efficient transportation systems for the future.

## 7.5 Next Steps

This study was a high-level approach of identifying the potential for HCT in the US 90A corridor linking Downtown Houston to Fort Bend County as well as identifying a feasible corridor. While this study did identify a potential alignment a deeper level of analysis and planning will need to be completed. The next phase of planning should include enhanced environmental analysis with due diligence to complete and comply with the National Environmental Policy Act (NEPA) which could be a Categorical Exclusion (CE), an Environmental Assessment (EA), or an Environmental Impact Statement (EIS) for the project. Conceptual design will be necessary should a dedicated guideway be required, and additional planning elements will be contingent on the funding sources that will be used. In addition to additional planning efforts, funding and operations, including designating the agencies responsible for providing the transit service, will need to be identified to advance the project further.

### 7.5.1 Project Development

Entering the Project Development (PD) phase of the [FTA CIG Program](#) is a formal process that begins the federal evaluation of a proposed transit capital investment. This phase is required for all projects seeking funding under the New Starts, Small Starts, or Core Capacity categories of the CIG program. The process is governed by federal law ([49 U.S.C. § 5309](#)) and FTA guidance, and it includes detailed planning, environmental reviews, and funding commitments. The PD phase must be completed within two years, unless the FTA grants an extension.

The first step for the project sponsor—usually a local or regional transit agency—is to submit a formal letter to the FTA requesting entry into the PD phase. This letter must include a clear description of the project, its purpose, preliminary capital cost estimates, and an outline of the anticipated funding sources, including non-federal funding. Additionally, the sponsor must commit to completing the environmental review and other requirements within two years and affirm its intent to pursue CIG funding.

Once the FTA receives the letter, it will evaluate whether the project meets the eligibility criteria and notifies the sponsor of its decision within 45 days. If the project is approved, it will be formally admitted into the PD phase, and the decision will be published in the Federal Register.

Once the sponsor enters the PD phase, they must initiate the environmental review process. This process must adhere to the NEPA and other related environmental regulations, such as Section 106 for historic preservation and [Section 4\(f\)](#) for parklands. Depending on the complexity of the project, this may include a CE, an EA, or an EIS. The sponsor is required to coordinate with the FTA and other agencies to secure either a Finding of No Significant Impact (FONSI) or a Record of Decision (ROD), both of which are essential for moving the project forward.

In conjunction with the environmental review, the project sponsor is required to refine the project's scope, schedule, and cost estimates, progressing the design to approximately 30 percent

completion. Precise estimates are essential as they establish the foundation for risk assessment and cost-effectiveness evaluation. Concurrently, the sponsor must demonstrate a commitment to local financial support by identifying and securing non-federal funding sources. This process frequently necessitates formal agreements, legislative actions, or voter-approved funding measures to contribute to the project's capital expenses.

To support the FTA evaluation, the project sponsor must prepare a set of technical and policy documents. These include a Project Management Plan (PMP), a financial plan, travel demand forecasts, a benefit-cost analysis, and evidence of the project's expected impact on mobility, congestion, and economic development. The FTA uses these materials to assign a project rating (such as high, medium-high, or medium) based on project justification and local financial commitment.

Once the project sponsor completes these requirements, they may request to advance to the next phase: Engineering (for New Starts and Core Capacity projects) or the negotiation of the Project Construction Grant Agreement (PCGA) (for Small Starts). The FTA will review the request and determine whether the project meets the necessary criteria to proceed. Successfully completing the PD phase is a significant milestone, indicating that the project is moving closer to receiving federal capital funding.

To enter the FTA's CIG PD phase, several key steps must be completed. These include submitting a formal request, obtaining FTA approval, conducting a thorough environmental review, and developing detailed project plans and cost estimates. Additionally, it is essential to secure confirmed financial backing and provide extensive documentation to support the federal evaluation. This phase is critical for establishing a solid foundation for federally funded transit infrastructure projects.

## 8 Conclusion

The US 90A corridor is regarded as a vital transportation route linking communities in Fort Bend County to various employment centers and other key destinations within the Houston metropolitan area. Numerous previous studies have determined that there is a need for high capacity transit (HCT) to alleviate congestion on area roadways and provide a choice for those that don't want to drive in these growing communities. Previous studies have also investigated the feasibility of implementing commuter rail along the US 90A corridor and the adjacent UPRR tracks, uncovering several obstacles that complicate implementation.

Recent advancements in transit opportunities necessitate a re-assessment of services in this corridor. Bus Rapid Transit may provide a flexible transit solution suitable for the Study Area. Furthermore, the opening of the Fort Bend Parkway Toll Road has improved access from southern Houston through Missouri City to Sienna, thus enhancing connectivity to a rapidly growing segment of the study area. These developments present new opportunities for improved access and mobility that warrant further examination.

Five initial alignments were identified within the designated study area. These alignments then underwent a two-tier screening process. Through the Tier 1 evaluation two corridors, UPRR and CenterPoint Alignment, were eliminated primarily due to low stakeholder support and therefore did not advance to Tier 2 analysis. The remaining three corridors, US 90A, IH-69 / US 59 and Fort Bend Parkway Toll Road, were then evaluated through an additional tier of analysis which included review of right of way needs, capital costs, O&M costs, and ridership potential.

After reviewing the Tier 2 analysis and evaluation it was determined that Fort Bend Parkway Toll Road would be the most viable option for HCT to serve Fort Bend County and support future growth. The Fort Bend Parkway Toll Road alignment begins at US 90A from Fort Bend Parkway Toll Road to SH 6 and will travel along the proposed Fort Bend Parkway Toll Road extension to the future extension of the Grand Parkway. The Fort Bend Parkway Toll Road alignment ranked the highest amongst the three remaining alignments and had high ridership potential due to new developments that are being planned along the tollway extension.

A three-phased approach was identified for implementing HCT along the Fort Bend Tollway, with the first phase available to be implemented in the short term and the second phase's implementation dependent on the construction of the Fort Bend Tollway over the Brazos River. A longer-term phase three, a branch of the alignment continuing along US 90A to IH-69/US 59, would serve Stafford and provide connectivity to HOV facilities along IH-69 serving park and ride facilities operated by Fort Bend Transit

Many different transit technologies to provide service along the alignment were identified as part of this study. While a technology is not being recommended as part of this study, it is worth noting that the capital costs and O&M costs generated during the Tier 2 analysis indicated that BRT may be the most cost-effective technology option, at least in the near term. Commuter buses could be implemented quickly with minimal capital expenditure. Light rail could potentially be a

viable future option as the ridership grows and demand increases; however, an LRT option would need to consider how to integrate into existing transit services in Harris County. While light rail could potentially integrate at Fannin South connecting to METRORail Red Line there are operational and right of way challenges. For rail to advance these challenges would need to be further identified and addressed. Due to Union Pacific's opposition to use of trackage and right-of-way owned by them for transit service, commuter rail is unlikely to be a viable technology option in this corridor.

In addition to technology, other characteristics that need to be evaluated as the Gulf Coast Rail District and its potential implementing partners (including, potentially, METRO and Fort Bend Transit) moves this project into its next phase of design and analysis include service operating concepts, station locations (including the potential for transit-oriented development (TOD)), funding options (including private sector participation), and project development through the Federal Transit Administration's Capital Investment Grant (CIG) program as well as enhanced environmental analysis to complete and comply with the National Environmental Policy Act (NEPA). Additionally, the GCRD and its implementing partners should consider approaching developers in the area to discuss right-of-way issues, station locations, temporary facilities, and joint development opportunities.

# US 90A

TRANSIT CORRIDOR STUDY



## Appendices

November 2025

## 9 Appendix A – Existing Cross Sections

Figure 9-1 US 90A Cross -Section

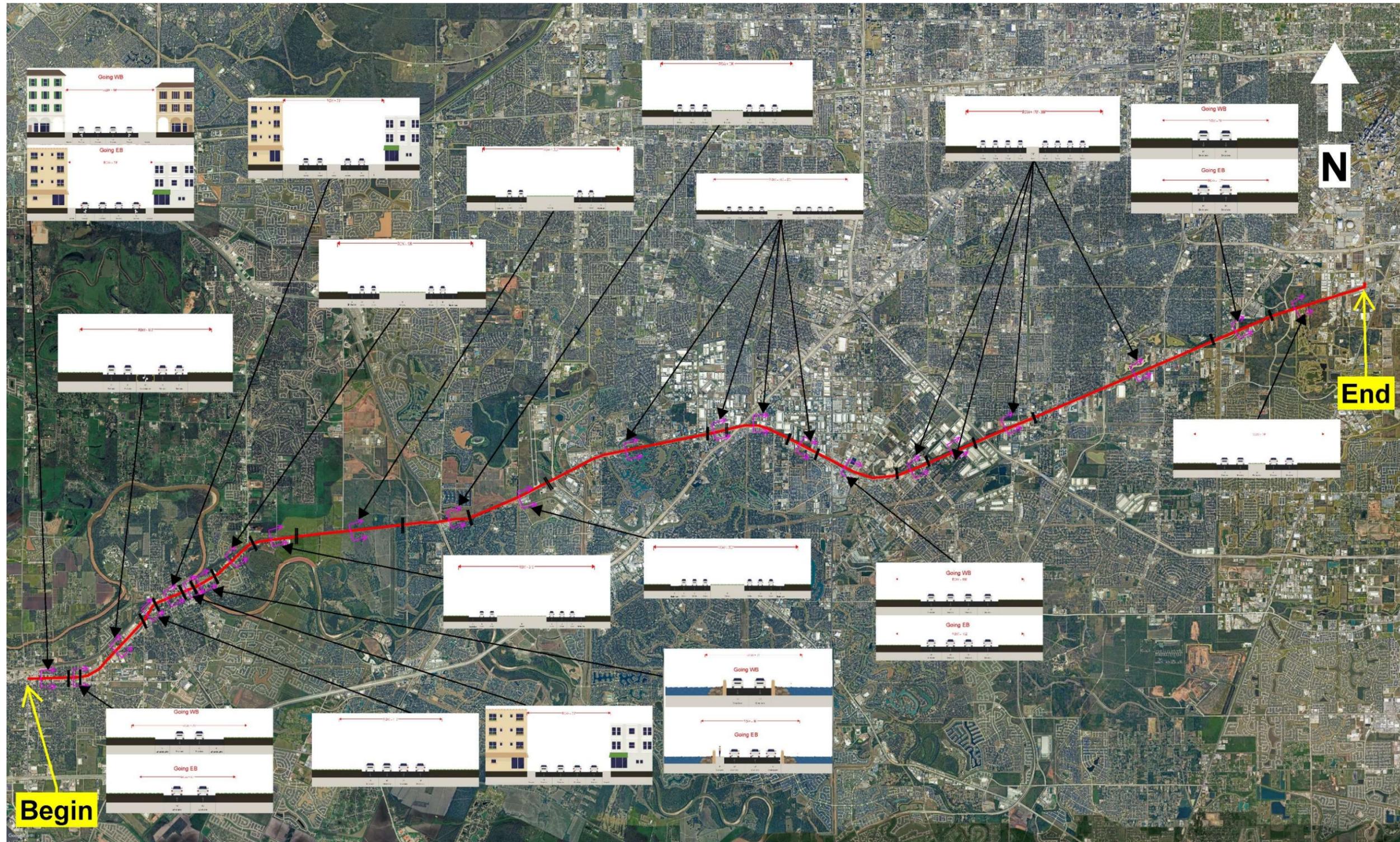


Figure 9-2 IH-69 / US 59 and US 90A Cross Section



Figure 9-3 Fort Bend Tollway Cross Section



# 10 Appendix B – Conceptual Design

Figure 10-1 Park & Ride Conceptual Plan – 1



Figure 10-2 Park & Ride Conceptual Plan – 2



Figure 10-3 Conceptual Birds Eye View of a Bus Rapid Transit (BRT) Station Location



Figure 10-4 Conceptual Rendering of a Bus Rapid Transit (BRT) Station Location



Figure 10-5 Conceptual Design of Intermodal Station (Commuter Rail and Local Bus)



Figure 10-6 Conceptual Birds Eye View of a Light Rail Transit (LRT) Station Location



Figure 10-7 Conceptual Rendering of a Light Rail Transit (LRT) Station Location

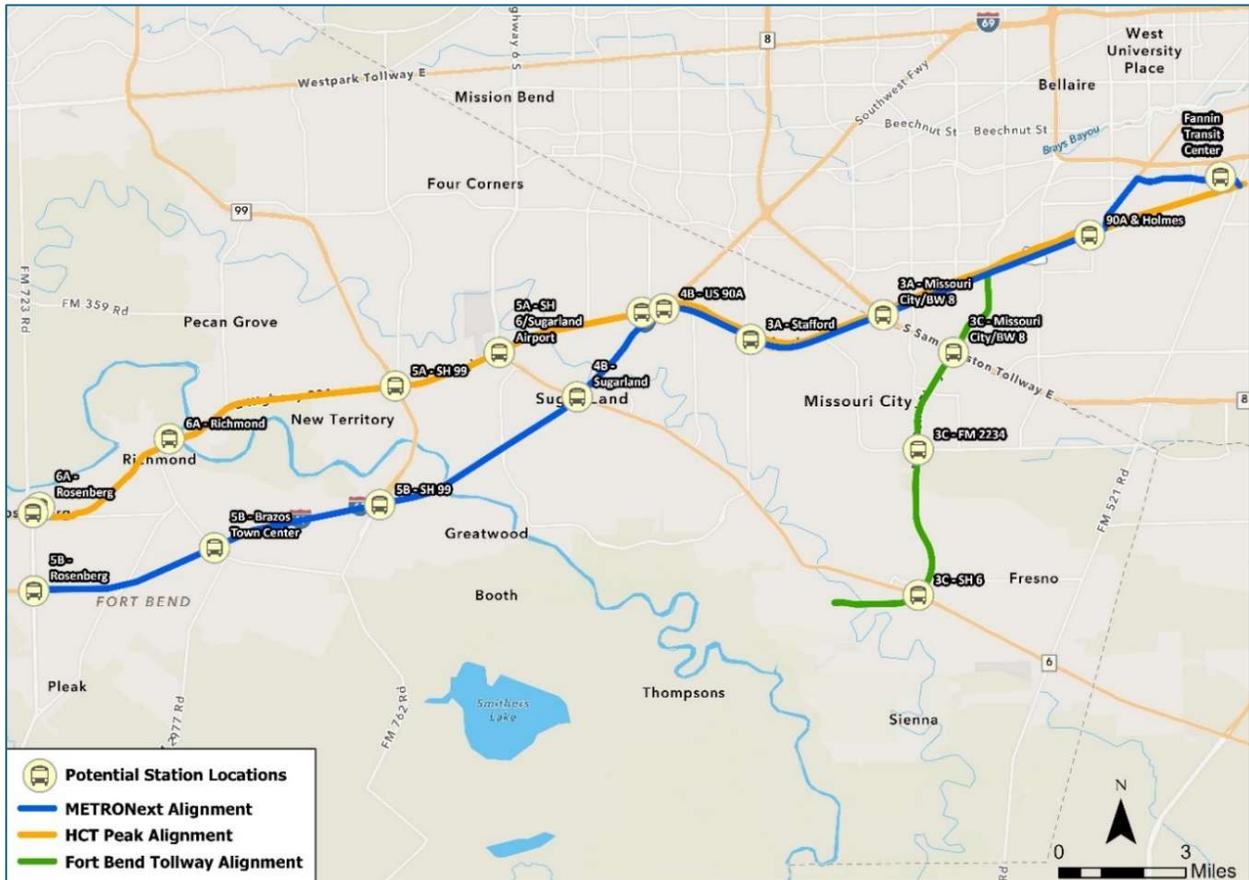


# 11 Appendix C – Transit-Oriented Development (TOD) Potential

## 11.1 Purpose

This chapter analyzes the transit-oriented development (TOD) potential of each of the three alignments identified in the US 90A Transit Corridor Study shown in **Figure 11-1**.

Figure 11-1 US 90A Alternative Alignments



TOD is a type of urban development that clusters jobs, housing, services, and amenities around public transport hubs, such as transit stations. When implemented effectively, TOD offers numerous benefits, including:

- Increased public transit usage and revenue from fares
- Reduced congestion and air pollution
- Improved job accessibility and a stronger sense of community
- Decreased low-density sprawl

An area’s market readiness, or unrealized market value, influences the development potential of station areas to support TOD. For example, identifying the amount of developable land in a

station area determines the realistic future development demand, and allows city governments to implement the appropriate regulations that align land use and planning regulations with transit strategies.

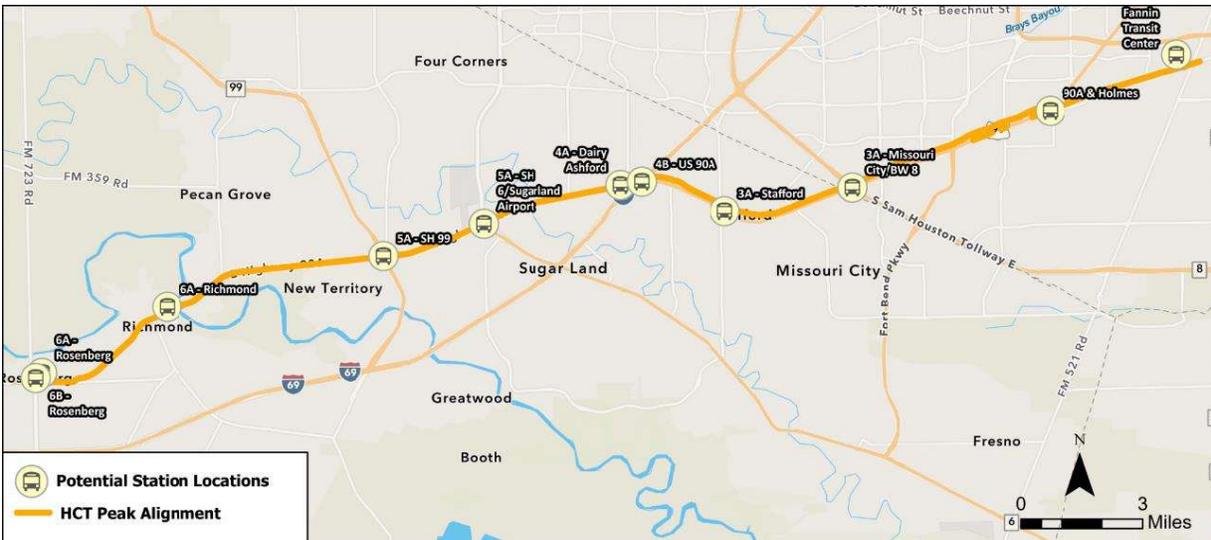
In this analysis, a high-level approach was taken to assess the TOD potential of each alternative alignment. The analysis identifies vacant or underutilized land within half a mile of each station as a measure of development potential. Underutilized land refers to parcels where the value of the land exceeds the value of the structures on it, indicating the possibility of constructing more valuable buildings that can enhance the economic productivity of the area. Additionally, existing land uses, parcel sizes, open spaces, and current multi-modal connectivity were evaluated to identify TOD opportunities.

Ultimately, the findings presented in this chapter will inform the ridership potential of each alignment and enable city officials to establish TOD targets. These targets aim to stimulate development in underserved areas, connect more people to job opportunities, and improve access to affordable transportation options.

### 11.1.1 HCT Peak Alignment

The HCT Peak alignment includes ten proposed stations that connect cities and communities along the US 90 corridor to the Fannin South Transit Center in Houston. **Figure 11-2** provides an overview of the station locations along this alternative alignment.

**Figure 11-2 HCT Peak Alignment Overview**



Land uses around the station areas vary, but the most common designation is Single-Family Residential, accounting for over half (58.3%) of all parcels in the area. The top four land uses within a ½-mile radius of each proposed station location include Commercial Retail (10.9%), Civic Facilities (9.6%), and Vacant or Other (8.5%). More specifically, small lot detached single-family homes and large commercial parcels are prevalent throughout all station areas along this

alignment. Consequently, these sprawling land-use patterns result in low residential density throughout the entire corridor.

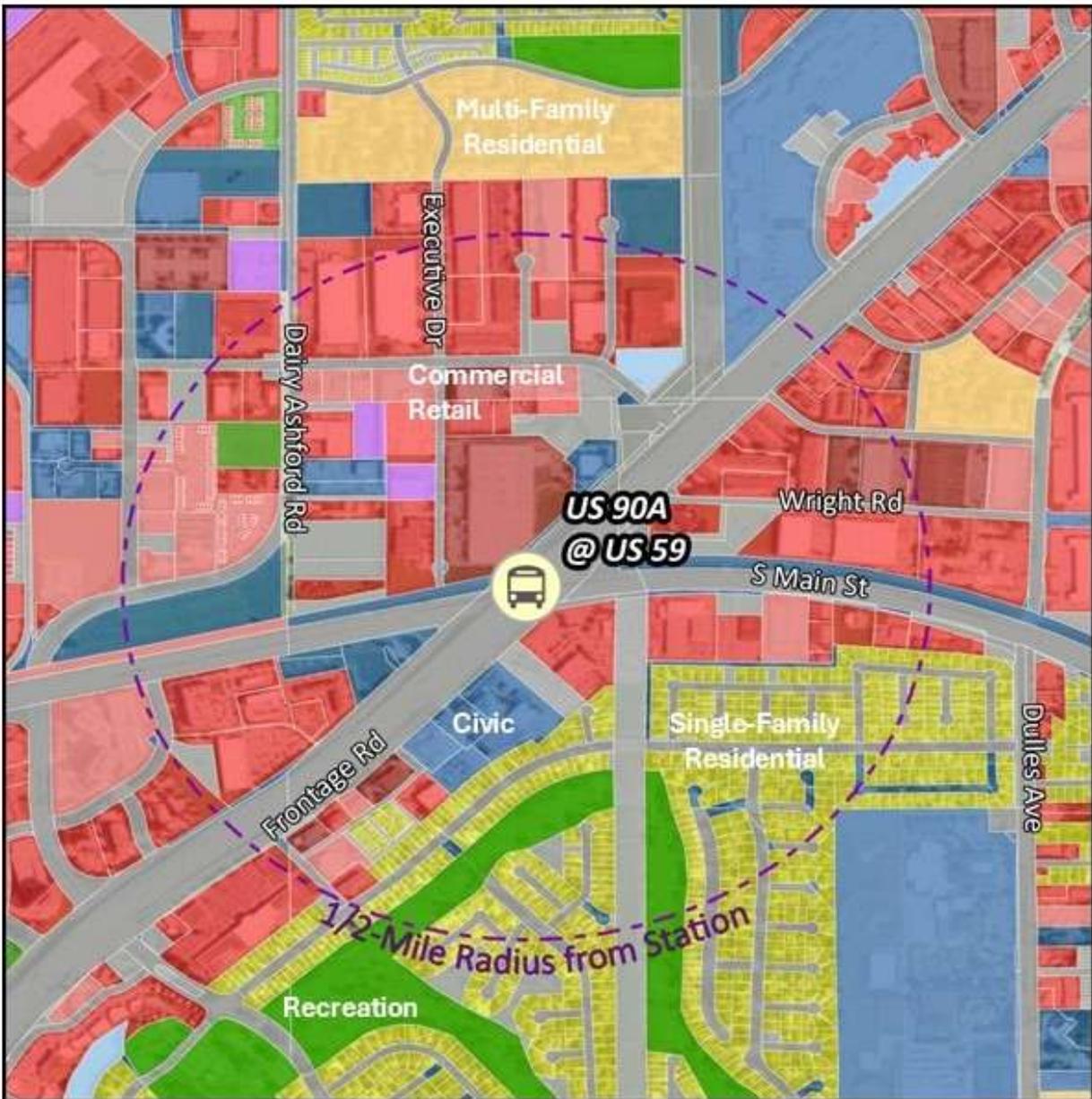
In general, the number of vacant parcels within a station area increases as the HCT Peak Alignment travels west. However, one drawback to this finding is that the areas with the highest amount of vacant land are suburban in terms of development style. Suburban development patterns conflict with TOD principles due to their sprawling and low-density nature. Furthermore, residents of these station areas may wish to preserve the suburban character, which could inhibit the potential to implement higher density land uses around proposed stations.

The commercial properties along this corridor are designed primarily for automobile use, featuring large surface parking lots in front of the businesses and few sidewalk connections to nearby residential areas, which limits pedestrian access. Many of these commercial properties also focus on auto-related activities, such as car sales and repair services, further hindering the area's potential for TOD. This combination of factors creates an environment that prioritizes automobiles as the main mode of transportation in this area.

Throughout the entire alignment, there is a noticeable lack of pedestrian connectivity in the areas surrounding the stations, primarily due to the suburban street patterns. Sidewalk networks are mostly confined to residential neighborhoods, with few, if any, connections to nearby commercial areas. Additionally, there are no bike lanes present in any of the proposed station areas.

The vicinity around the proposed **US 90A at US 59 Station** exemplifies the land use patterns found along the entire alignment. **Figure 11-3** illustrates the existing land uses surrounding the proposed station.

Figure 11-3 Proposed US 90A at US 59 Station Area Zoning



The proposed US 90A station area is home to a high amount of commercial and residential parcels. While single-family detached parcels are the most common parcel type and make up about 51% of all parcels in the station area, commercial parcels take up the most land within the station area at about 27% of the total gross area available. In terms of development type, these commercial parcels are mostly low-intensity commercial strips with large surface parking lots fronting stores that do not encourage pedestrian activity. Vacant or readily developable land make up about 2% of the total area within the station area and are scattered throughout.

While residential areas directly back some commercial parcels, there are few to no multimodal connections between commercial centers and residential developments that would allow residents to access these centers without a car. **Figure 11-4** shows the lack of multimodal connections between commercial centers and the directly adjacent residential development that enforce dependency on single-occupant vehicles to access essential services.

**Figure 11-4 Multimodal Conditions within US 90A Station Area**

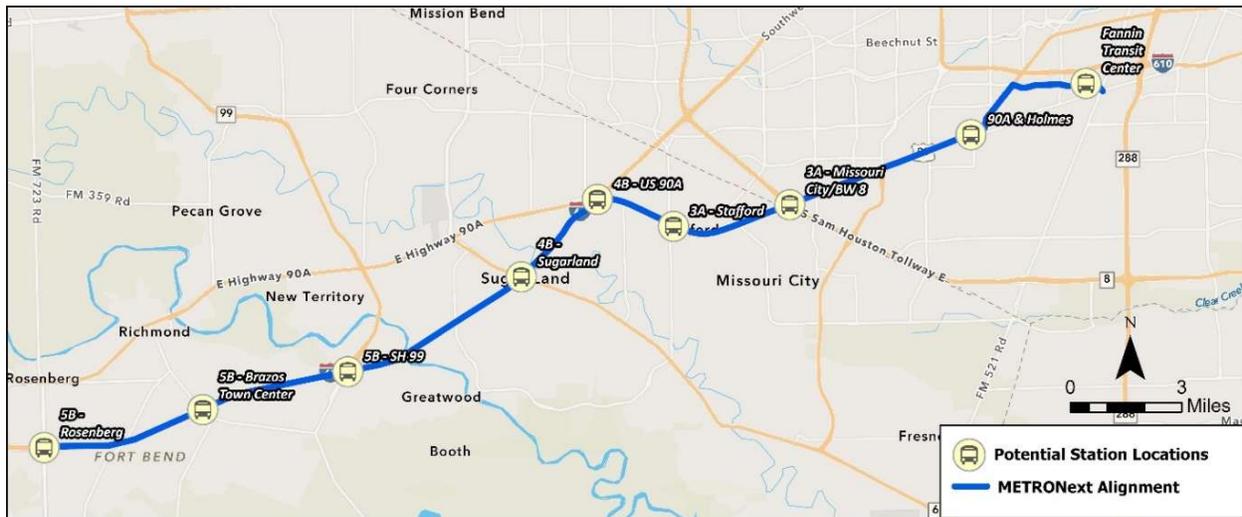


Although this entire alignment is characterized by significant commercial activity that could boost future transit ridership demand, the current absence of multimodal infrastructure near the stations will hinder riders from navigating the area without a car. To enhance the potential for TOD along this alignment, it is essential to improve pedestrian connectivity from the stations to the nearby commercial centers and residential neighborhoods. Additionally, implementing higher-density land uses where appropriate will further support this initiative.

### 11.1.2 METRONext Partnership Alignment

The METRONext Alignment includes eleven proposed stations along I-69 before turning east onto US 90A and terminating at the Fannin Transit Center. **Figure 11-5** provides an overview of the station locations along this alignment.

Figure 11-5 METRONext Alignment Overview



Station area development along this corridor can mainly be categorized within rural to suburban. Station area development along this corridor can generally be classified as rural to suburban. Areas designated as agricultural or open space account for just over one-eighth (17%) of all land within a half-mile of a proposed station. Commercial parcels occupy the largest portion at approximately 32% of the total area within each station area. In contrast, residential parcels make up a relatively small share, with about 8% of the corridor within half a mile of a station designated for residential development.

Overall, the number of agricultural or open space parcels increases as the alignment moves west. Similar to the HCT alignment, residential developments in this corridor are predominantly single-family detached homes. However, this alignment features more multi-family developments within station areas compared to the HCT alignment, resulting in a higher overall residential density. Additionally, the commercial centers along this alignment are more focused on TOD and include retail, restaurants, and entertainment venues, compared to the commercial offerings found along the HCT alignment.

The **State Highway (SH) 99 Station** is located along the METRONext alignment. This station area provides a diverse mix of commercial, residential, and civic uses, as well as a medical facility that are likely major destinations and job hubs for residents and travelers. Several suburban-style residential developments are situated at the borders of the half-mile station area, along with one large multi-family residential development in the northwestern quadrant of the Study Area. **Figure 11-6** presents an overview of the zoning patterns within the **SH 99 Station** area.

Figure 11-6 Proposed SH 99 Zoning Overview

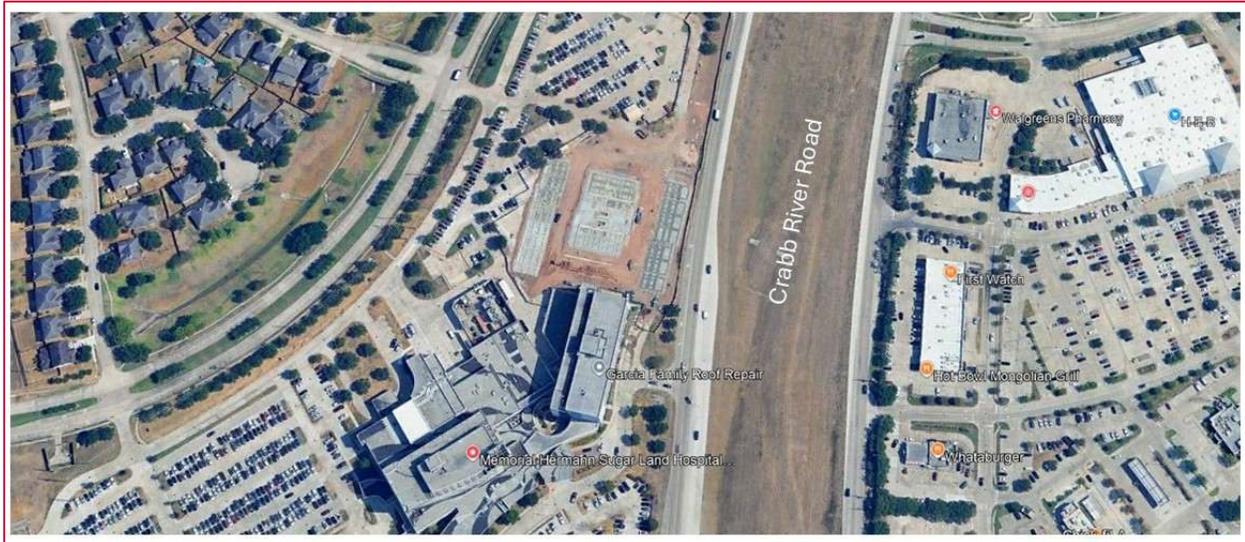


In general, commercial parcels are clustered towards the middle of the station area along Crabb River Road where it intersects Southwest Parkway. Residential developments are typically located directly behind commercial parcels and comprise most of the border within a half mile of the proposed station. A large golf course in the southeastern quadrant of the station area also takes up a considerable amount of space.

In terms of development patterns, the commercial parcels within this station area are auto oriented in design with large surface parking lots fronting these centers and minimal sidewalk connectivity that would allow residents from the surrounding neighborhoods the ability to walk to. Additionally, pedestrian connectivity is constrained to each of the station area quadrants that are

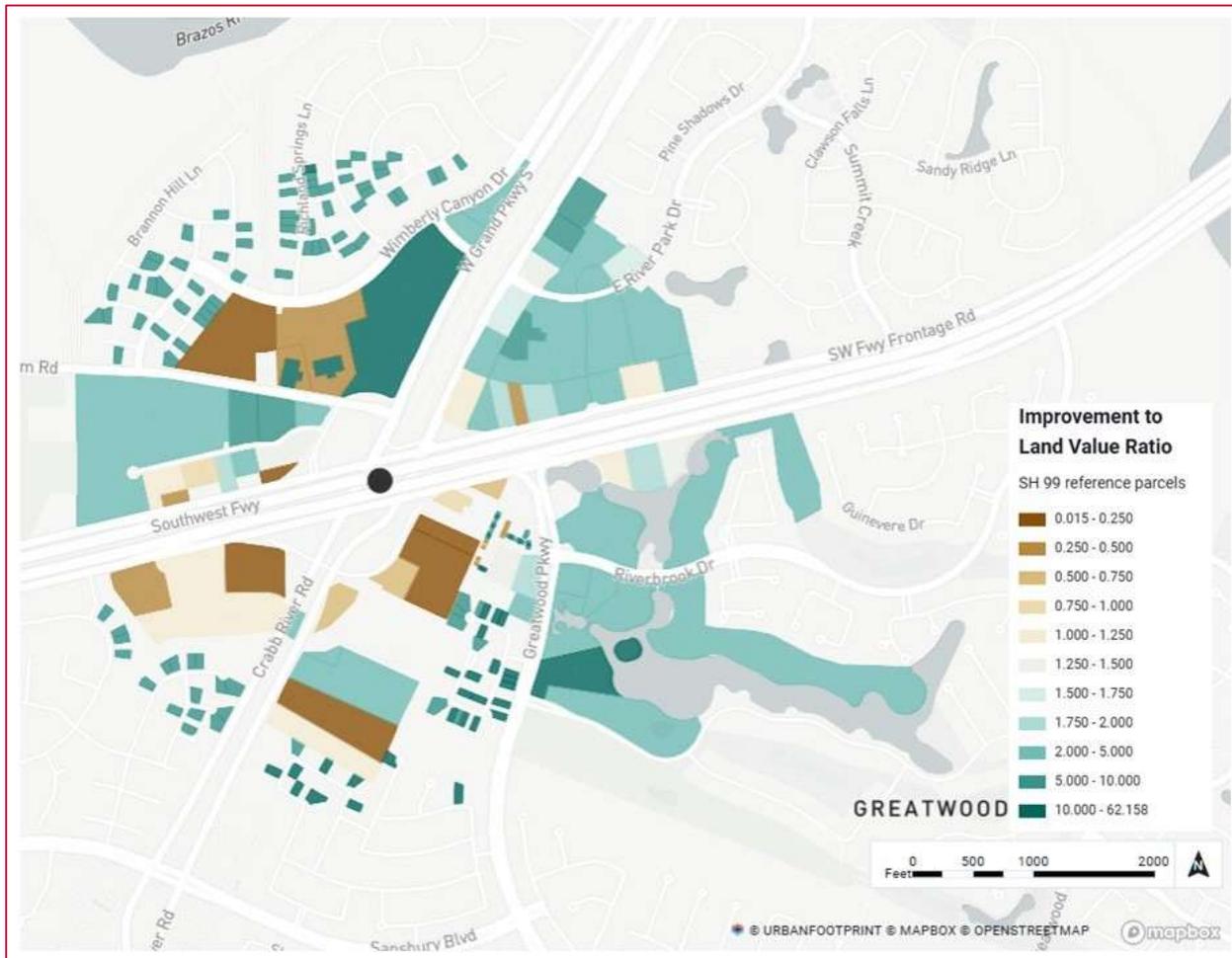
created as a result of the intersection between SH 99 and Crabb River Road in that there are no sidewalk or multimodal connections between any of these station area quadrants. **Figure 11-7** provides an example of these limited pedestrian connections from residential developments between commercial areas within the station area.

**Figure 11-7 Multimodal Conditions within SH 99 Station Area**



There are several large commercial parcels in the southern half of the station area that may be underutilized according to the improvement ratio and could represent an opportunity for redevelopment into a higher-density mixed use development. The current uses of these properties are an auto sales lot and a large RV park. **Figure 11-8** provides an overview of these underutilized parcels.

Figure 11-8 Land Improvement Ratios of Parcels within SH 99 Station Area



In terms of TOD potential, the existing commercial parcels and medical facilities within this station area provide an opportunity for infill development that would increase demand for transit in this area while allowing those who are employed at these businesses the opportunity to live closer to work. Currently, TOD potential is limited by the existing pedestrian network and confusing road design that makes this station area unsafe and unrewarding to walk within.

TOD potential along the entire METRONext alignment is higher compared to the HCT alignment due to the existing commercial uses that are more oriented towards TOD and the number of multi-family developments within station areas that result in a slightly higher overall residential density. These commercial centers and multi-family developments drive a higher demand for transit compared to the HCT alignment. However, the existing transportation network does not allow for strong multimodal connectivity along this alignment due to the suburban street patterns. The number of agricultural and open space parcels indicate an opportunity for multi-use trail connections within and between station areas and would aid in establishing a more pedestrian friendly built environment that is in line with TOD. Efforts to implement more mixed-use

developments within these large commercial centers, paired with stronger multi-modal connections within station areas will further drive ridership for a future transit system.

### 11.1.3 Fort Bend Tollway Alignment

The Fort Bend Tollway Alignment includes eight proposed stations along the Fort Bend Parkway Toll Road. **Figure 11-9** below provides an overview of the initially proposed stations and includes an additional two stations along the tollway road pending the construction of a future extension. For the sake of this analysis, the two additional stations were not included.

**Figure 11-9 Fort Bend Tollway Alignment Overview**



Of the three alignments, the Fort Bend Tollway Alignment sees the highest amount of land dedicated to open space or agriculture, which significantly limits existing TOD potential due to the rural development patterns. Approximately 49% of the available land within a half mile of the proposed stations is dedicated to open space or agriculture. Civic uses take up the second highest amount of land at 8% of the total area, followed by single-family residential developments at just 7.5% of the total area. There are no multi-family residential developments along this alignment, which is consistent with the existing rural character of the alignment. Additionally, there are very few vacant parcels that are available for redevelopment along this corridor.

The limited number of commercial developments along this alignment are only accessible via automobile, with large surface parking lots fronting these businesses that are located on major arterial roads within station areas.

Along this proposed alignment is the **SH 6 Station**, which is located around the intersection of the Fort Bend Tollway Road and SH 6. **Figure 11-10** provides a clear example of the rural land use patterns found along the entire alignment.

Figure 11-10 Proposed SH 6 Zoning Overview



Agriculture and open space comprise over half (52%) of the total area within a half-mile radius of the proposed station location. This is followed by Civic spaces at 13% and Commercial areas at 9%. Low-density residential developments, consisting mainly of single-family homes, are located on the outskirts of the Study Area and lack pedestrian connections to the commercial properties concentrated in the center of the station area. The existing suburban to rural development patterns in this area are unlikely to change in the near future, which may hinder the potential for transit-oriented development (TOD). **Figure 11-11** illustrates the auto-oriented commercial parcels within the station area, characterized by large surface parking lots that prioritize automobile access.

Figure 11-11 SH 6 Station Area Development Patterns



Consistent across the entire alignment is a lack of sidewalk networks due to the rural development patterns. Additionally, the high-volume arterial roads that traverse the station areas are not conducive for sidewalk creation, which further inhibits any possibility of improving multi-modal conditions.

In general, TOD potential along the Fort Bend Tollway Alignment is low. The rural development patterns consistent across the entire corridor are not conducive for TOD and are unlikely to change in the near future.

## 11.2 Value Capture Mechanisms to Improve TOD Potential

Value capture is a strategy used to fund infrastructure improvements while promoting development near those projects. This approach leverages the economic growth generated by a new transit system to support further enhancements along its route. In Texas, a common example of this mechanism is Transportation Reinvestment Zones (TRZs). These designated areas around a transportation project allow local governments to capture and reinvest the additional property tax revenue resulting from the project's improvements. A TRZ can significantly enhance the potential for TOD by utilizing the increased property values that arise from infrastructure upgrades and channeling those funds back into further improvements that enhance mobility and connectivity.

A Transportation Reinvestment Zone (TRZ) operates similarly to a Tax-Increment Financing (TIF) district by capturing some or all of the increased property tax revenue from properties within a designated area. TRZs do not raise tax rates; rather, they allow local entities to collect a portion of all future property taxes (above a predetermined base level) that result from increased property

values. This revenue is then used to fund public improvements that contribute to these value increases and further development.

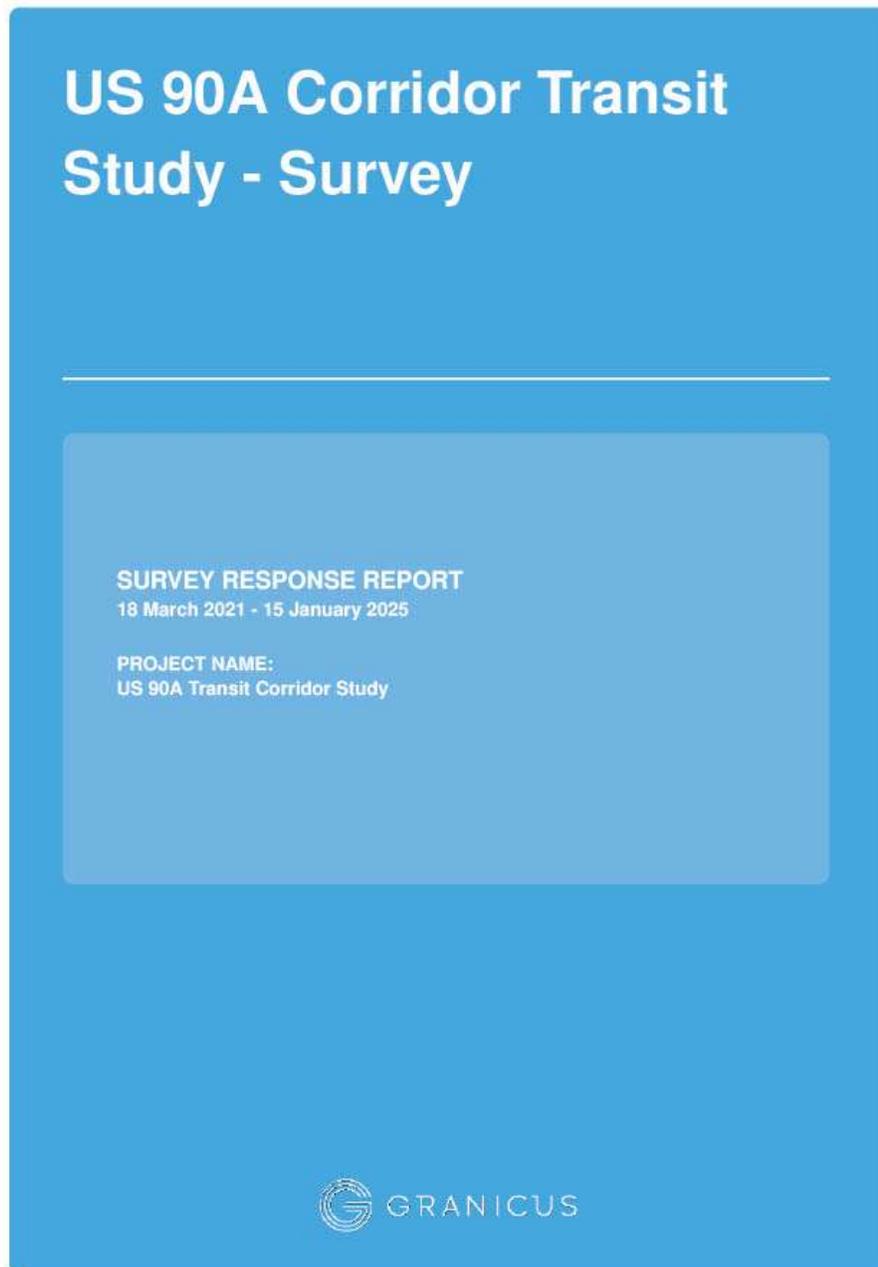
For an area to be designated as a TRZ, it must be underdeveloped and directly benefit from the transportation improvements made.<sup>13</sup> Unlike TIFs, TRZs do not require a board of directors. However, similar to TIFs, TRZ funding relies on revenue generated from property development to repay any debt incurred, which can limit revenue during the early years of establishment. Although revenue may increase significantly over time, the lower amounts in the early years can restrict the ability to issue debt and, consequently, the funds available for infrastructure projects.

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<sup>13</sup> [https://www.fhwa.dot.gov/ipd/fact\\_sheets/value\\_cap\\_transportation\\_reinvestment\\_zones.aspx](https://www.fhwa.dot.gov/ipd/fact_sheets/value_cap_transportation_reinvestment_zones.aspx)

## **12 Appendix D – Public Involvement Summary**

### 12.1 EngageHQ Survey Summary Document produced by H-GAC



US 90A Corridor Transit Study - Survey : Survey Report for 18 March 2021 to 15 January 2025

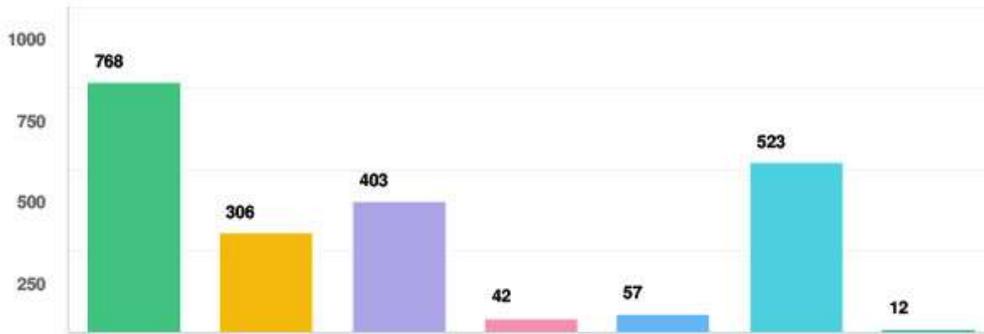
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SURVEY QUESTIONS

US 90A Corridor Transit Study - Survey : Survey Report for 18 March 2021 to 15 January 2025

**Q1 What is your interest in the US 90A Study Area? (select all that apply)**

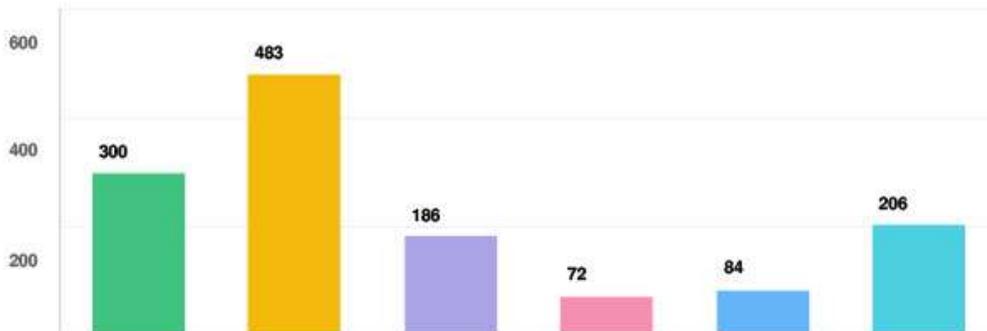


**Question options**

- I live here
- I work here
- I shop / play here
- I go to school here
- I own a business here
- I commute using this corridor
- I am an elected official here

*Optional question (918 response(s), 4 skipped)  
Question type: Checkbox Question*

**Q2 What is your primary commute destination using this corridor?**



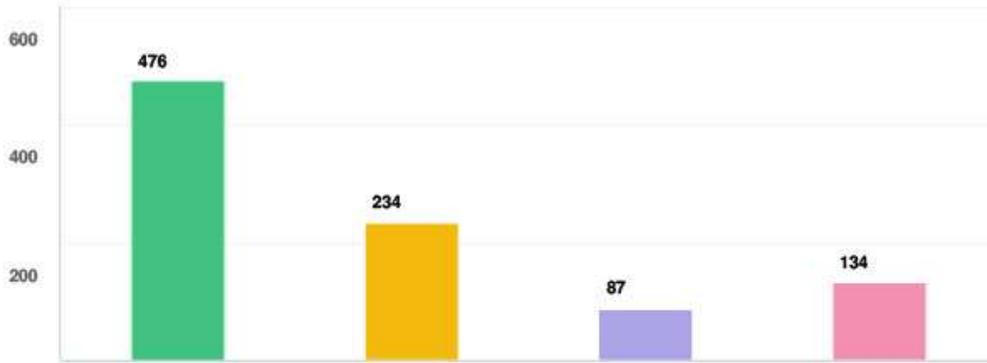
**Question options**

- Downtown Houston
- Texas Medical Center
- Uptown/Galleria/West Loop
- Greenway Plaza
- University of Houston/Texas Southern University
- Other (please specify)

*Optional question (900 response(s), 22 skipped)  
Question type: Checkbox Question*

US 90A Corridor Transit Study - Survey : Survey Report for 18 March 2021 to 15 January 2025

**Q3 How often do you travel the US 90A Study Area?**

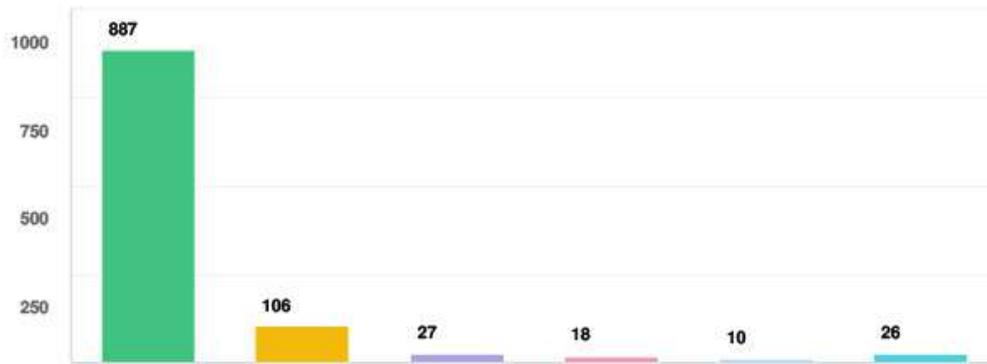


**Question options**

- Daily
- 2-3 times a week
- Once a week
- Occasionally

*Optional question (919 response(s), 3 skipped)*  
*Question type: Checkbox Question*

**Q4 What is your primary mode of transportation in the US 90A Study Area? (select all that apply)**



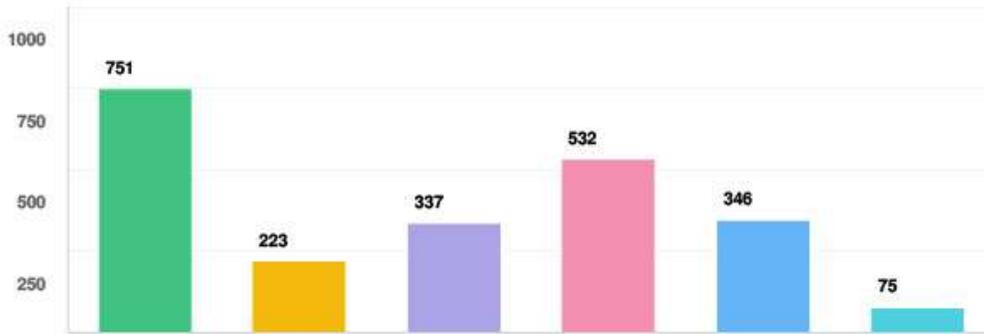
**Question options**

- Driving alone
- Carpool
- Uber/Lyft/rideshare
- Bike
- Walk
- Public Transport

*Optional question (919 response(s), 3 skipped)*  
*Question type: Checkbox Question*

US 90A Corridor Transit Study - Survey : Survey Report for 18 March 2021 to 15 January 2025

**Q5 What are your biggest concerns in the US 90A corridor? (select all that apply)**

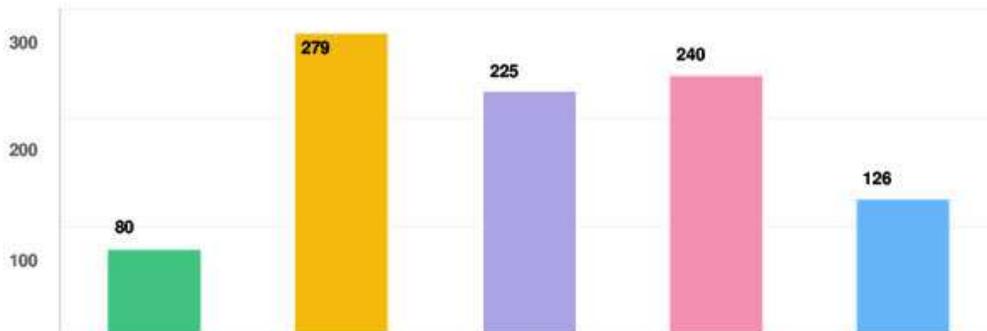


**Question options**

- Traffic congestion
- Safety for pedestrians and cyclists
- Motor vehicle safety
- Lack of public transportation options
- Roadway condition and maintenance
- Other (please specify)

*Optional question (912 response(s), 10 skipped)*  
*Question type: Checkbox Question*

**Q6 How safe do you feel while traveling in the Study Area?**



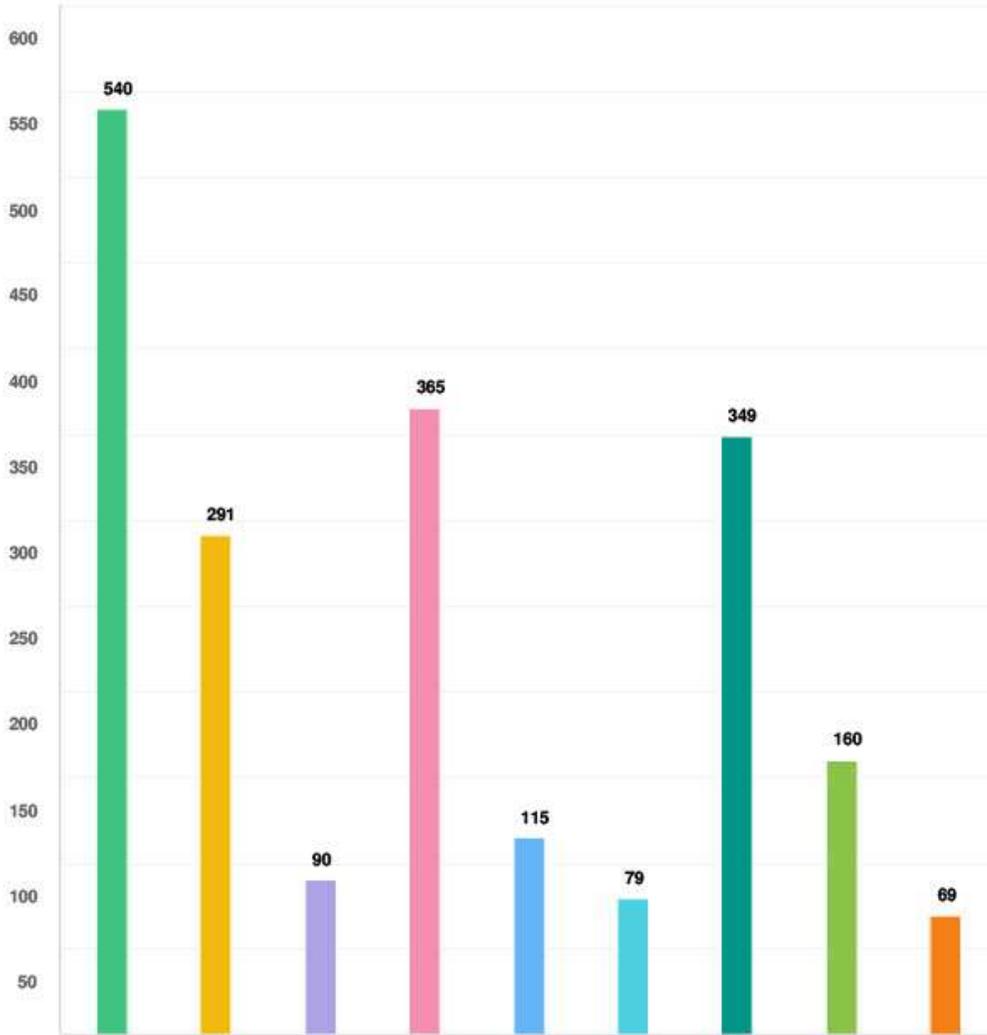
**Question options**

- Very uncomfortable
- Somewhat uncomfortable
- Neutral or no opinion
- Somewhat comfortable
- Very comfortable

*Optional question (918 response(s), 4 skipped)*  
*Question type: Checkbox Question*

US 90A Corridor Transit Study - Survey : Survey Report for 18 March 2021 to 15 January 2025

**Q7** What type of transportation infrastructure/mobility options would you like to see built or expanded on US 90A? (select all ...)



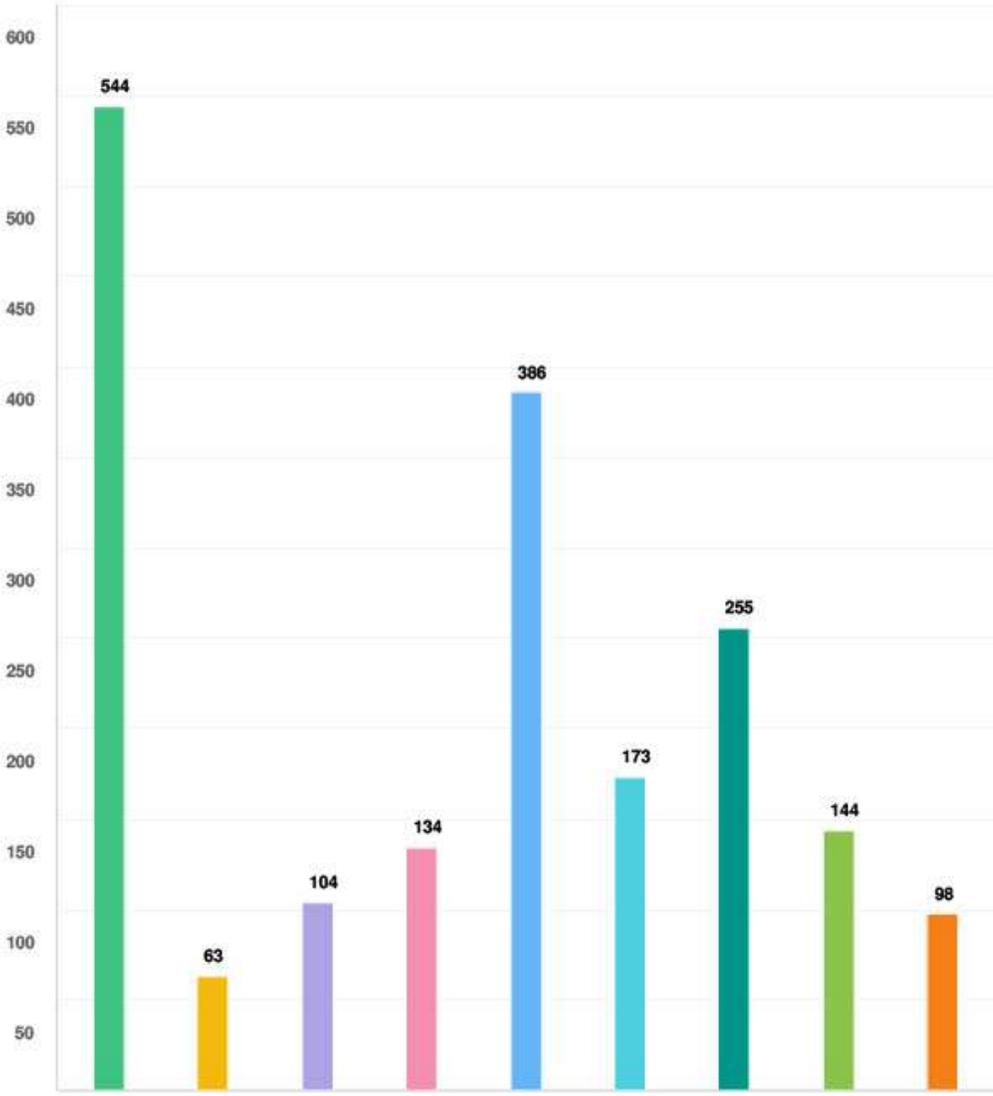
**Question options**

- Bus routes/public transit
- Multi-use trails
- On-street bike lanes
- Road-widenings (adding travel lanes)
- Roundabouts (traffic-circles)
- Traffic signals
- Operational improvements (turn lanes, intersection redesign, driveway consolidation, etc.)
- Sidewalks
- Speed reduction structures (speed bumps, speed tables, etc.)

*Optional question (887 response(s), 35 skipped)*  
*Question type: Checkbox Question*

US 90A Corridor Transit Study - Survey : Survey Report for 18 March 2021 to 15 January 2025

**Q8** What improvements can be made to improve the corridor? Pick up to three:



**Question options**

- Improved signal timing
- Reduced speed limits
- Install medians
- Landscaping
- HOV/Bus lanes
- Re-paving the road
- Grade separations at railroad crossings
- Walkability
- Other (please specify)

*Optional question (882 response(s), 40 skipped)  
Question type: Checkbox Question*

US 90A Corridor Transit Study - Survey : Survey Report for 18 March 2021 to 15 January 2025

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**Q9 Do you have any specific suggestions or concerns related to addressing congestion, speeding, or safety for all road users on US 90A? (Open Question)**

Anonymous

10/04/2024 10:47 AM

US90A needs a HOV/Transit lane. IT should also be considered for a future high capacity transit. It should be easier and safer to bike between Brays and Sims Bayou greenways. It should be easier to get to NRG without having to drive. The Red Line is nice but there should be more options.

Anonymous

10/05/2024 08:56 PM

Its design speed is too high

Anonymous

10/08/2024 08:17 AM

As a bicyclist/walker in the area, crossing US90A is a real challenge. It's possible, but not safe or comfortable, and once on the other side there are not any sidewalks. Some sort of commuter light rail that is elevated would be a good idea along the center point of 90A inside the median. Reducing and narrowing automobile lanes would slow traffic.

Anonymous

10/08/2024 11:25 AM

CITY OF SUGAR LAND NEEDS TO TIME ITS TRAFFIC LIGHTS BETTER.

Anonymous

10/19/2024 08:09 PM

One of my main concerns are the railroad crossings. I live in the northern half of sugarland and sometimes i have noticed trains stalled or going extremely slow. If i do notice a train earlier while approaching, i usually take a detour using the 59 feeder roads but even those get backed up as it is not a full freeway interchange. I would like to see more grade-seperated crossings and early signaling to allow people to take detours while driving instead of getting stuck and wasting time. I would also like to see a lot more pedestrian/bike infrastructure including grade seperated crossings over 90A and the train tracks, hike and bike trails with adequate lighting and shade, and seperated bike lanes. This would allow me to commute via bike to my gym located south of 90A which would save me on gas and allow me to fo cardio as well. This is something I have seen a few other gym members do that live in my area but I dont feel safe to do so do to high speed traffic and lack of shade. Another thing is I would like to see more reliable transit options like commuter rail where i can park in a garage 5 min from where i live and hop on a train and go to work. I think addressing these issues together can extremely benefit the area communities access to work and services, save time, and promote healthy lifestyles and promote walkable, more liveable

US 90A Corridor Transit Study - Survey : Survey Report for 18 March 2021 to 15 January 2025

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places.

Anonymous

10/20/2024 10:49 AM

I want a train I want to train oh so badly please build me a train. I want to move a lot of people in not much space I wanna move people economically and responsibly in a way that produces no pollution.

Anonymous

10/20/2024 12:02 PM

The solution implemented should be the most sustainable possible which is, of course, some version of rail. Integration of the rail with the communities will allow for the most congestion relief benefit as it will not make this solely a park and ride system.

Anonymous

10/20/2024 03:38 PM

I live in midtown and would be more open to exploring down the 90 corridor if it had more transit options. Right now I don't usually consider the corridor because it's too difficult to get to. Additionally, if we expect to see growth in the area expanded public transit offerings will be better for enabling the area to flourish vs just being a sewer for commuters to the med center

Anonymous

10/20/2024 07:37 PM

Better public transit please

Anonymous

10/21/2024 01:50 PM

Downgrade it from a highway and redesign it as a lower speed throughway.

Anonymous

10/21/2024 03:02 PM

Installing protected bike lanes and sidewalks helps curb speeding and would make mobility much easier for all road users

Anonymous

10/21/2024 06:13 PM

Please no more trains.

Anonymous

10/24/2024 02:46 PM

At the very least, no road widenings or extensions should be on the table. Adding more lanes does not fix congestion, and we can't afford to maintain the assets we already have. Instead we need to looking at how to better use our existing assets (ie high-capacity transit) and increasing density to increase the tax base. Thank you for pushing forward with this study. High-capacity transit will be a big win for the US 90A corridor!

Anonymous

10/29/2024 06:56 PM

A rail line transit will be welcome with park and ride option at Hillcroft/US-90.

US 90A Corridor Transit Study - Survey : Survey Report for 18 March 2021 to 15 January 2025

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<p>Anonymous 11/07/2024 08:19 AM</p>	<p>Commuter rail</p>
<p>Anonymous 11/07/2024 08:59 AM</p>	<p>RR line is very busy, do an underpass</p>
<p>Anonymous 11/07/2024 09:07 AM</p>	<p>Would love a rapid transit connection to Sugar Land</p>
<p>Anonymous 11/07/2024 09:12 AM</p>	<p>Regular stoppages at rail crossings in Fort Bend County due to trains.</p>
<p>Anonymous 11/07/2024 10:38 AM</p>	<p>This corridor is primarily dedicated to people driving alone. We need infrastructure network for bikes, pedestrians, and transit users.</p>
<p>Anonymous 11/08/2024 07:09 AM</p>	<p>no</p>
<p>Anonymous 11/15/2024 02:31 PM</p>	<p>I use the Fannin South MetroRail station to take the train up into the Loop a lot. As far as I'm concerned it's the best way to travel in Houston. I would love to see further rail connections across the SW side -- to Sugarland, to the Westbury area, etc. A ton of Med Center employees live out here (myself not included), so that would be a great option for them too.</p>
<p>Anonymous 11/18/2024 08:52 AM</p>	<p>1) Light rail is needed urgently along US 90A, and all the way to airports 2) US 90A is few straight route left. Please consider multi-use infrastructure concept and multi-disciple planning. What matter to residents include convenient public transit, clean water resources/air and no more flooding!</p>
<p>Anonymous 11/18/2024 09:07 AM</p>	<p>Installation of an elevated light rail system. No one wants to ride in a metro bus, they are dirty, dangerous, and the stops take you out of the way. An elevated light rail system would be an ideal mode of transportation to get around the city.</p>
<p>Anonymous 11/18/2024 09:14 AM</p>	<p>Why can't we have a parallel commuter rail with the sugar factory serving as a union station that can be a hub for Gulf Coast passenger rail travel?</p>

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<p>Anonymous 11/18/2024 09:17 AM</p>	<p>Foot over bridge for pedestrians</p>
<p>Anonymous 11/18/2024 09:24 AM</p>	<p>For sections of 90/99, it's getting very congested and lots of accidents, with Richmond and Rosenberg booming, need more roads/highway to divert congestion; sections of 90 between Stafford and to Med Center is pretty much the only route (once you get on 90), should there be an accident, everybody stuck on 90, addition of other major road/freeway will help; buses at suburb areas are not practical as with all the stops, it's faster to drive alone and it can potentially increase crime rates with bus's "affordable" price</p>
<p>Anonymous 11/18/2024 09:24 AM</p>	<p>No mass transit- busses or trains- to Sugar Land. We do not need an avenue for transient populations to come here.</p>
<p>Anonymous 11/18/2024 09:27 AM</p>	<p>Wasting taxpayers money</p>
<p>Anonymous 11/18/2024 09:27 AM</p>	<p>LED lights IN the roadway for the turn lanes with dual turn lanes - people CANNOT navigate those. Install Red Light Alerts; this light is blinking you WON'T make the green light you see so SLOW down (They have this system in Canada and it's wonderful!!!)</p>
<p>Anonymous 11/18/2024 09:31 AM</p>	<p>Between 59 and 6 during the day, drivers tend to go significantly under the speed limit (often 35 in a 50). At night it is the complete opposite with people flying down the street. Maybe installing digital speed signs will help with both? The slow speeds during the day are particularly frustrating, especially during evening rush hour.</p>
<p>Anonymous 11/18/2024 09:31 AM</p>	<p>We really need a light rail. There are so many people occupying the SW side of Houston and it would be an incredible opportunity to put a light rail to the med center. We need better public transportation outside of buses - they aren't efficient and not in my opinion a good resolution for making mass improvements to public transit in our city. A light rail should be the only way!</p>
<p>Anonymous 11/18/2024 09:34 AM</p>	<p>I worked in the medical center area in Cancer research for several years while living in SL,I just couldn't handle the stress of dealing with traffic commuting everyday to work! I was late everyday after dropping off my child at the daycare. I finally had to stop work because of all the stressful driving! My husband drives to Alameda everyday where he works! He is always looking for work from home</p>

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	<p>jobs because he doesn't want to drive in the traffic. People are driving so fast and tail gate! Please have police catch more drivers and give tickets. I understand that everyone is speeding because nobody wants to sit in the traffic, they just want to be at their destination immediately. It would be nice to have some rails that go directly to TMC since so many of us work there.</p>
<p>Anonymous 11/18/2024 09:37 AM</p>	<p>The lack of public transportation is my main concern and should be the cities main priorities to help people in the community out as some people can't afford to own a car or people with disabilities have hard time being mobile.</p>
<p>Anonymous 11/18/2024 09:39 AM</p>	<p>NA</p>
<p>Anonymous 11/18/2024 09:40 AM</p>	<p>Maintenance and upkeep of railroad crossings should also be a priority.</p>
<p>Anonymous 11/18/2024 09:41 AM</p>	<p>I'm tired of risking my life with the insane drivers on these roads every day and I would give anything to be able to nap and read a book on my commute!!! TRAINS!!!!!!!</p>
<p>Anonymous 11/18/2024 09:51 AM</p>	<p>Light rail might work here.</p>
<p>Anonymous 11/18/2024 09:59 AM</p>	<p>Reroute the train line to a more rural area.</p>
<p>Anonymous 11/18/2024 10:00 AM</p>	<p>I would love to see a train or tram. I, along with mostly all of my friends, family, and colleagues, would all take the train or tram if it were an option. Perhaps connecting the MetroRail to Sugar Land and beyond. If there were a train/tram, I and everyone I know would take it.</p>
<p>Anonymous 11/18/2024 10:02 AM</p>	<p>Leverage existing train tracks to create mass transit open to/from Houston and as far west as possible</p>
<p>Anonymous 11/18/2024 10:03 AM</p>	<p>Work a miracle. We have a lot of people and a small area. Everybody loves the freedom of driving. Manage traffic control and use roundabouts as often as feasible.</p>

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Anonymous

11/18/2024 10:07 AM

Understanding that the increased rail line traffic has a lot to do with the traffic signals, perhaps exploring ways to either create opportunities for the traffic to go over the rail lines at Eldridge, FM 1092, and Texas Pkwy (FM 2234) should be considered. Increased motor traffic with continued development in FBC is only going to make the congestion worse over time and will help relieve some of that congestion with continued movement. Similar to what was done with FM 359, SH 6 or University (near Champion X). Regarding the street illumination, I believe there is existing infrastructure and candle limits to what can be added, however, TXDOT, Missouri City and CPE all deny any sort of maintenance to the lights from the Beltway to Present St on US 90a, including a lack of response for the under pass lighting at Texas Pkwy (FM 2234) at US 90a. The lights are there, but no one will fix or accept responsibility for the infrastructure to turn them back on.

Anonymous

11/18/2024 10:10 AM

Around 90 and S Loop W, I'm concerned for the safety of pedestrians who walk across that section to access the Whataburger and Gas Station especially from 11pm - 6am. The traffic light will be green and people would randomly dart out in front of me, I've been lucky to just switch lanes when it's dark. That section has of main has a lot of accidents. Coming from NRG on 610 the ability to have 2-3 turn lane that switch to one turn lane with no U-Turn causes congestion and unnecessary accidents. Also, people hold up traffic to make a u-turn cause they miss that left turn to enter 610 ramp.

Anonymous

11/18/2024 10:14 AM

Need less traffic signals and more ability to just drive to medical center from Sugar Land

Anonymous

11/18/2024 10:15 AM

Metro rail along 90. Make Imperial Sugar factory into train station.

Anonymous

11/18/2024 10:16 AM

Timing or volume of trains in the area.

Anonymous

11/18/2024 10:17 AM

We do not need additional noise. We do not need transient population and elements that would increase crime.

Anonymous

11/18/2024 10:18 AM

Add more lanes. Do not make it feel like it is urban. Keep the residential aesthetic

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<p>Anonymous 11/18/2024 10:21 AM</p>	<p>rail using the existing rail infrastructure that runs along US90</p>
<p>Anonymous 11/18/2024 10:29 AM</p>	<p>Keep the lane layout, but do rein in the speed demons and, also, make rail transport a priority. The corridor is an opportunity to connect TMC/Inner Loop to Fort Bend, possibly up to Richmond/Rosenberg!</p>
<p>Anonymous 11/18/2024 10:36 AM</p>	<p>Upper deck to turn off</p>
<p>Anonymous 11/18/2024 10:36 AM</p>	<p>We desperately need a commuter rail corridor from Richmond to Houston. If it followed the Union Pacific line, it could allow transfers to the light rail system to complete the trip downtown. As it would be difficult to extend a true rail line into the city.</p>
<p>Anonymous 11/18/2024 10:37 AM</p>	<p>The signals are totally out of sync during ongoing rails. It has lot of signals, need to have better merger with 99</p>
<p>Anonymous 11/18/2024 10:40 AM</p>	<p>Expand rail to Fort bend County.</p>
<p>Anonymous 11/18/2024 10:49 AM</p>	<p>conflict/delays to to trains</p>
<p>Anonymous 11/18/2024 10:54 AM</p>	<p>AGAIN: Elevated flyover lanes should be built along Hwy 90 from 99 to the Beltway for through traffic which does not stop in those areas. That would facilitate people who are driving into Houston for work and cut down on the general congestion for people going to schools and shops along Hwy 90 or cutting across Hwy 90. Elevated lanes of Hwy 90 would not have to stop when there are read lights at the railroad crossings. Also, PLEASE install smart technology at all traffic lights in Sugar Land to elimiate sitting at red lights when there is no cross traffic in sight. PLEASE fix all potholes and lane indicators, etc. throughout Sugar Land. PLEASE make sure that all street signs are visable (not obstructed by tree limbs or knocked askew) and in good condition (not missing letters or with letters which no longer reflect light) and make sure that all signs are facing in the correct direction. Do NOT stripe lanes for bike riders, as that will narrow existing lanes and cause more congestion and slow traffic and more accidents. DO NOT start any sort of vehicle based Mass Transit along that corridor. Once Mass Transit comes in, it spreads like cancer and we do not want mass transit in Sugar Land. It is too bad that the RFR won't allow a passenger line along their tracts, but please don't use that as an</p>

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	excuse to allow METRO or other mass transit to get its hooks into Sugar Land. Bikeability and Walkability are not needed across Sugar Land and would slow down commuter traffic even more.
Anonymous 11/18/2024 11:13 AM	congestion, speeding, and poor drivers.
Anonymous 11/18/2024 11:13 AM	None
Anonymous 11/18/2024 11:17 AM	I hope this isnt going to bring a homeless and criminal element to my area.
Anonymous 11/18/2024 11:26 AM	90A between Hwy 6 and Dairy Ashford has been known to have traffic lights that could be synced better, and issues with railroad crossings being stuck down, or trains stopping and blocking access from cross streets.
Anonymous 11/18/2024 11:28 AM	Mass transit
Anonymous 11/18/2024 11:49 AM	Better scheduling of rail traffic
Anonymous 11/18/2024 12:02 PM	Train signaling is very different in Houston vs Sugar Land. Intersections take much longer to cycle and allow traffic to move in Houston.
Anonymous 11/18/2024 12:06 PM	Please, NO roundabouts!
Anonymous 11/18/2024 12:09 PM	Trains travel resets signals often and cause huge congestions on intersections that backs up traffic. From Hwy6 to 59/69 alone have huge amount of lights often resets and comes into stop and go traffic cause huge backup. Construction on 99 Area already causing delays and only getting worse each day.
Anonymous 11/18/2024 12:22 PM	See above suggestion. We desperately need a public transportation system that does not compete with cars for road space).



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Anonymous 11/18/2024 12:28 PM	Where possible, 3 lanes of traffic in both directions with a median in the middle is the best option.
Anonymous 11/18/2024 12:34 PM	Evaluate metro line from Sugar Land to Downtown/Medical Center/greenway Plaza
Anonymous 11/18/2024 12:38 PM	Light train would be better
Anonymous 11/18/2024 12:45 PM	Install light rail transitk
Anonymous 11/18/2024 12:46 PM	Would be nice to have BRT to Ft Bend County for TMC employees to use to reduce commute times to TMC
Anonymous 11/18/2024 01:04 PM	HOV
Anonymous 11/18/2024 01:14 PM	A light rail/rapid transit system comparable to other major cities.
Anonymous 11/18/2024 01:16 PM	We need a more extensive rail system in Houston
Anonymous 11/18/2024 01:20 PM	No public transportation is needed between Richmond/Rosenberg and downtown Houston. This would only bring more crime to Western Fort Bend County areas
Anonymous 11/18/2024 01:27 PM	Add rail to med center/downtown.
Anonymous 11/18/2024 01:34 PM	Change the timing of the lights when a train comes through. At present all traffic has a red light for an extraordinary amount of time before anyone gets a green light.
Anonymous 11/18/2024 01:37 PM	No circles! Roundabouts. Whatever they're called. Just stop building them!
Anonymous	HOV or above ground highway bypassing all the lights through Sugar

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11/18/2024 01:57 PM

Land and Stafford would be fabulous. Something more direct to UH Main Campus.

Anonymous

11/18/2024 01:59 PM

A paid lane or HOV Road expansion (widening) to accommodate high levels of traffic. Signals green longer on the main lanes.

Anonymous

11/18/2024 02:20 PM

Better traffic signal timing. Speeding is awful. People also run red lights without regard to vehicles or surroundings. The lanes turning left on Hwy 6 from 90A headed towards sugar land create additional congestion because of the one lane that turns into left turn-only lane. There are never enough cars turning left to need two turn lanes.

Anonymous

11/18/2024 02:37 PM

Roundabouts have been studied and are safer and more efficient for traffic. It would take a bit to get used to, but there are fewer accidents including to pedestrians. There's no light to run. Traffic should largely continue moving. You don't have to worry about maintaining and fixing lights or their timings. Mass transit should've been part of the infrastructure long ago, especially in a city and metroplex this size.

Anonymous

11/18/2024 02:43 PM

Please add viable public transportation via light rail and a park and ride. I would 100% take public transportation and this would absolutely reduce traffic, making transit better for everyone

Anonymous

11/18/2024 02:44 PM

Rail line along this route.

Anonymous

11/18/2024 02:48 PM

Sugar Land signals are great because they're synced up with the train. Every other area along 90 doesn't have good signals

Anonymous

11/18/2024 02:48 PM

The traffic at the intersection of 90 and 99 grand parkway can get very bad and congested

Anonymous

11/18/2024 02:58 PM

There's a huge range of speeds people want to go. Maybe a direct route where people can go 80 in a couple of lanes and then other lanes for people to poke along at 40 would be great

Anonymous

11/18/2024 03:00 PM

The intersection at 90 East / 59 needs to be better marked and striped

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Anonymous	Rail line or connecting the current metro rail line from medical center into fort bend
11/18/2024 03:04 PM	
Anonymous	Fast reliable rail is needed. It must have its own right of way. Stations should be near places people work, live, or shop/eat. Do not waste space on massive surface lots near stations. Look at the data and study other transit systems in the world. park n rides often fail. People need to be able to walk to the stations or take a bus. If you design something where travel time meets or beats drive times (when there's no traffic) people will use it. If it takes longer than driving , it just won't work.
11/18/2024 03:16 PM	
Anonymous	Trains should not be running at all times and stopping traffic flow in the area!!
11/18/2024 03:22 PM	
Anonymous	Reprogram traffic lights for longer durations of green lights during peak travel time. Reprogram traffic lights for incoming trains. All main lane lights turn red when a train is approaching
11/18/2024 03:39 PM	
Anonymous	Dedicated light rail from Rosenberg to Houston transit center on Fannin outside of IH-10. Sharing the current railroad tracks are not workable. I have seen dedicated light rail between California coastal cities that worked quite well. With the number of workers that transit to Houston every day, the addition of new Park N Ride lots and reliable rail would definitely reduce congestion. I would definitely ride it frequently.
11/18/2024 03:41 PM	
Anonymous	Install overpasses at all intersections
11/18/2024 03:46 PM	
Anonymous	Do not expand it!
11/18/2024 03:53 PM	
Anonymous	Use the existing rail for a commuter train.
11/18/2024 03:54 PM	
Anonymous	Would like direct rail line to TMC from Sugarland
11/18/2024 04:13 PM	
Anonymous	At 99 and 90 make it easier for traffic to flow thru without as much congestion.
11/18/2024 04:17 PM	

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<p>Anonymous 11/18/2024 04:21 PM</p>	<p>Please let it reach Aliana</p>
<p>Anonymous 11/18/2024 04:33 PM</p>	<p>Grade separations at the RR crossings at the high volume intersections is my primary suggestion. At least one additional grade separated crossing in each City. In Sugar Land, I think it should be Dairy Ashford. The situation in Rosenberg is different since the rail corridor is separated from 90A but the problem is similar.</p>
<p>Anonymous 11/18/2024 04:37 PM</p>	<p>Turn lane lines are backing up into main lanes. Why people Continue to change lanes on 90 is beyond me but it adds to the congestion problems.</p>
<p>Anonymous 11/18/2024 04:38 PM</p>	<p>Additional traffic congestion during construction. But would love for the metro rail to continue all the way to Rosenberg. We would commute daily via petrol rail to the med center if there were the option.</p>
<p>Anonymous 11/18/2024 04:54 PM</p>	<p>No public transportation. Commuter options only.</p>
<p>Anonymous 11/18/2024 04:59 PM</p>	<p>Additional overpass of railroads off of Highway 90</p>
<p>Anonymous 11/18/2024 05:00 PM</p>	<p>Increased enforcement of speed limits would be nice. Also grade separation of major RR crossings (Harlem, Hwy 6, Eldridge, and Dairy Ashford)</p>
<p>Anonymous 11/18/2024 05:10 PM</p>	<p>Reducing speed would help with accidents. It is also hard to turn into businesses/side streets from Alt90 because of the high speed limit.</p>
<p>Anonymous 11/18/2024 05:27 PM</p>	<p>Train options to the medical center!!</p>
<p>Anonymous 11/18/2024 05:48 PM</p>	<p>New home developers should be forced to pay fees towards mobility infrastructure development.</p>
<p>Anonymous 11/18/2024 06:01 PM</p>	<p>Need park and ride bus from sienna to downtown- here many people ride cars alone to downtown that increase the traffic</p>

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<p>Anonymous 11/18/2024 06:19 PM</p>	<p>Build a 3 lane tollway going east and west just like Westpark. From 610 south all the way to Richmond</p>
<p>Anonymous 11/18/2024 06:25 PM</p>	<p>The u-turn on 90 under beltway 8 is constantly full of debris from accidents. Is there a way to make that intersection safer?</p>
<p>Anonymous 11/18/2024 06:31 PM</p>	<p>Give us reliable public transport please. High speed rails would save congestion.</p>
<p>Anonymous 11/18/2024 06:37 PM</p>	<p>We really need a light rail to the city. It will open up the potential for the light rail to go from Sugar land to med center and downtown. It would make people happier which would have effects on spending.</p>
<p>Anonymous 11/18/2024 06:58 PM</p>	<p>It's just gotten crazy out there.</p>
<p>Anonymous 11/18/2024 07:13 PM</p>	<p>More police presence for speeders, more public transit</p>
<p>Anonymous 11/18/2024 07:27 PM</p>	<p>Run a passenger train on the rail track</p>
<p>Anonymous 11/18/2024 07:41 PM</p>	<p>The rail road crossings seem dangerous , the timing of the lights is terrible, the lights malfunction sometimes, some of the exits get too backed up</p>
<p>Anonymous 11/18/2024 07:46 PM</p>	<p>Build bridge over 99 to improve traffic flow</p>
<p>Anonymous 11/18/2024 08:10 PM</p>	<p>Remove curbs and create shoulders so accidents can safely move out of traffic. Install traffic lights for driveways or create exits, especially where large trucks slowly enter or exit.</p>
<p>Anonymous 11/18/2024 08:18 PM</p>	<p>Please build a public train or rapid bus line down this corridor.</p>
<p>Anonymous 11/18/2024 08:56 PM</p>	<p>Just stop fighting nature and change the speed limit to 75.</p>

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Anonymous

11/19/2024 02:18 AM

Build more light rail!

Anonymous

11/19/2024 03:14 AM

At 90 and 99 open back up the right hand lane going westbound!

Anonymous

11/19/2024 03:27 AM

Do things which do not require years of construction. Figure out how the Europeans get roadwork done in a weekend, then do that. Years of construction make it so the gains aren't really gains anymore. It negates the benefits.

Anonymous

11/19/2024 03:40 AM

I travel on 90 to work at downtown Houston every day. Traffic has increased horribly due to additional cars and construction. 90 and 99 is always a problem. This intersection adds 10-15 mind to my trip.

Anonymous

11/19/2024 03:46 AM

Faster time of travel through here. Maybe a toll to avoid traffic lights? A commuter train would be of interest if a good parking lot was in place around 90/99 intersection.

Anonymous

11/19/2024 03:51 AM

Traffic at the intersection on 90 and 610. Traffic light malfunction along main st. Slow moving vehicle staying on the left outermost lane

Anonymous

11/19/2024 03:58 AM

An alternative to the 90 corridor could be using the 288 toll road space for rail, with the main rail station at the Reed Rd parking lot

Anonymous

11/19/2024 04:27 AM

Rail (similar to BART system in CA) would be excellent

Anonymous

11/19/2024 05:08 AM

No one feels safe on mass transit. We used it once for rodeo and it was awful there was a man on drugs riding the light rail with a needle sticking out of his arm, a drunk throwing up, and a hooker trying to pick up a customer. I would not ever ride it again. It is safer to take my car or carpool. Most buses are not full and when the rail passes you by there are very few seats filled. It is a joke! Huge waste of taxpayer money for a handful of people.

Anonymous

11/19/2024 05:36 AM

The speeding is totally out of control!

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Anonymous

11/19/2024 05:39 AM

I think even a rail that has limited service can do wonders for those having to commute into the city. Especially students, medical workers, and those that are just visiting for leisure (tourists and family friends that visit). Having something like the DC suburb rails would be nice. Specifically the Manassas line that runs from the DC Amtrak station into deep suburbs. Of course, the commute time is about an hour, but rush hour express service could help alleviate the commute time.

Anonymous

11/19/2024 05:50 AM

From the specific section from us-59/i-69 to Texas Highway 6, there should be underpasses to allow cars to go underneath the train when turning right into the many streets such as University blvd or Ulrich St without having to wait for a train. Improved signal timing is also crucial because when train comes, the traffic time increases drastically

Anonymous

11/19/2024 05:57 AM

Jersey barriers between Gessner and Beltway 8. Several head-on collisions have occurred in this area in the last 5 years. Houston has them all the way to 610. How many more innocent need to be killed from no action on this matter?!

Anonymous

11/19/2024 06:19 AM

High speed rail modeled after BART or Chicago Transit

Anonymous

11/19/2024 06:43 AM

We really need public transportation

Anonymous

11/19/2024 07:13 AM

Light rail corridor from US 90A to Texas Medical Center

Anonymous

11/19/2024 07:22 AM

It would be great if there was a train that connected to the train that services the med center

Anonymous

11/19/2024 07:42 AM

Sugar land has significant amount of U of H or medical center communities who mostly are students, and they can reach their destinies through 90. With appropriate advertise, I believe a public transportation can meet both sides benefits that students can rest in bus, and transportation company can earn its business. Last but not the least, the 90 congestion can be released slightly.

Anonymous

11/19/2024 08:52 AM

Take out some traffic lights I lose so much gas, it's too much traffic

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Anonymous 11/19/2024 09:01 AM	Divert traffic to freeway and not through historic sugar land
Anonymous 11/19/2024 09:19 AM	A train from here to downtown would be really useful
Anonymous 11/19/2024 09:23 AM	People will not take public transportation. They will use their vehicles as once they get to their destination they will have limited options.
Anonymous 11/19/2024 09:42 AM	Work on the stop light/ railroad sequence. Too many time all four directions have cars unable to enter the intersection
Anonymous 11/19/2024 09:44 AM	Some parts of Hwy 90 are poorly illuminated. Many hwy lights are out of service, making driving hazardous.
Anonymous 11/19/2024 10:09 AM	Dedicated light rail connecting to the med xenter rail lines would be helpful.
Anonymous 11/19/2024 10:18 AM	I don't want this to become a freeway with overpasses and such, and Hwy 6 is a dangerous mess with all the lights so don't want that either. In general, if rail is not an option, I would focus on improved signal timing to interact with the train, and better landscaping to maintain the feel of old Sugar Land as a historic, peaceful community where you can get away from Houston for a little peace and quiet.
Anonymous 11/19/2024 10:31 AM	Please investigate train or light rail options. There is not much reliable public transit to commute from fort bend county into sugar land and the med center. Thank ya!!!
Anonymous 11/19/2024 11:34 AM	I do not want the expansion.
Anonymous 11/19/2024 11:57 AM	The proposed solution is great. Full send
Anonymous 11/19/2024 12:01 PM	HWY 90 I travel daily and it has not been an issue at all. In fact I have several employees that travel it daily as well no complaints what so ever. We do not need public transportation at this time in the Stafford, Sugarland area it would not be used.

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Anonymous

11/19/2024 12:14 PM

Light rail extended down through Missouri City to Sugar Land to Richmond area would be nice, especially if it goes to/from Galleria area and TMC area and Downtown. Need more bike lanes and continuous sidewalks. Roundabouts are better than traffic lights at smaller less congested intersections like the one on Pearland Parkway. Dedicated elevated HOV and/or express lane to at least 610 would be nice. Medians with turnarounds along busy stretches are much safer than open center turn lanes. Increase turn lanes and through lanes at busy intersections to relieve the long backups so more cars can make it through the intersection before the light turns red.

Anonymous

11/19/2024 12:29 PM

Better enforcement of the HOV through this area during high traffic times.

Anonymous

11/19/2024 12:38 PM

I suggest doing an overpass entry ramp for Cravens Rd and if that is to expensive, bringing an intersection to Cravens Rd and 90A to allow for 18 wheeler accidents to have a controlled signal and decrease collisions with the train, and also to allow for commercial development opportunities in Missouri City where this vacant land on 90 between Cravens Rd and Bull Ln.

Anonymous

11/19/2024 01:24 PM

Signal timing seems to be off whenever a train is parallel to the lights.

Anonymous

11/19/2024 03:07 PM

A rail system would be great

Anonymous

11/19/2024 03:37 PM

Get rid of the lights. Make it an actual highway that over passes intersections.

Anonymous

11/19/2024 04:30 PM

When a train comes through it messes up the lights and makes commuting through Sugar Land awful. Stafford seems to be designed to make anyone hate 90. I commute from New Territory to the Medical Center which is a straight shot but it takes upwards of 50 minutes after dropping my kids off at school. I don't understand why the first half of my commute through Sugar Land and Stafford is so terrible. Traffic light reductions should be examined. There's no reason why there are so many traffic lights over such short stretches of road on this route. This is a multifaceted problem exacerbated by accelerating population growth at the south end of this corridor. A future-thinking solution is essential. Why can't there be a rapid transit option to



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- connect to other existing mass transit options like the light rail. This should be elevated if possible to avoid all the light issues we continue to experience with trains.
- Anonymous**  
11/19/2024 06:02 PM  
Rail is NOT the answer.
- Anonymous**  
11/19/2024 06:17 PM  
Please invest in public transport. In 2023, 4,300 people died in car accidents in Texas.
- Anonymous**  
11/19/2024 06:21 PM  
I have traveled for work around the world. Rail is always the most efficient and reliable means to get around. Buses are a nightmare.
- Anonymous**  
11/19/2024 07:21 PM  
It's busier and busier
- Anonymous**  
11/19/2024 07:25 PM  
Please extend light rail
- Anonymous**  
11/19/2024 07:27 PM  
Light-rail! There needs to a high speed light rail that runs from sugar land to the med center to reduce traffic on 90. In fact all major freeways should run light rail along those corridors!!
- Anonymous**  
11/19/2024 07:52 PM  
Road rage.
- Anonymous**  
11/19/2024 08:08 PM  
Generally, I find US 90A to be greatly improved from what it was before. Previously, I rarely visited friends much in Missouri City or Sugar Land, now it is easy. I think the current capacity is adequate, I would hate to see it widened or improved just for rush hour traffic flow. Public transit would be the next thing to improve along this corridor.
- Anonymous**  
11/19/2024 08:27 PM  
Add another corridor or HOV lanes; it can take over an hour to drive 13 miles to TMC from SL. That's crazy!
- Anonymous**  
11/19/2024 08:39 PM  
It's time for 21st Century trains but not at street level like Houston has now. Elevated trains and stations. They could connect to what Houston is using now at Knight Road.

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<p>Anonymous 11/19/2024 08:53 PM</p>	<p>There's already a train that runs along 90A. Please add a commuter rail!!!</p>
<p>Anonymous 11/19/2024 08:57 PM</p>	<p>I would like for the traffic lights to work faster when trains pass. It takes too long for the lights to work again and it slows traffic.</p>
<p>Anonymous 11/20/2024 04:31 AM</p>	<p>Yes, a transit officer should be on board at all times</p>
<p>Anonymous 11/20/2024 05:11 AM</p>	<p>mass transit would be nice to alleviate traffic congestion</p>
<p>Anonymous 11/20/2024 06:28 AM</p>	<p>Lots of serious speeding—need more police presence.</p>
<p>Anonymous 11/20/2024 07:08 AM</p>	<p>n/a</p>
<p>Anonymous 11/20/2024 09:09 AM</p>	<p>More walking trails for locals. How could the water and water shed areas be optimized for local use of walking trails?</p>
<p>Anonymous 11/20/2024 09:42 AM</p>	<p>the construction at 90/99 and how that will help relieve the traffic congestion?</p>
<p>Anonymous 11/20/2024 11:14 AM</p>	<p>Mass transportation such as a light rail should be considered instead of expanding lanes.</p>
<p>Anonymous 11/20/2024 07:12 PM</p>	<p>Add commuter and light rail</p>
<p>Anonymous 11/20/2024 08:04 PM</p>	<p>Light rail is the best option from sugarland or richmond to downtown Houston</p>
<p>Anonymous 11/20/2024 08:23 PM</p>	<p>Not that I have on top of my head right now other than led lights along the roads or something.</p>
<p>Anonymous 11/20/2024 09:37 PM</p>	<p>Vehicle volume must be decreased, either with bus or train infrastructure.</p>

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<p>Anonymous 11/20/2024 10:10 PM</p>	<p>N/A</p>
<p>Anonymous 11/21/2024 04:05 AM</p>	<p>More lanes needed, lights are coordinated. Light rail</p>
<p>Anonymous 11/21/2024 04:46 AM</p>	<p>Improved police presence for traffic violations</p>
<p>Anonymous 11/21/2024 04:54 AM</p>	<p>I think a rail or busses will only contribute to the already poor traffic condition due to the very active train line. Removing the train line would definitely greatly improve traffic. Busses stopping frequently on 90 or a rail line reducing available turns would cause more problems.</p>
<p>Anonymous 11/21/2024 05:45 AM</p>	<p>Do not add additional Lanes, that will only increase noise and pollution coming through the residential areas. Light timing could be greatly improved to increase traffic flow. Having a sidewalk along the corridor would greatly enhance safety and allow pedestrians to use the route. Please no bike lanes on the main roads those are suicide lanes</p>
<p>Anonymous 11/21/2024 05:55 AM</p>	<p>Would like study to problem solve the regular accidents at 90/610 intersections and 90/6 intersection. Also the traffic back ups at certain intersections due to amount of turning traffic being more than turn lane can hold</p>
<p>Anonymous 11/21/2024 08:02 AM</p>	<p>There needs to be improvements at 610 South and Hwy 90 and there needs to be traffic relief at 90 and Ave E (in the Stafford area)</p>
<p>Anonymous 11/21/2024 08:02 AM</p>	<p>The Texas Parkway exit lane, heading out of Houston, backs up onto Highway 90 at peak travel time in the evening onto Highway 90 and there is a serious concern with cars stopped on 90 and other cars coming along and barreling into them at 55 miles an hour. This should be addressed immediately. I've started taking a different route home due to this issue.</p>
<p>Anonymous 11/21/2024 08:31 AM</p>	<p>Reducing speed</p>
<p>Anonymous</p>	<p>Please do not do anything to restrict automobile access to this</p>

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11/21/2024 07:08 AM	corridor. If you're going to do light rail, which can be very expensive, make sure drivers are not impeded.
Anonymous 11/21/2024 07:29 AM	Rail, be it light rail or making use of the existing freight rail lines for passenger trains, would be a huge improvement. We need to stop the stopgap methods and properly install resilient and long-term solutions for our travel options and traffic. We are growing daily and are projected to be the 3rd largest city in the country. We need to act like it and be smart with our money, time and residents' patience. RAIL.
Anonymous 11/21/2024 08:03 AM	The construction they have been doing at 90 and 99 has taken forever and often see no one working.
Anonymous 11/21/2024 09:03 AM	I have heard discussion of building overpass in Sugar Land and this worries me. It will destroy my property value, ruin the neighborhood esthetics and encourage more speed and traffic.
Anonymous 11/21/2024 09:47 AM	VERY OPPOSED to a bus or rail system going from Sugar Land to Houston.
Anonymous 11/21/2024 09:48 AM	Add rail alternative to travelling the US 90A corridor.
Anonymous 11/21/2024 05:27 PM	Efficient public transit is desperately needed in this area and really all of Houston metro area! Traffic circles would be a vast improvement on 90 between 99 and 59 the traffic flow is terrible especially when there is a cargo train running parallel the light timing is awful
Anonymous 11/21/2024 07:13 PM	I need you all to prioritize vulnerable populations along US 90A by opting for SAFE mobility options AND high capacity, frequent transit.
Anonymous 11/21/2024 07:29 PM	The constant construction at the intersection of Grand Parkway and Alt90 is absurd and the traffic light timing in the morning does not account for the mass traffic going south / east. To top it all off, there are lanes being blocked during the morning commute that's backing up traffic up 99. Why?!? Should be planned and executed much better than this.
Anonymous	There needs to be another option than just using your car to get to

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11/22/2024 08:55 AM

downtown and medical center where parking costs alot and is not abundant. Commuter train/tram could solve this

Anonymous

11/22/2024 07:59 AM

I don't see a high speed rail or mass transit option other than Bus options

Anonymous

11/22/2024 09:14 AM

The light at 610 has horrible timing

Anonymous

11/22/2024 09:17 AM

A light rail line that connects Stafford and Sugar Land and hopefully eventually Richmond and Rosenberg to the light rail system of Houston with stops at the Medical Center and by NRG Stadium and then existing stops by Hermann Park/Museum District and points downtown would be a game-changer for our area! Not only would this give a safe, efficient, and much more enjoyable way for the 10s of thousands of commuters from Fort Bend County to get to work, but it would also allow for families and individuals to easily access the Rodeo, Astros, Texans, Dynamo or Rockets games, the zoo, parks and so much more! As an City Council member for the City of Stafford I wish to take up the mantle previously carried by the late, great Leonard Scarcella to bring light rail to Fort Bend County with stops in Stafford (Stafford Centre/HCC-Stafford and The Grid/Fountains).

Anonymous

11/22/2024 09:54 AM

I feel if we get public transportation, this will increase the criminal activity. Easy In and Out excess.

Anonymous

11/22/2024 11:10 AM

Adding a train will only help a few people, create devaluation of surrounding properties, cost way too much with little benefit. Just don't see a need. It won't reduce congestion.

Anonymous

11/22/2024 11:34 AM

PLEASE install a public rail system. I commute from sugar land to the medical center and a rail system would change my life

Anonymous

11/22/2024 01:08 PM

Adding a light rail or bus routes from the medical center to Sugar Land will bring an influx of unwanted homelessness to Sugar Land.

Anonymous

11/22/2024 01:31 PM

Designated left turn lane apart from travel lane at certain intersections (i.e. Avenue E in Stafford).

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<p>Anonymous 11/22/2024 03:51 PM</p>	<p>Need HOA Lanes</p>
<p>Anonymous 11/22/2024 06:49 PM</p>	<p>Need to expand lanes and add rail</p>
<p>Anonymous 11/22/2024 09:40 PM</p>	<p>Public transportation to med center.</p>
<p>Anonymous 11/23/2024 03:37 AM</p>	<p>Historic Downtown Sugar Land can't handle anymore traffic so we don't need transit stops in this area. It will be a traffic disaster. The number of trains and rail arms being down nonstop already make it hard to get around this area we live and have to navigate around daily trying to get our kids to school safely and then trying to commute to work within Fort Bend County.</p>
<p>Anonymous 11/23/2024 10:04 AM</p>	<p>Improvements being used as a trojan horse for Houston to export it's public safety failures to Fort Bend County.</p>
<p>Anonymous 11/23/2024 03:07 PM</p>	<p>Nope, just fix the crappy road.</p>
<p>Anonymous 11/23/2024 04:00 PM</p>	<p>Too many vehicles on the road due to the expansion of suburbia past Richmond and Rosenberg. The need for efficient transportation will only increase.</p>
<p>Anonymous 11/24/2024 12:28 AM</p>	<p>I do not want public transportation and the undesirable elements that it brings. I worked hard all of my life to be able to afford to leave that behind and do not want that brought to where I have chosen to live for that reason.</p>
<p>Anonymous 11/24/2024 08:53 AM</p>	<p>A rail to run from sugar land to the Med center would be amazing</p>
<p>Anonymous 11/24/2024 12:47 PM</p>	<p>Public Transportation</p>
<p>Anonymous 11/24/2024 04:55 PM</p>	<p>A train from Sugarland to downtown would be amazing.</p>
<p>Anonymous</p>	<p>HOV road for thru traffic</p>

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11/24/2024 07:22 PM

Anonymous

11/24/2024 10:08 PM

Install more yield (yellow flashing) turn signals for left turn lanes vs waiting at a constant red light to turn green.

Anonymous

11/25/2024 03:00 AM

Time trains NOT to be during rush hour traffic times PLUS more overhead RR crossings such as HWY 6 to bypass train traffic; they are Looooong trains during rush hours and sometimes double trains

Anonymous

11/25/2024 03:01 AM

Trains sometimes take longer than ten minutes to pass heavily effecting commuter times.

Anonymous

11/25/2024 05:03 AM

I take the Fort Bend Express commuter shuttle

Anonymous

11/25/2024 05:04 AM

NO Public Transportation Needed

Anonymous

11/25/2024 08:06 AM

Light rail would reduce congestion greatly!

Anonymous

11/25/2024 07:32 AM

Leave it alone.

Anonymous

11/25/2024 12:26 PM

I think the main concern is all of the trains at the busiest times of day.

Anonymous

11/27/2024 12:26 PM

people speed and zig-zag weaving in & out of traffic; see road rage; lack of police presence

Anonymous

11/27/2024 06:49 PM

LTR line should go from Fannin facility to Richmond, every day

Anonymous

11/28/2024 12:27 PM

A commuter rail line similar to TexLine in DFW or the Metro-North or Long Island Railroad in the New York metropolitan area with connections to the MetroRail or Bus network would be excellent in reducing congestion along the corridor without needless road expansion.

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Anonymous

11/28/2024 06:46 PM

Too many trains stopping traffic flow a lot. Like trains going in opposite directions holding up traffic for a long time. Signals not always working. There have been tragic, recent deaths due to this as well.

quikmantx

11/28/2024 07:21 PM

Please add more sidewalks. When sidewalks are not maintained or even existing, pedestrians sometimes end up walking along the road shoulder, especially in rainy weather due to the mud. It's not safe for them and everyone on the roads.

Anonymous

11/30/2024 01:58 PM

Railway tracks road need to be reconstructed in way to not damage the cars when passing over the track. Specifically hwy 6 and hwy 90 junctions!

Anonymous

12/01/2024 09:23 AM

Roundabouts, speed cushions, road diets.

Anonymous

12/02/2024 01:38 PM

I live in Westbury, about 7.5 miles from my work from TMC, and I commute exclusively by Metro bus or by bicycle via the Brays Bayou greenway trail and sometimes down Bellaire/Holcombe after dropping off my kids at school in Bellaire. There are a huge number of TMC employees that live in our area (Westbury, Meyerland, Bellaire), not to mention many more living southwest of us. My co-workers are almost always interested and jealous that I have figured out how to commute by bike and by bus from our, and so many express their desire that they too could commute this way. But there are significant barriers to getting more TMC employees out of cars and into busses and bikes: specifically lack of safe infrastructure and long headways between busses. For example, the 10 bus travels once an hour - this is too great a barrier for most people in our area, as many of us have jobs where we can't predict or control what time we get off work. A metro rail line along Bellfort would be a welcome addition in these neighborhoods and could spur investment and density to relieve much of the congestion in this corridor. Bike infrastructure needs to be improved in two significant ways. First, there need to be safe, separated connections from neighborhoods in Southwest Houston (eg. Meyerland and Westbury) to the Brays Bayou greenway trail. While most SW Houstonians know this trail exists, almost nobody feels comfortable biking the 0-2 miles from their home to the trail. Thus this is a wasted resource. Organizations like Neighborhoods to Trails Southwest (which I am not formally affiliated with) are doing important work to close this gap but they need buy in from and partnership with large players like HGAC. Second, bike infrastructure along or parallel to large arterial roads like Bellaire is also sorely lacking. I encourage anyone on your board to try getting from Bellaire

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	<p>to TMC by bike - it's truly a frightening experience. There's no way the road is safe for bikes (let alone cars), and the sidewalks are narrow and in complete disrepair for much of the trip. This route needs lane reductions for car traffic, dedicated bus lanes, and separated bike/walk lanes. As it stands now, existing infrastructure in this corridor dictates that nearly all residents and employees here must rely on individual vehicles to get to work, even though this is not what many of us would prefer. Please give us safe and healthy non-car option to get to work so that those who really need to arrive by car (eg. sick patients, visitors and employees from very far away) can do so more efficiently.</p>
<p>Anonymous 12/04/2024 08:49 AM</p>	<p>The intersection of 90A @ 610 needs re-work, perhaps a flyover to continue north or south on 90A.</p>
<p>Anonymous 12/04/2024 08:52 AM</p>	<p>Providing a safe way into and out of the area something other than busses.</p>
<p>Anonymous 12/04/2024 08:56 AM</p>	<p>I recommend HOV and bus only lane in each direction during peak periods. the peak periods should be reflective of shift changes in the Texas Medical Center. Hopefully, the HOV/Bus lanes would extend along urban arterials into the METRO TMC transit center.</p>
<p>Anonymous 12/04/2024 09:00 AM</p>	<p>Install advance signage from eastbound 90A to northbound US59. Direct connector would help for eastbound 90A to northbound US59.</p>
<p>Anonymous 12/04/2024 09:09 AM</p>	<p>GRADE SEPERATIONS AT RAILROAD CROSSINGS IN RICHMOND!!!</p>
<p>Anonymous 12/04/2024 11:38 AM</p>	<p>With the high growth and increasing density of development and employment, I highly suggest an public transit option along/within this corridor such as a light rail system along the corridor with transit stations at located at strategic locations along these growth poles/cities.</p>
<p>Anonymous 12/04/2024 02:01 PM</p>	<p>Intersection with rail crossing causing congestion and delays</p>
<p>Anonymous 12/05/2024 09:34 AM</p>	<p>There should be a limited guideway including HOV, but also mass transit option.</p>

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<p>Anonymous 12/05/2024 06:09 PM</p>	<p>Need to identify and soften cross walks</p>
<p>Anonymous 12/06/2024 03:44 PM</p>	<p>None. This is a really good road. I would hate to see the lanes narrowed or removed for bike lanes. Everywhere else lanes have been removed have led to increase congestion. I would say leave it alone as any efforts to "improve it" will make it worse.</p>
<p>Anonymous 12/06/2024 08:01 PM</p>	<p>Any transit investment should focus on connecting bikeable, walkable activity centers. Park &amp; ride is an extremely expensive way to get people on transit. Any transit investment should be conditional on the suburban jurisdictions allowing transit-supportive development.</p>
<p>Anonymous 12/09/2024 07:37 AM</p>	<p>There needs to be mass transit along the US 90A corridor. If a person does not have car in Fort Bend County there is no mass transit into Houston. The County has a bus system that serves some areas like medical center, etc... but it is not an option of the elderly or special needs populations that want to go into Houston for medical care or other services or for entertainment like baseball games, theater, zoo, etc.</p>
<p>Anonymous 12/09/2024 09:55 PM</p>	<p>Less intersections on highway 90</p>
<p>Anonymous 12/10/2024 06:39 AM</p>	<p>I live in Benetian Estates and do not want any bridge crossings near here. Also want to keep the historical Imperial area.</p>
<p>Anonymous 12/10/2024 12:06 PM</p>	<p>Additional grade separations at railroad crossing is going to be essential. Widening and connectivity to I-10 are priorities.</p>
<p>Anonymous 12/10/2024 01:44 PM</p>	<p>So many aggressive drivers on this roadway</p>
<p>Anonymous 12/10/2024 04:20 PM</p>	<p>There are many pinch points.</p>
<p>Anonymous 12/10/2024 06:30 PM</p>	<p>Improve signals and get construction finished</p>
<p>Anonymous</p>	<p>Provide rail transit options</p>

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12/10/2024 09:56 PM

Anonymous

12/11/2024 12:14 AM

Grade separation at Dairy Ashford. Bypass around Stafford business district between Gessner and FM1092.

Anonymous

12/11/2024 12:30 PM

Reduce the number of traffic lights

Anonymous

12/11/2024 07:54 PM

Monitor homeless riders from tmc to southwest

Anonymous

12/12/2024 06:42 AM

Add must Turn right lanes.

Anonymous

12/12/2024 11:20 AM

A light rail line extension from FBC to TMC/Downtown would be the best, quickest and seamless way to get a lot of cars off the streets and improve safety for pedestrians, especially in the denser areas of the route. Tying it in to Metro's existing rail line(s) could also get students who live in FBC to TSU/UH/UHD to school, on time, regardless of traffic.

Anonymous

12/12/2024 02:09 PM

Please improve public transit

Anonymous

12/12/2024 02:57 PM

Please make it more multi-modal especially for pedestrians and bikes

Anonymous

12/12/2024 04:03 PM

Public train service with easy connection to the current system.

Anonymous

12/12/2024 07:43 PM

We need a rail line

Anonymous

12/13/2024 12:31 AM

Most people in Fort Bend won't use public transportation. To independent. Won't give up fancy cars for restricted transportation.

Anonymous

12/13/2024 03:06 AM

I want a rail line along this route direct to the med center.

Anonymous

Please bring elevated rail out this way

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12/13/2024 05:09 PM

Anonymous

12/13/2024 10:10 PM

Light rail would make an excellent choice given its capacity and frequency

Anonymous

12/14/2024 05:52 AM

Light rail from Fort Bend to Medical Center and Downtown. This is the best option and environmentally friendly solution.

Anonymous

12/14/2024 06:46 AM

BRT or light rail are good options if they connect with other existing public transportation alternatives. Elevate the highway in the Stafford area to go over that sequence of stop lights, to reduce congestion and improve local traffic.

Anonymous

12/14/2024 08:00 AM

1. Full freeway interchange at I-610 is long overdue, beginning with NB lanes merging to EB/Loop and WB/Loop exiting to SB lanes. 2. Complete FB Tollway by full freeway connection to South Post Oak Connector/I-610. This will take pressure off 90A if done properly, e.g. flying crossover of Willow Water Hole.

Anonymous

12/14/2024 12:34 PM

Explore light rail mass transit options for the corridor. It would significantly reduce congestion on the road for regular commuters as well as many people who need easier access to these areas from other parts of the city. Consistent rail would help with the timeliness for working commuters as well. Perhaps adding multiple park & ride options near denser suburban developments would allow commuters who take their cars to find a closer place to park and then furthermore take the rail to where they need to go. Also exploring rail options makes the cost of accessibility cheap for many.

Anonymous

12/14/2024 06:44 PM

Please no more lane widening. It's a short term fix and promotes more dangerous driving - people will zig zag through lanes more. Houston needs more public transit, especially lines that connect suburbs to the metro area. Would love to see rail lines connecting SW Houston to med center/nrg/uh/downtown

Anonymous

12/15/2024 10:52 AM

A light rail/ train option would be very useful. BRT and busses would not be popular.

Anonymous

12/15/2024 11:49 AM

Make sure lights still work when the train is running.

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<p>Anonymous 12/16/2024 07:07 AM</p>	<p>Install exit lanes from South Post onto US 90A in both directions.</p>
<p>Anonymous 12/16/2024 07:16 AM</p>	<p>Don't plan to benefit other counties. Most congestion is started because of one lane on 90 to get to 610 heading south east and truckers using the lanes</p>
<p>Anonymous 12/16/2024 07:33 AM</p>	<p>No</p>
<p>Anonymous 12/16/2024 07:39 AM</p>	<p>Drivers need to slow down the speed is too fast.</p>
<p>Anonymous 12/16/2024 08:09 AM</p>	<p>Consider pedestrian/biker bridges over busy streets/roads/highways</p>
<p>Anonymous 12/16/2024 10:28 AM</p>	<p>Concerns: 1) When I drive on 90, the actual speeds are 15-30 mph faster than the posted limits. 2) The left turn from westbound 90 onto Present St is inadequate, and cars going over 65 often have to squeeze to the right to avoid the congestion. Suggestions: 1) Safe pedestrian/cyclist crossings at the rail line are needed. There is no safe crossings at Post Oak, Chimney Rock or Hillcroft. 2) Aside from safe infrastructure for crossings S Main by pedestrians and cyclists, decent sidewalks would allow recreational connections between 5 Corners and Westbury and the Willow Waterhole. This would alleviate a need for custom multi-use trails, though some of those are needed.</p>
<p>Anonymous 12/16/2024 11:28 AM</p>	<p>Hike and Bike trail. Rail system for mass transit to med center, Reliant park, galleria and downtown</p>
<p>Anonymous 12/16/2024 11:49 AM</p>	<p>More advance warning for turn only lanes</p>
<p>Anonymous 12/16/2024 12:00 PM</p>	<p>Allow for use of the City of Houston's Transit Corridor Ordinance throughout why 90 in both counties.</p>
<p>Anonymous 12/16/2024 01:13 PM</p>	<p>90A should be converted into a proper highway with feeder roads</p>
<p>Anonymous 12/16/2024 01:21 PM</p>	<p>RR crossing overpasses are needed and trains length and time of delay at crossings shortened.</p>

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Anonymous  
12/16/2024 01:24 PM

Our population has grown significantly over the last 30 years. We need to put a plan in motion for the next 30 years so our city can continue to grow in a sustainable way

Anonymous  
12/16/2024 01:32 PM

Absolutely against a rail line . It will cause more congestion and will not be used as you still have to park in a lot and Wait for train times . It's efficient enough and a rail line will slow everyone down . It will also bring high crime to neighborhoods that were forced out of Houston due to their high crime and lack of police resources. Leave 90 alone.

Anonymous  
12/16/2024 01:33 PM

Speeding is a concern. It would be nice to see more police presence. There have been lots of accidents with trains too, which needs to be prevented.

Anonymous  
12/16/2024 01:35 PM

Do not extend public transportation along this route such as rail or busses.

Anonymous  
12/16/2024 01:36 PM

Timing the lights, especially with regards to the trains.

Anonymous  
12/16/2024 01:40 PM

Constant train delays

Anonymous  
12/16/2024 01:45 PM

Break down each section of 90 into different needs. Sugar Land 90 near 59 is very different from Stafford hwy 90 going towards Houston.

Anonymous  
12/16/2024 01:49 PM

real commuter trains to TMC, Downtown (and airports)

Anonymous  
12/16/2024 01:51 PM

Where the intersections are closer together the lights need to be better timed. I think roundabouts would cause way to much congestion and need to stay on less crowded roads. Maybe look at closing less traveled cross roads. Main thing is timing and syncing of lights is best.

Anonymous  
12/16/2024 01:58 PM

I work in biotech companies in medical center area. I have to drop off my kids at school and daycare, I'm always running late for dropping off the kids and getting to work. It would be really nice if they were

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	<p>more park and ride area. That way after I drop off the kids, I can just go park at heb on Hwy 6 and university and then just sit in the bus and it takes me to the medical center area. I can be stress free for that much time just listening music or reading a book.</p>
<p>Anonymous 12/16/2024 02:01 PM</p>	<p>Find a better way to exit to grand parkway from westbound 90.</p>
<p>Anonymous 12/16/2024 02:11 PM</p>	<p>It's already on an active train line. Get the light rails out to the suburbs! And make above or below ground crosswalks for pedestrians.</p>
<p>Anonymous 12/16/2024 02:14 PM</p>	<p>Unfortunately, many drivers tend to race down 90 which causes problem from vehicles trying to exit the neighborhood and strip malls and can result in road rage. The timing of the lights with 1464 also needs improvement as there are daily snarls at this junction.</p>
<p>Anonymous 12/16/2024 02:22 PM</p>	<p>Na</p>
<p>Anonymous 12/16/2024 02:26 PM</p>	<p>Express buses in the zone even during events. Better park and ride in the zone.</p>
<p>Anonymous 12/16/2024 02:32 PM</p>	<p>The biggest demographic/Baby Boomers is reaching the age where they will increasingly need/utilize public transportation to the Medical Center and downtown destinations.</p>
<p>Anonymous 12/16/2024 02:35 PM</p>	<p>No</p>
<p>Anonymous 12/16/2024 02:55 PM</p>	<p>Road bike lanes only work if they are separated, safe and maintained a white line is not enough. Multi trail also need to be seperated things moving at different speeds on same "road" cause issues be that pedestrians and bikes or bikes and cars. Think about where people are actually going - a bus only m-f commuter hours doesn't help someone going to drs appointment, or kid going to swim practice</p>
<p>Anonymous 12/16/2024 02:59 PM</p>	<p>Yes 100% opposed! The installation of the light rail in the City of Houston was a nightmare. We don't want this in Sugar Land. Studies prove crime stops where public transit lines stop and Sugar Land is highly rated on safety. We don't want that to change. We don't need a</p>

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	rail.
<p>Anonymous 12/16/2024 03:04 PM</p>	<p>New street technological advances with thought to cars, pedestrians, bikes, walkways.</p>
<p>Anonymous 12/16/2024 04:15 PM</p>	<p>No</p>
<p>Anonymous 12/16/2024 04:47 PM</p>	<p>Too many trains</p>
<p>Anonymous 12/16/2024 05:00 PM</p>	<p>Police more visible and active before and during peak hours. Enforce speed limits.</p>
<p>Anonymous 12/16/2024 05:26 PM</p>	<p>Did I see sidewalks were being added to the new construction at 90 and 99? Why there is nothing to walk to or from.</p>
<p>Anonymous 12/16/2024 05:48 PM</p>	<p>Get more police presence to deter speeding</p>
<p>Anonymous 12/16/2024 06:04 PM</p>	<p>90 is not wide enough to accommodate the number of people who live in this area. With more homes being built in Harvest Green and Alaina being complete, the congestion gets worse by the day. There are not enough street lights between 99 &amp; hwy 6. The traffic at 90 &amp; 99/1464 is unbearable in the mornings.</p>
<p>Anonymous 12/16/2024 06:20 PM</p>	<p>I feel with the cities along this road any widening would only move the congestion to a different spot not far away as well as make it worse. Inviting more people to 1 party instead of have several parties never makes for good outcome.</p>
<p>Anonymous 12/16/2024 06:21 PM</p>	<p>Safety</p>
<p>Anonymous 12/16/2024 07:28 PM</p>	<p>Concern for speeding and following too close. Need more police presence to slow everyone down. Bad during 7:30-8 am and 3pm</p>
<p>Anonymous 12/16/2024 07:56 PM</p>	<p>It is a highway for local access and not 59/69 which is for long distance commutes. Changing it to use for commuting at high speeds</p>

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	would take away a main method of moving around within Sugar Land.
Anonymous 12/16/2024 08:22 PM	No
Anonymous 12/16/2024 09:19 PM	I am sure that you have looked at other cities and their models regarding this. We all know that there will not be any cops enforcing along the way. Too many accidents are caused by those that are speeding and have no respect for other drivers!
Anonymous 12/16/2024 10:49 PM	Public transit... we need to get people off the road some are terrified and go way to slow and some are insane and go way to fast..either having public transport along there would help save lives
Anonymous 12/17/2024 04:54 AM	Extremely against the expense of adding any type of rail
Anonymous 12/17/2024 04:59 AM	We would use a light rail. Also, would like to see a multi use trail behind barricade to make it safe for cyclists.
Anonymous 12/17/2024 05:46 AM	Something must be done at the Hwy 90 / Loop 610 interch.
Anonymous 12/17/2024 06:40 AM	My concerns are that non-residents of fort bend county will have access to public transportation into fort bend county. The main population that concerns me is the homeless population. They have a right to use public transportation, but it is not desirable for homeless people to move to our county. We don't have enough shelters to provide them with shelter.
Anonymous 12/17/2024 07:27 AM	Current commuter transit (park & ride) closest to me only gives access to TMC. There isn't a timely downtown option. Finding a suitable BRT or rail connection to the Red Like would be ideal.
Anonymous 12/17/2024 07:42 AM	People drive crazy and are always running yellow and red lights. Cameras would be great. If you are not doing anything wrong they won't bother you?
Anonymous	A flyover to pass 610 so that there isn't much congestion at the 610

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<p>12/17/2024 08:03 AM</p>	<p>light. It would be similar to how Hwy 6 has a flyover at the I10 intersection for those who are trying to go straight to alleviate congestion at the I10 light. A flyover on top of 610 for people going straight on 90 to go to Med Center or the other way coming from Med Center going towards Missouri City would help alleviate the congestion at the I90 and 610 light. There would be lanes dedicated to turning left or right to the 610 feeder road and obviously going straight if accidentally exited to 610 light. This would also be similar to the Hwy 6 flyover at the I90 intersection to avoid the railroad track.</p>
<p>Anonymous 12/17/2024 08:47 AM</p>	<p>Increase the speed limit. Create more lanes, especially turn lanes, where congestion is a problem. Create multiple left and/or right turn lanes. Several intersections get severely congested just because of the amount of drivers who need to exit or turn right. Also, utilize Yellow left turn signals at intersections! We should be allowed to turn left if no cars are approaching, which occurs all the time.</p>
<p>Anonymous 12/17/2024 10:53 AM</p>	<p>Add public metro train transportation from sugarland to medical center. Improve lighting on hwy 90, improve lanes and paint on the floor for clear lanes. Improve exit signage. Too hard to read some.</p>
<p>Anonymous 12/17/2024 02:59 PM</p>	<p>Traffic needs to be calmed. People need alternative options to driving. Speeding/reckless driving needs to be cracked down on. Improving public transit is a must as people need to have other options to driving.</p>
<p>Anonymous 12/18/2024 02:47 AM</p>	<p>Just beautify the area, make safe and less is better. No clutter of rail lines. No increase in busses</p>
<p>Anonymous 12/18/2024 07:43 AM</p>	<p>Too damn hot in Houston for bicycle commuting. Stop wasting money on empty bike lanes just because of Federal grants</p>
<p>Anonymous 12/18/2024 04:44 PM</p>	<p>I was driving from Richmond back to Sugar Land, and the folks waiting to make a left turn over the railroad tracks filled the left hand turn lane and backed up into the left lane for quite a distance. The only lane that was drivable was the right hand lane.</p>
<p>Anonymous 12/19/2024 02:08 AM</p>	<p>Stronger middle of the road median... I've seen cars can flip and go into the oncoming lane</p>

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<p>Anonymous 12/19/2024 08:34 AM</p>	<p>The entire metroplex needs alternatives to cars. If you are low income, your travel is restricted. Car is pretty much the only way and that's expensive. Are people maintaining and insuring their cars effectively? To not do so is a danger to all, but out of range of many in low income. Expand light rail - easy on the environment and will transport more people safely, thereby easing congestion.</p>
<p>Anonymous 12/19/2024 02:35 PM</p>	<p>Raise the speed limit. People are going 80 there anyway.</p>
<p>Anonymous 12/19/2024 04:43 PM</p>	<p>The train delays everything, there are too many lights in between sections</p>
<p>Anonymous 12/19/2024 05:35 PM</p>	<p>There is such a big need for passenger rail, unlike the fort bend bus service, thus would mobilize folks in both directions for work, for healthcare, for sports, and for the zoo, rodeo, any shows near the NRG, and create a faster less congested corridor</p>
<p>Anonymous 12/19/2024 07:12 PM</p>	<p>US 90A is a major commuter route and needs to be widened and treated as the freeway it essentially is. All that old property that causes congestion in Stafford and Missouri City needs to be razed. The section from Grand Parkway to 59 needs to be consistently a freeway. Create a 2 lane side road for getting on and off.... But 90 is going to have to be a freeway. Build overpasses like the one at 359 and 90 to keep the traffic flowing!</p>
<p>Anonymous 12/19/2024 09:13 PM</p>	<p>What is needed is light rail using the Union Pacific Railway. The plan was backed by the Kate Mayor Leonard Scacella of Stafford, but was blocked by the railroad.</p>
<p>Anonymous 12/20/2024 05:41 AM</p>	<p>The intersection at 90 and HWY6 has a different traffic light pattern from any intersection in Sugar Land. This difference causes several accidents that could be avoided by going to the more traditional system of one direction at a time in a clockwise fashion.</p>
<p>Anonymous 12/20/2024 07:18 PM</p>	<p>Most congestion is at 90 and 610. An overpass or other way to connect the two freeways would help. An HOV lane would also be nice.</p>
<p>Anonymous 12/23/2024 10:11 AM</p>	<p>Fort Bend Transit bus services are very good, but not sufficient for area commuters. Light rail is long overdue!!</p>

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- Anonymous**  
12/24/2024 08:03 AM  
Improve safety and better signal traffic and improve congestion by adding more overpasses
- Anonymous**  
12/24/2024 08:09 AM  
Build more overpasses and widen roads. Too many traffic intersections in Sugar Land and Stafford slow down the traffic.
- Anonymous**  
12/24/2024 08:14 AM  
I dont know whether it is too late to make this kind of suggestions but I would like to say it would be more advantage if possible to extend the route which includes the area of Needville, Guy and Damon area as well.
- Anonymous**  
12/24/2024 08:46 AM  
This corridor is very dull to drive. Feels boring. Needs better views or commercial spaces.
- Anonymous**  
12/24/2024 07:27 AM  
We need more planned roads
- Anonymous**  
12/24/2024 07:46 AM  
Speeding is an issue
- Anonymous**  
12/24/2024 08:06 AM  
Train might be better public transportation considering there are already tracks next to US 90
- Anonymous**  
12/25/2024 08:19 PM  
Light rail down US90A to grand parkway. Stops at highway 6, 59, Stafford, beltway, south post oak, final stop at Fannin station.
- Anonymous**  
12/26/2024 08:01 AM  
Houston needs rail. It is too large of a city to not have a decent rail system. I have traveled all over the world and many cities smaller than Houston have robust rail/bus systems that people use and that development builds around. It makes no sense to allow development first, then try to build transit to it. Transit corridors should be preferred development areas.
- Anonymous**  
12/26/2024 09:37 AM  
Put a transit line in starting in Rosenberg to the Medical Center. If its a bus then a few stops along the way. If it's a train then this New line can connect with the red line at one stop they can share. I would take this to the Texans games and jump on the red line to go to the Rockets and the Astro games downtown.

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<p>Anonymous 12/26/2024 11:32 AM</p>	<p>Park and ride speed rail system from Richmond area to Texas Medical Center.</p>
<p>Anonymous 12/26/2024 10:23 PM</p>	<p>Widen and out of Barrier between two opposite lane</p>
<p>Anonymous 12/28/2024 05:28 AM</p>	<p>No one in FBC will use public transportation. Too dependant on their own transportation methods. People don't want to give up their fancy cars to sit next to someone they don't know on dirty public transportation. Waste of money pushing this agenda for political reasons. You know you want see any of these politicians riding this everyday day.</p>
<p>Anonymous 12/28/2024 09:31 AM</p>	<p>See the above note on traffic flow.</p>
<p>Anonymous 12/28/2024 07:46 PM</p>	<p>Do not want public rail or bus to ft bend.</p>
<p>Anonymous 12/29/2024 06:16 AM</p>	<p>Make it more like a highway</p>
<p>Anonymous 12/29/2024 11:50 AM</p>	<p>This corridor needs rail and full freeway connectivity to 610 and 69.</p>
<p>Anonymous 12/29/2024 04:27 PM</p>	<p>Nonstop Highway bypass of Stafford and Sugar Land, with a passenger rail option in the center of the freeway</p>
<p>Anonymous 12/29/2024 09:40 PM</p>	<p>We need light rail the traffic is very congestion morning and evening time</p>
<p>Anonymous 12/30/2024 02:51 AM</p>	<p>Connector ramps to South Loop /610 same connector ramps to Sam Houston Pkwy</p>
<p>Anonymous 12/30/2024 06:39 AM</p>	<p>Overall, definitely the signal lights need to be more synchronized and allowed to stay green a little bit longer. US90 at Dairy Ashford is a 2-3 second green light. Traffic is often at its peak during morning and evening rush hour commute and a good time to see what's going on congestion wise. All in all perhaps Metro could expand services</p>

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outside of Houston or other mass transit services need to be eventually considered.

Anonymous

12/31/2024 07:20 AM

All they have to do is time the lights. Like the lights on 90 should be green for about 5 minutes so the traffic can move forward. This is what Mayor Bill White did in the 2000's in downtown. They also need to add highway 90 to the "tow and go" system that the city of Houston offers. There is always a car that breaks down that is in a critical lane causing traffic to slow down and it bottle necks right there at rush hour traffic in the mornings and at night. No body wants a light rail because no one wants to ride with homeless folks in the same bus or deal with them at the stops. There is no security around and metro police don't even respond in a timely fashion. You call 911 in the city of Houston, the response time is almost an hour to send a police officer out. The police officers don't like doing reports. If you have that kind of culture, things are not going to get better. Look at the city of new york, the crime is so bad, they had to send the national guard because the police are not even doing their job. If you care about public safety, the metro police need to be able to respond to events right away not wait an hour to come to the pick up transit spot.

Anonymous

12/31/2024 01:06 PM

During rush hour 90A is packed, but outside rush hour the main roads where I drive are empty and many drivers speed terribly. Good commuter transit would help get rush hour drivers off the road to alleviate rush hour traffic, and the main lanes could be reduced which would help discourage speeding during off hours. There should also be wide safe multi-use trails and sidewalks for people making local trips to travel safely without getting in their cars and further clogging up the road.

Anonymous

12/31/2024 06:21 PM

We do not need or want public transportation or mixed bicycle lanes .

Anonymous

1/01/2025 06:53 AM

Put a training existing tracks

Anonymous

1/01/2025 10:14 AM

Rail system that connects to existing downtown train service and possible train service that connects to IAH and/or HOU.

Anonymous

1/01/2025 12:58 PM

Stop trying to add anything to it. It sounds like there isn't enough revenue coming from 90 for Texas construction contract companies, so the Houston Galveston council want to line their pockets with bribes and give out these contract jobs to these predatory

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	companies. In the end the citizens will have to pay for it through disruption in commute time due to construction and financially.
Anonymous 1/02/2025 10:02 AM	COMMUTER RAIL
Anonymous 1/02/2025 06:10 PM	There should be commuter rail along every single major roadway - 59 and/or 90A, 10, 45, 288, 290, 610, BW8, and 99
Anonymous 1/03/2025 07:43 AM	Safety is a major concern for residents, business owners, and visitors due to the diversity of unsafe users. Security is needed now and with the improvements for safe transportation at all times. Ensure that older areas have the same advantage from the improvements as areas that are more economically advanced. Beautification must be a part of improvements as well for a pleasant experience during travel times on the corridor.
Anonymous 1/03/2025 08:43 PM	Safety is a big concern for construction on 90A. Murphy road gets congested easily during rush hour.
Anonymous 1/04/2025 07:23 PM	A light rail option from Sugar Land to downtown Houston. Build a parking lot and rail station next to the Sugar Land airport.
Anonymous 1/06/2025 02:35 PM	Some sort of rail line
Anonymous 1/08/2025 04:18 AM	A train would be great from SL to Houston
Anonymous 1/08/2025 06:27 AM	Express light rail direct to med center would be a great addition and likely used by a lot of commuters who are tired of the traffic.
Anonymous 1/08/2025 11:39 AM	improve safety
Anonymous 1/08/2025 08:47 PM	There is always large debris on the road and most of the time is industrial material. Road clean up should be taken seriously.
Anonymous	RAIL

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1/09/2025 04:46 AM

Anonymous

1/10/2025 05:22 AM

Make the turning lane mentioned about a dedicated lane and the middle lane an optional turning lane.

Anonymous

1/10/2025 07:41 PM

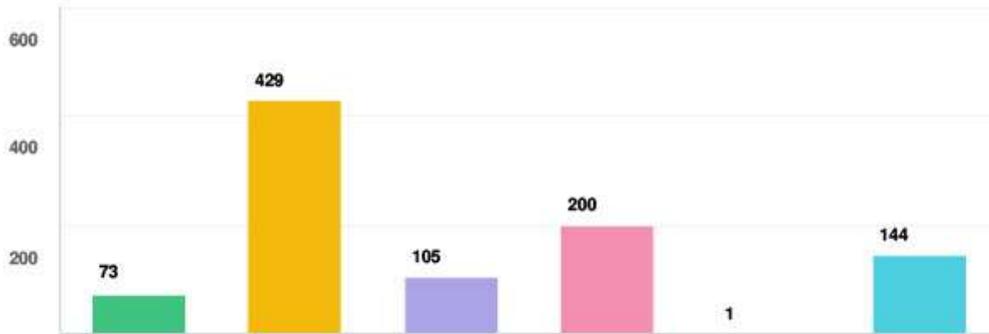
Yes, let's use public transport using the rail lines that go into downtown.

**Optional question** (382 response(s), 540 skipped)

**Question type:** Essay Question

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**Q10 Please indicate your race and/or ethnicity (Select all that apply):**

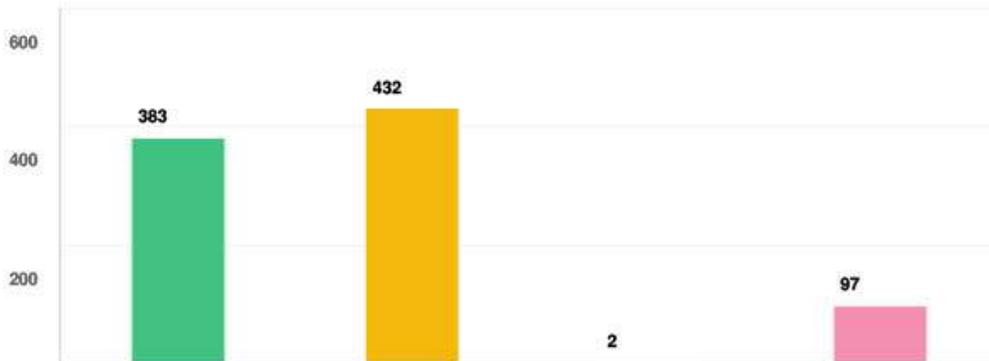


**Question options**

- Black or African-American
- White/Caucasian
- Hispanic/Latino
- Asian/Pacific Islander
- Native American/Indigenous
- Prefer Not to Answer

*Optional question (913 response(s), 9 skipped)*  
*Question type: Checkbox Question*

**Q11 What gender do you identify as?**



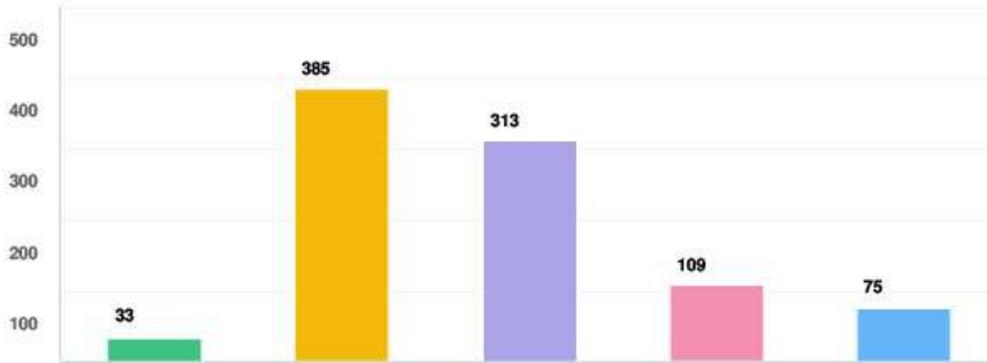
**Question options**

- Female
- Male
- Other
- Prefer Not to Answer

*Optional question (914 response(s), 8 skipped)*  
*Question type: Checkbox Question*

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**Q12 What is your age?**

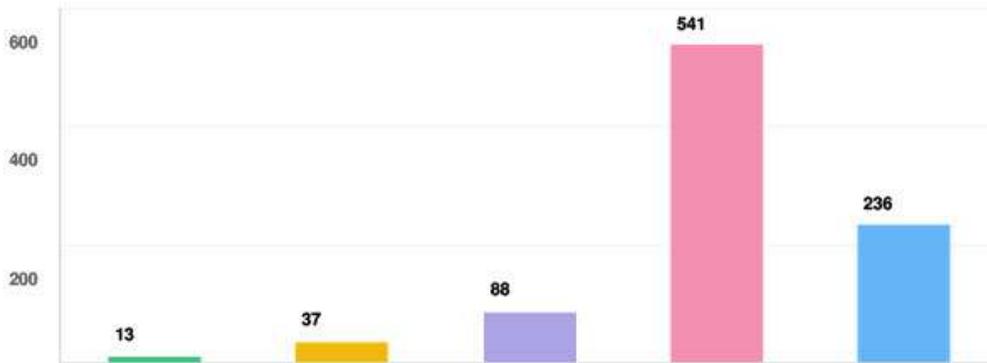


**Question options**

- 18-25
- 26-45
- 46-65
- 66 or older
- Prefer not to answer

*Optional question (915 response(s), 7 skipped)*  
*Question type: Checkbox Question*

**Q13 Please indicate your annual income:**



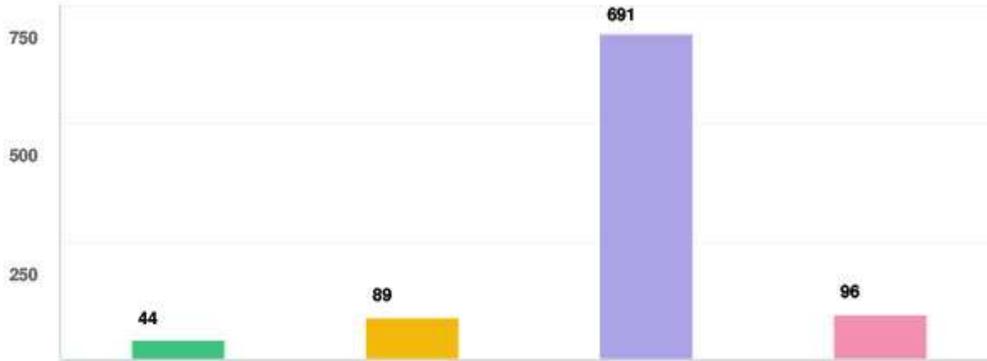
**Question options**

- \$25,000 or less
- \$25,001 - \$50,000
- \$50,001 - \$75,000
- \$75,001 or more
- Prefer not to answer

*Optional question (915 response(s), 7 skipped)*  
*Question type: Checkbox Question*

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**Q14 Do you or someone in your household have a disability? (select all that apply)**



**Question options**

- Yes, myself
- Yes, someone besides myself
- No
- Prefer Not to Say

*Optional question (914 response(s), 8 skipped)*  
*Question type: Checkbox Question*

**Q15 What, if any, languages other than English are spoken in your home? (open question)**

- |                                  |           |
|----------------------------------|-----------|
| Anonymous<br>10/19/2024 03:53 PM | HINDI     |
| Anonymous<br>10/19/2024 08:09 PM | Malayalam |
| Anonymous<br>10/20/2024 08:18 AM | Spanish   |
| Anonymous<br>10/21/2024 01:50 PM | None      |
| Anonymous<br>10/21/2024 03:02 PM | German    |
| Anonymous<br>10/21/2024 03:03 PM | German    |

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Anonymous 11/07/2024 10:38 AM	Spanish
Anonymous 11/08/2024 07:09 AM	none
Anonymous 11/08/2024 08:05 AM	Na
Anonymous 11/14/2024 01:49 PM	Filipino
Anonymous 11/18/2024 09:07 AM	Spanish, Chinese, French, Russian
Anonymous 11/18/2024 09:17 AM	None
Anonymous 11/18/2024 09:18 AM	None
Anonymous 11/18/2024 09:24 AM	Chinese
Anonymous 11/18/2024 09:27 AM	None
Anonymous 11/18/2024 09:27 AM	None
Anonymous 11/18/2024 09:34 AM	Urdu, hindi
Anonymous 11/18/2024 09:37 AM	Spanish
Anonymous 11/18/2024 09:38 AM	Urdu
Anonymous 11/18/2024 09:39 AM	NA

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Anonymous 11/18/2024 09:41 AM	German
Anonymous 11/18/2024 09:48 AM	Urdu
Anonymous 11/18/2024 10:00 AM	Spanish
Anonymous 11/18/2024 10:07 AM	N/A
Anonymous 11/18/2024 10:14 AM	None
Anonymous 11/18/2024 10:17 AM	Spanish
Anonymous 11/18/2024 10:21 AM	Spanish
Anonymous 11/18/2024 10:36 AM	Greek and Hebrew
Anonymous 11/18/2024 10:36 AM	N/A
Anonymous 11/18/2024 10:40 AM	Spanidsh
Anonymous 11/18/2024 10:44 AM	Nome
Anonymous 11/18/2024 11:13 AM	english
Anonymous 11/18/2024 11:13 AM	Spanish
Anonymous 11/18/2024 11:14 AM	Spanish

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Anonymous 11/18/2024 11:47 AM	Chinese
Anonymous 11/18/2024 12:02 PM	Spanish, Portuguese, Italian
Anonymous 11/18/2024 12:07 PM	N/A
Anonymous 11/18/2024 12:20 PM	Hindi
Anonymous 11/18/2024 12:25 PM	Malayalam
Anonymous 11/18/2024 12:37 PM	Spanish and mandarin
Anonymous 11/18/2024 01:03 PM	English is primary and only language spoke.
Anonymous 11/18/2024 01:39 PM	Mandarin
Anonymous 11/18/2024 01:57 PM	Spanish
Anonymous 11/18/2024 02:48 PM	Arabic
Anonymous 11/18/2024 02:56 PM	Spanish
Anonymous 11/18/2024 03:28 PM	Spanish
Anonymous 11/18/2024 04:09 PM	ASL
Anonymous	Spanish

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11/18/2024 04:36 PM

Anonymous none  
11/18/2024 05:10 PM

Anonymous Spanish  
11/18/2024 05:27 PM

Anonymous No  
11/18/2024 06:01 PM

Anonymous Hindi and Gujarati  
11/18/2024 06:37 PM

Anonymous Urdu  
11/18/2024 07:31 PM

Anonymous German, Hungarian  
11/18/2024 07:33 PM

Anonymous No  
11/18/2024 08:17 PM

Anonymous Spanish  
11/18/2024 08:18 PM

Anonymous German  
11/18/2024 08:30 PM

Anonymous Prefer not to say  
11/19/2024 03:14 AM

Anonymous We are a bilingual family. Spanish and English.  
11/19/2024 03:40 AM

Anonymous Hiligaynon  
11/19/2024 03:51 AM

Anonymous spanish  
11/19/2024 04:26 AM

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Anonymous 11/19/2024 05:38 AM	N/A
Anonymous 11/19/2024 05:39 AM	Spanish
Anonymous 11/19/2024 05:47 AM	Spanish
Anonymous 11/19/2024 07:22 AM	English
Anonymous 11/19/2024 07:28 AM	Hindi
Anonymous 11/19/2024 07:42 AM	Chinese
Anonymous 11/19/2024 08:52 AM	Spanish
Anonymous 11/19/2024 10:18 AM	Malayalam
Anonymous 11/19/2024 11:34 AM	ENGLISH
Anonymous 11/19/2024 12:38 PM	No
Anonymous 11/19/2024 04:30 PM	English only
Anonymous 11/19/2024 07:16 PM	None
Anonymous 11/19/2024 07:21 PM	Spanish
Anonymous 11/19/2024 07:25 PM	Tamil

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Anonymous 11/19/2024 08:57 PM	Spanish
Anonymous 11/20/2024 04:31 AM	Spanish
Anonymous 11/20/2024 05:11 AM	spanish
Anonymous 11/20/2024 07:08 AM	spanish. urdu
Anonymous 11/20/2024 10:07 AM	Spanish
Anonymous 11/20/2024 11:14 AM	Spanish
Anonymous 11/20/2024 06:42 PM	None
Anonymous 11/20/2024 07:12 PM	Spanish
Anonymous 11/20/2024 08:04 PM	Urdu
Anonymous 11/20/2024 08:23 PM	N/A
Anonymous 11/20/2024 10:10 PM	n/a
Anonymous 11/21/2024 04:54 AM	None
Anonymous 11/21/2024 08:50 AM	urdu
Anonymous 11/21/2024 07:08 AM	German

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Anonymous 11/21/2024 10:25 AM	Vietnamese
Anonymous 11/21/2024 10:41 AM	Spanish
Anonymous 11/21/2024 07:13 PM	Spanish
Anonymous 11/22/2024 06:42 AM	english nd spanish
Anonymous 11/22/2024 09:14 AM	English
Anonymous 11/22/2024 09:17 AM	Spanish
Anonymous 11/22/2024 09:54 AM	English
Anonymous 11/22/2024 11:38 AM	Spanish
Anonymous 11/22/2024 12:08 PM	Spanish
Anonymous 11/22/2024 06:49 PM	Mandarin
Anonymous 11/23/2024 03:37 AM	Not Applicable
Anonymous 11/23/2024 10:04 AM	Chinese
Anonymous 11/24/2024 12:28 AM	Spanish
Anonymous	Indian Gujarati

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11/24/2024 10:41 AM

**Anonymous**                      **Mandarin**  
11/24/2024 12:47 PM

**Anonymous**                      **Hindi, Gujrati**  
11/24/2024 07:22 PM

**Anonymous**                      **Nonr**  
11/25/2024 03:01 AM

**Anonymous**                      **Spanish**  
11/27/2024 07:53 AM

**Anonymous**                      **Hindi & Urdu**  
11/28/2024 10:14 AM

**Anonymous**                      **N/A**  
11/28/2024 12:27 PM

**Anonymous**                      **Hindi, Urdu**  
11/30/2024 01:58 PM

**Anonymous**                      **Mandarin**  
11/30/2024 08:20 PM

**Anonymous**                      **Spanish**  
12/01/2024 09:23 AM

**Anonymous**                      **Korean**  
12/02/2024 01:38 PM

**Anonymous**                      **Korean**  
12/04/2024 08:50 AM

**Anonymous**                      **Spanish**  
12/04/2024 08:52 AM

**Anonymous**                      **Arabic**  
12/04/2024 11:38 AM

US 90A Corridor Transit Study - Survey : Survey Report for 18 March 2021 to 15 January 2025

Anonymous 12/04/2024 02:01 PM	ibo
Anonymous 12/05/2024 06:09 PM	None
Anonymous 12/06/2024 03:44 PM	None.
Anonymous 12/08/2024 12:06 PM	None
Anonymous 12/09/2024 05:41 PM	Spanish
Anonymous 12/10/2024 04:20 PM	Spanish
Anonymous 12/11/2024 12:14 AM	None
Anonymous 12/11/2024 07:54 PM	N/a
Anonymous 12/12/2024 03:31 PM	Spanish
Anonymous 12/13/2024 10:10 PM	Spanish
Anonymous 12/14/2024 05:52 AM	Tamil
Anonymous 12/14/2024 06:22 AM	prefer not to answer
Anonymous 12/14/2024 06:46 AM	Portuguese
Anonymous 12/14/2024 12:11 PM	English, German

US 90A Corridor Transit Study - Survey : Survey Report for 18 March 2021 to 15 January 2025

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Anonymous 12/14/2024 12:34 PM	N/A
Anonymous 12/16/2024 07:07 AM	None
Anonymous 12/16/2024 07:16 AM	NA
Anonymous 12/16/2024 07:33 AM	None
Anonymous 12/16/2024 11:26 AM	Telugu, Hindi
Anonymous 12/16/2024 12:19 PM	Farsi
Anonymous 12/16/2024 01:08 PM	N/A
Anonymous 12/16/2024 01:10 PM	Spanish
Anonymous 12/16/2024 01:13 PM	Spanish
Anonymous 12/16/2024 01:15 PM	English.
Anonymous 12/16/2024 01:58 PM	Urdu, hindi
Anonymous 12/16/2024 02:02 PM	This is America,we speak the kings English
Anonymous 12/16/2024 02:20 PM	s
Anonymous 12/16/2024 02:24 PM	spanish

US 90A Corridor Transit Study - Survey : Survey Report for 18 March 2021 to 15 January 2025

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Anonymous 12/16/2024 02:26 PM	None
Anonymous 12/16/2024 02:43 PM	Spanish
Anonymous 12/16/2024 02:55 PM	Spanish
Anonymous 12/16/2024 02:59 PM	English, Spanish, Italian
Anonymous 12/16/2024 03:47 PM	N/a
Anonymous 12/16/2024 04:13 PM	Turkish
Anonymous 12/16/2024 08:21 PM	None
Anonymous 12/16/2024 08:49 PM	Spanish
Anonymous 12/16/2024 08:02 PM	Dd
Anonymous 12/17/2024 02:34 AM	Spanish and French
Anonymous 12/17/2024 02:44 AM	English only
Anonymous 12/17/2024 04:53 AM	Spanish
Anonymous 12/17/2024 07:02 AM	Espanol
Anonymous	n/a

US 90A Corridor Transit Study - Survey : Survey Report for 18 March 2021 to 15 January 2025

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12/17/2024 07:27 AM

Anonymous VIETNAMESE  
12/17/2024 08:47 AM

Anonymous Spanish  
12/17/2024 10:44 AM

Anonymous English  
12/17/2024 10:53 AM

Anonymous spanish  
12/17/2024 08:16 PM

Anonymous Spanish  
12/18/2024 07:32 PM

Anonymous Click  
12/19/2024 02:35 PM

Anonymous N/a  
12/19/2024 07:23 PM

Anonymous Spanish  
12/19/2024 09:13 PM

Anonymous Spanish  
12/21/2024 06:32 AM

Anonymous Vietnamese  
12/24/2024 05:13 AM

Anonymous Yes, but most of the time English  
12/24/2024 06:14 AM

Anonymous Hindi, Gujarati, Marathi, Tamil, Kutchhi  
12/24/2024 06:46 AM

Anonymous English only  
12/26/2024 09:37 AM

US 90A Corridor Transit Study - Survey : Survey Report for 18 March 2021 to 15 January 2025

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Anonymous 12/27/2024 04:13 AM	None
Anonymous 12/27/2024 07:49 PM	Kannada, French, Russian
Anonymous 12/28/2024 05:29 AM	Spanish
Anonymous 12/29/2024 04:27 PM	Gujarati
Anonymous 12/30/2024 02:51 AM	Spanish
Anonymous 12/31/2024 06:21 PM	Spanish
Anonymous 1/01/2025 02:38 AM	Hindi
Anonymous 1/01/2025 10:14 AM	English only
Anonymous 1/02/2025 10:02 AM	Urdu
Anonymous 1/02/2025 07:30 PM	Urdu
Anonymous 1/03/2025 07:43 AM	N/A
Anonymous 1/07/2025 04:31 PM	none
Anonymous 1/08/2025 06:27 AM	NA
Anonymous 1/09/2025 04:46 AM	None

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US 90A Corridor Transit Study - Survey : Survey Report for 18 March 2021 to 15 January 2025

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Anonymous

Spanish

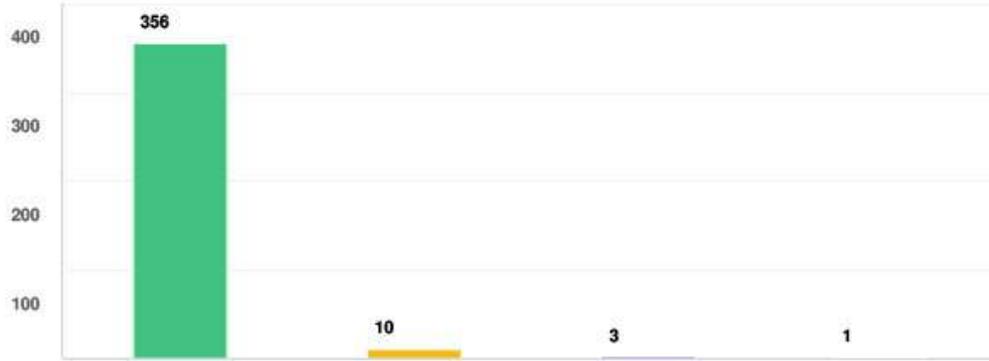
1/11/2025 05:29 AM

**Optional question** (186 response(s), 736 skipped)

**Question type:** Single Line Question

US 90A Corridor Transit Study - Survey : Survey Report for 18 March 2021 to 15 January 2025

**Q16** If English is not the primary language in your home, how would you describe your proficiency in English?



**Question options**

- Fluent
- Conversational
- Limited English
- Do not speak any English

Optional question (366 response(s), 556 skipped)  
Question type: Checkbox Question

## 12.2 Public Meeting Summary document produced by Hollaway



### Documentation of Public Meeting

**Project Name**

US 90A Transit Corridor Study

**Project Limits**

US 90A from North of SH 288 to the Texas Medical Center

**Meeting Location**

Fort Bend County Libraries – Missouri City Branch  
1530 Texas Parkway, Missouri City, 77489

**Meeting Date and Time**

Wednesday, April 23, 2025, from 6 to 8 p.m.

**Translation Services**

No languages other than English were spoken or requested

**Presenters**

Thomas Gray, Project Manager, Houston-Galveston Area Council  
Laura Grams, Traffic Planning Consultant, HDR, Inc.

**Elected Officials in Attendance**

Rodrigo Carreon, Fort Bend Fresh Water Supply District 1  
Representative of U.S. Congresswoman Lizzie Fletcher, TX-7  
Floyd Emery, Missouri City Councilmember, District D  
Shaneka Smith, Chief of Staff for KP George, Fort Bend County Judge  
Birdie Kelley, Representative of Senator Al Green, TX-9  
Grady Prestage, Fort Bend County Commissioner, Precinct 2  
Wendi Lojo, District Liaison for Senator Joan Huffman  
Ryan Dunsmore, Project Manager for Grady Prestage  
Jeffrey L. Boney, Missouri City City Council, District B  
Eddie Nagorski, P.E., City of Missouri City  
Perdita Chavis, Chief of Staff for Houston Mayor Pro Tem Martha Castex-Tatum  
Andy Meyers, Fort Bend County Commissioner, Precinct 2  
Brenda Patton, Director of Community-Government Relations  
Monica Riley, Missouri City City Council, District A  
Rachael Rodriguez, District Director for Congressman Al Green, TX-9

**Approx. Number of Attendees, including Elected Officials and Steering Committee and Stakeholders**

62

## Contents

- A. Public Meeting Summary
- B. Comments
- C. Noticing Materials
- D. Sign-in Sheet(s) from the Public Meeting
- E. Public Meeting Presentation
- F. Exhibits/Displays Available at the Public Meeting
- G. Photos from the Public Meeting

## A. Public Meeting Summary

The Houston-Galveston Area Council (H-GAC), in partnership with the Gulf Coast Rail District (GCRD), conducted a study to develop feasible and reasonable transit alternative(s) for the US 90A Highway corridor.

The US 90A Highway corridor parallels the Union Pacific Railroad (UPRR) Glidden Subdivision and passes through some of Fort Bend County's most significant and growing urban developments, including the cities of Missouri City, Stafford, Sugarland, Richmond, and Rosenberg, as well as communities in Southwest Houston. At the corridor's eastern end is the Texas Medical Center, a major employment center that is the destination for many Fort Bend County commuters. The US 90A Highway itself does not currently have any transit priority infrastructure, even though it provides a key connection between Fort Bend County and the Texas Medical Center. Furthermore, despite several studies considering commuter rail along the UPRR Glidden Subdivision, UPRR has maintained that commuter rail along its right-of-way is not part of its business model and is therefore not a feasible transit solution for this corridor.

The purpose of this study was to assess the technological and economic feasibility of establishing and operating efficient transit service along this corridor, using modal options including light rail transit and bus rapid transit, that could have significant benefits to mobility within the region. The goal of this study was to generate feasible and reasonable transit alternative(s) for this corridor that can be advanced into more detailed study and analysis, with an eye towards implementation.

H-GAC held a public meeting on April 23, 2025, at the Missouri City Branch of the Fort Bend County Library System to present the proposed transit alternatives to elected officials, stakeholders, and residents along the study area, and collect their feedback. Sixty-two people attended the meeting, where they listened to a presentation about the study, conversed with study team members around the room, and left written comments.

The written comments will be incorporated into the final report for the US 90A Transit Corridor Study.

## **B. Comments**



## COMMENT FORM US 90A TRANSIT CORRIDOR STUDY PUBLIC MEETING - APRIL 23, 2025

Please write your contact information and comments using the form below (see back of form for additional space).

First Name: Joel

Last Name: Samuel

Affiliation/Organization: Resident of Sugar Land

Email: jsamu53043@gmail.com

Questions or Comments: I would definitely like to see a quick & reliable transit line that serves the Sugar Land Area. Currently traffic along 59 is getting more congested so something that has its own alignment would be nice. It would be extremely beneficial if this line connects important areas like the Medical center, Hobby Airport, Midtown, & Downtown.

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## COMMENT FORM

### US 90A TRANSIT CORRIDOR STUDY

### PUBLIC MEETING - APRIL 23, 2025

Please write your contact information and comments using the form below (see back of form for additional space).

First Name: EARL

Last Name: SHOUSE

Affiliation/Organization: \_\_\_\_\_

Email: earl6401@yahoo.com

Questions or Comments: \_\_\_\_\_

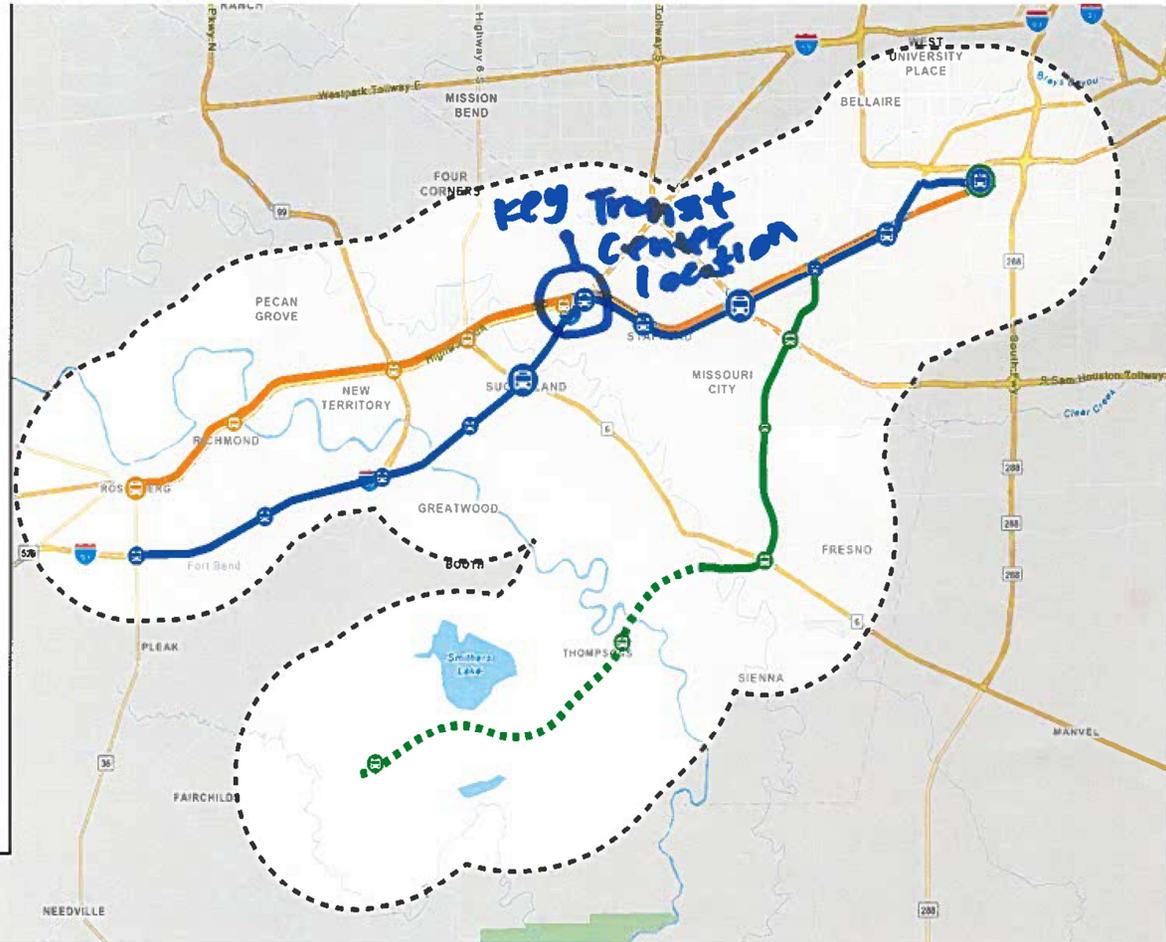
Who is studying the weather in these areas. Many people have heard of 1900 hurricane that killed 6000 in Galveston and was the worst natural disaster in U.S. for a century. They don't remember but the 1905?? storm that hit Fort Bend County. 3 rivers merged. I think it was the Brazos River, San Bernard + Colorado River at Needville that merged - i.e. one solid sheet of water. That's 120 years ago that no living person remembers. It was before global warming existed.

The Barker Reservoir was engineered + built 70+ years ago based on storm studies at that time. ~~which~~ If Barker dam breaks Buffalo Bayou floods downtown Houston. If you raise the height of its levee to contain more water, that flood the developments around it.

Someone needs to do flood study before you decide anything. You may need to evacuate 6,000,000 uphill from Houston. That could grow to 10,000,000. ~~if the~~ I hear a train (one car) can handle 15,000 passenger a day. So how many months does it take to evacuate Houston when the roads are flooded.

# Potential Stations & Ridership

- METRONext Potential Station Locations (Daily Projected Boardings)**
- 280 - 500
  - 500 - 1250
  - 1250 - 2500
  - 2500 - 4264
- US90A HCT Potential Station Locations (Daily Projected Boardings)**
- 280 - 500
  - 500 - 1250
  - 1250 - 2500
  - 2500 - 4264
- US90A HCT Potential Station Locations (Daily Projected Boardings)**
- 280 - 500
  - 500 - 1250
  - 1250 - 2500
  - 2500 - 4264
- US90A Project Alignments**
- US 90A Transit
  - US 90A US 59-METRONext
  - US 90A HCT
  - US 90A Fort Bend Tollway
- Fort Bend Tollway Extension (not constructed)**
- Fort Bend Tollway Extension (not constructed)
- Study Area**





### COMMENT FORM US 90A TRANSIT CORRIDOR STUDY PUBLIC MEETING - APRIL 23, 2025

Please write your contact information and comments using the form below (see back of form for additional space).

First Name: RODRIGO CARREON

Last Name: CARRION

Affiliation/Organization: Fort Bend Fresh Water Supply District #1

Email: rodrigo.carreon.87@gmail.com

Questions or Comments: Support MetroNEXT  
and US 90A (HCT Peak)

As the last option will be  
The Fort Bend Extension 2 goes  
into flood zone areas behind  
Sienna Plantation to prohibit  
development in dangerous flood zone  
area, Please help bring metro  
bus along FM 521 From Houston  
going into FRESNO and Arcola City.



### COMMENT FORM US 90A TRANSIT CORRIDOR STUDY PUBLIC MEETING - APRIL 23, 2025

Please write your contact information and comments using the form below (see back of form for additional space).

First Name: Tam

Last Name: Nguyen

Affiliation/Organization: \_\_\_\_\_

Email: tamn5294@gmail.com

Questions or Comments: \_\_\_\_\_

How will the METRONext (US 90A-US 59/569, alignment be modified if Sugar Land denies METRORail (light rail) through Town Center and SMART Financial Building?

~~Will be~~ Will there be some forms of public transit that can operate at least 23/7 or ~~24/7~~ 24/7? (Fort Bend Transit only operates during the weekdays.) ~~24/7~~ Night transit doesn't happen in many parts of Fort Bend.)

There should be more transit during the day and night of the weekends.

METRO Next and HCT<sup>(90A)</sup> alignments should be priorities; HCT (Fort Bend Toll Rd.) alignment should be fine as ~~to~~ long as there's some security.

Transit should be at least 22/7, 23/7, or 24/7.



**COMMENT FORM  
US 90A TRANSIT CORRIDOR STUDY  
PUBLIC MEETING - APRIL 23, 2025**

Please write your contact information and comments using the form below (see back of form for additional space).

First Name: Pat Scott

Last Name: \_\_\_\_\_

Affiliation/Organization: \_\_\_\_\_

Email: Pat.Scott.3147@gmail.com

Questions or Comments: \_\_\_\_\_

Need Metro Rail  
it faster and will help  
people get where they  
are going quicker.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



## COMMENT FORM US 90A TRANSIT CORRIDOR STUDY PUBLIC MEETING - APRIL 23, 2025

Please write your contact information and comments using the form below (see back of form for additional space).

First Name: Tim

Last Name: Wood

Affiliation/Organization: City of Stafford, Council Member

Email: twood@staffordtx.gov, staffordunited2022@gmail.com

Questions or Comments: ~~I want to advertise~~ As an ~~past~~ elected official in the City of Stafford ~~I~~ and following in the footsteps of our recently deceased, long-serving mayor, Leonard Scarcella, I am a strong advocate for ~~the~~ bringing light rail to ~~the~~ Fort Bend County, and especially ~~with~~ with a stop in the City of Stafford. ~~I~~ Fort Bend residents deserve a fast, comfortable and ~~affordable~~ affordable alternative to driving to access work, the medical center, the zoo, parks, museums, sports arenas and other attractions in Houston. Not only will this help reduce congestion, but this will also ~~bring additional~~ spur additional economic development in Fort Bend County.

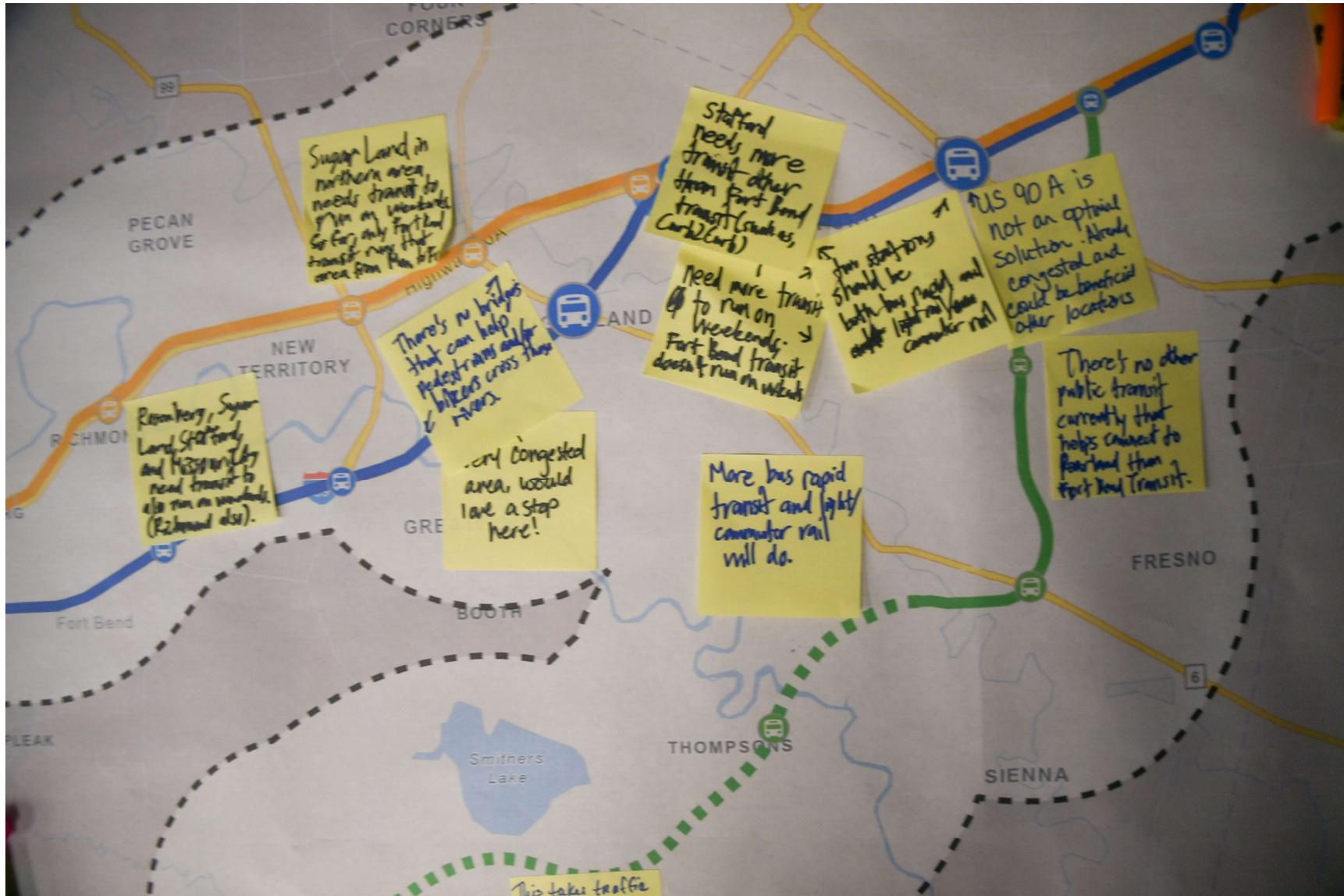
The viability and profitability of any future transit line, especially for light rail is most impacted by ridership. The 90A-69 line is by far the ~~best~~ line with the greatest potential ridership. Additionally, ~~this corridor is~~ unlike the FT Bend Tollway Route, which is almost exclusively residential/one-way commuting, the 90A-69 ~~corridor~~ line goes through areas of employment, recreation, shopping and is near large residential areas, maximizing the potential of 2-way usage, including accessing amenities in Ft Bend by Harris County residents, and vice versa.

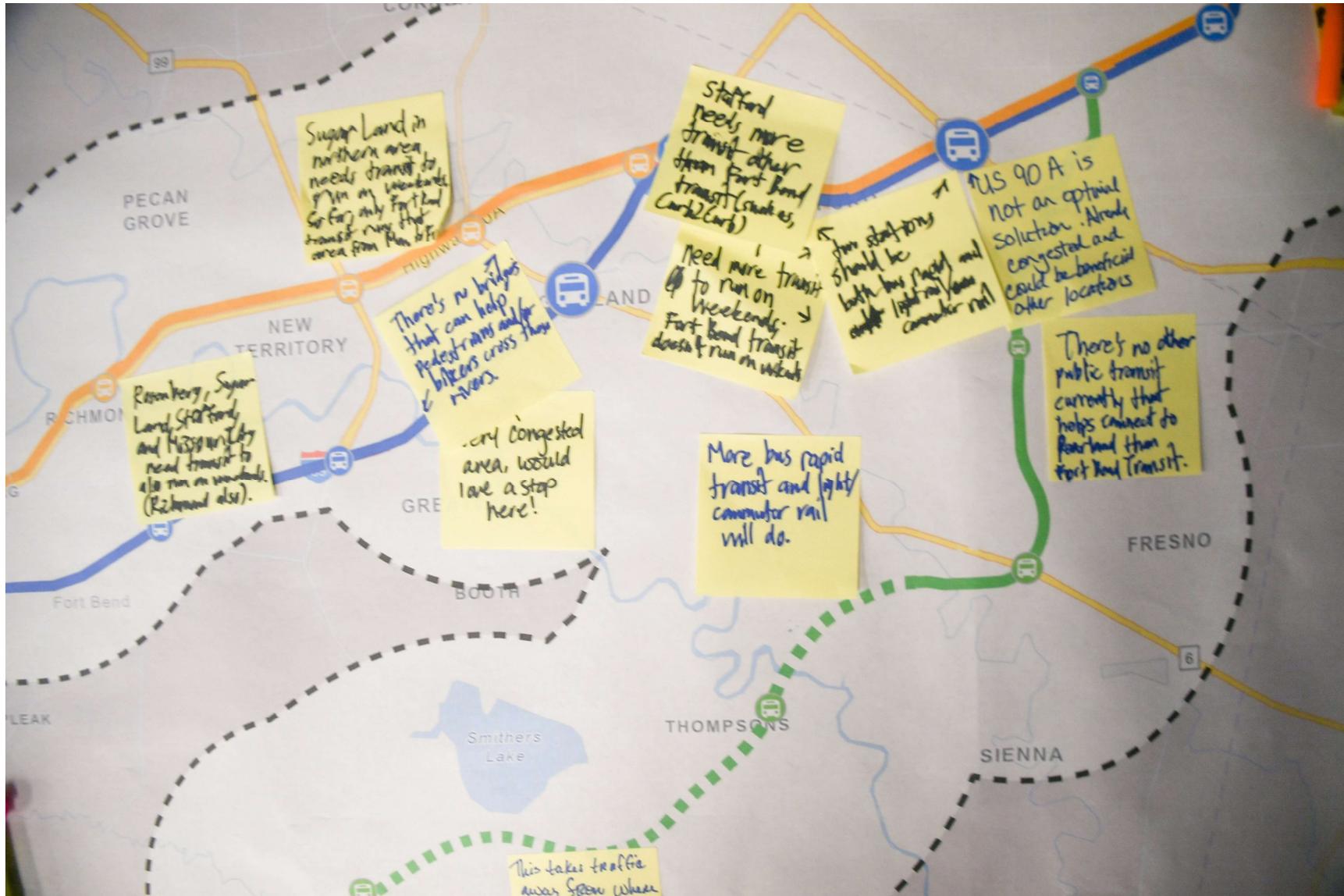
I respectfully request that the information be emailed to me to bring before the Stafford City Council.

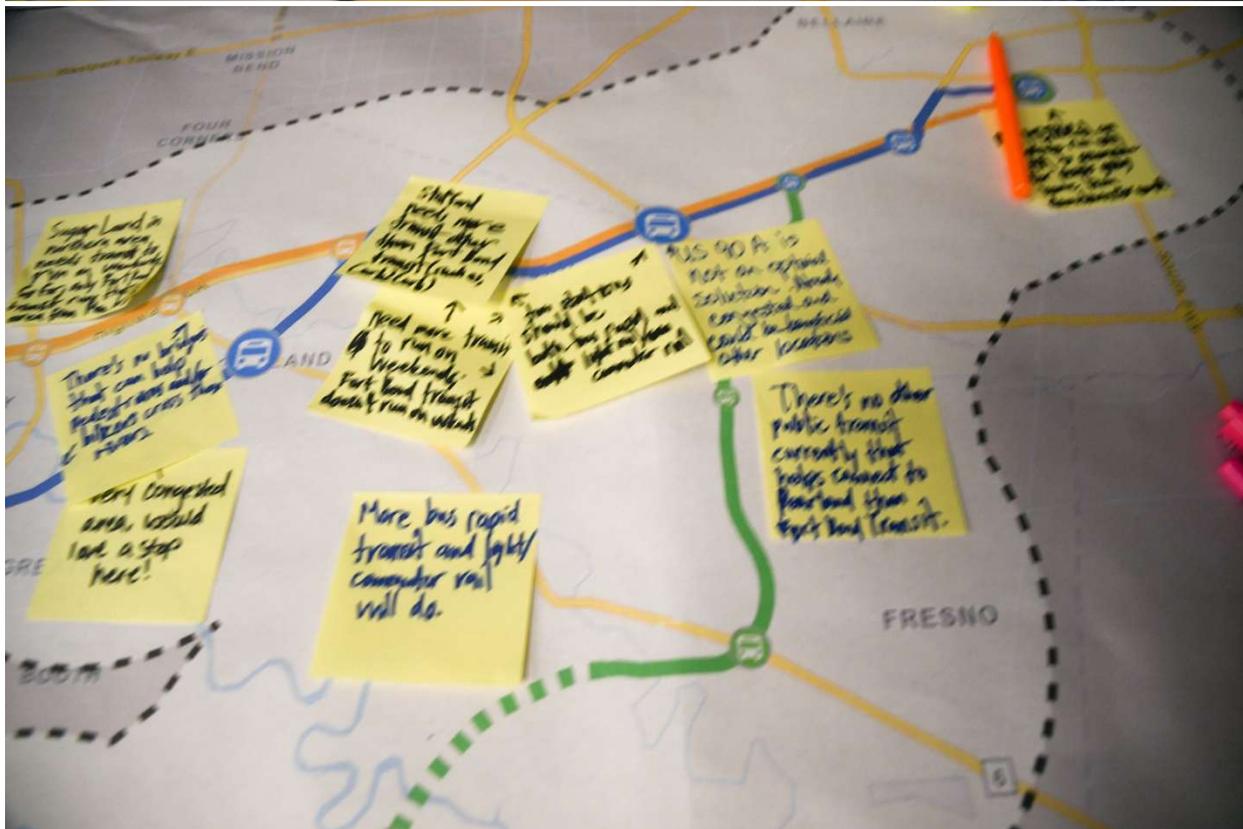
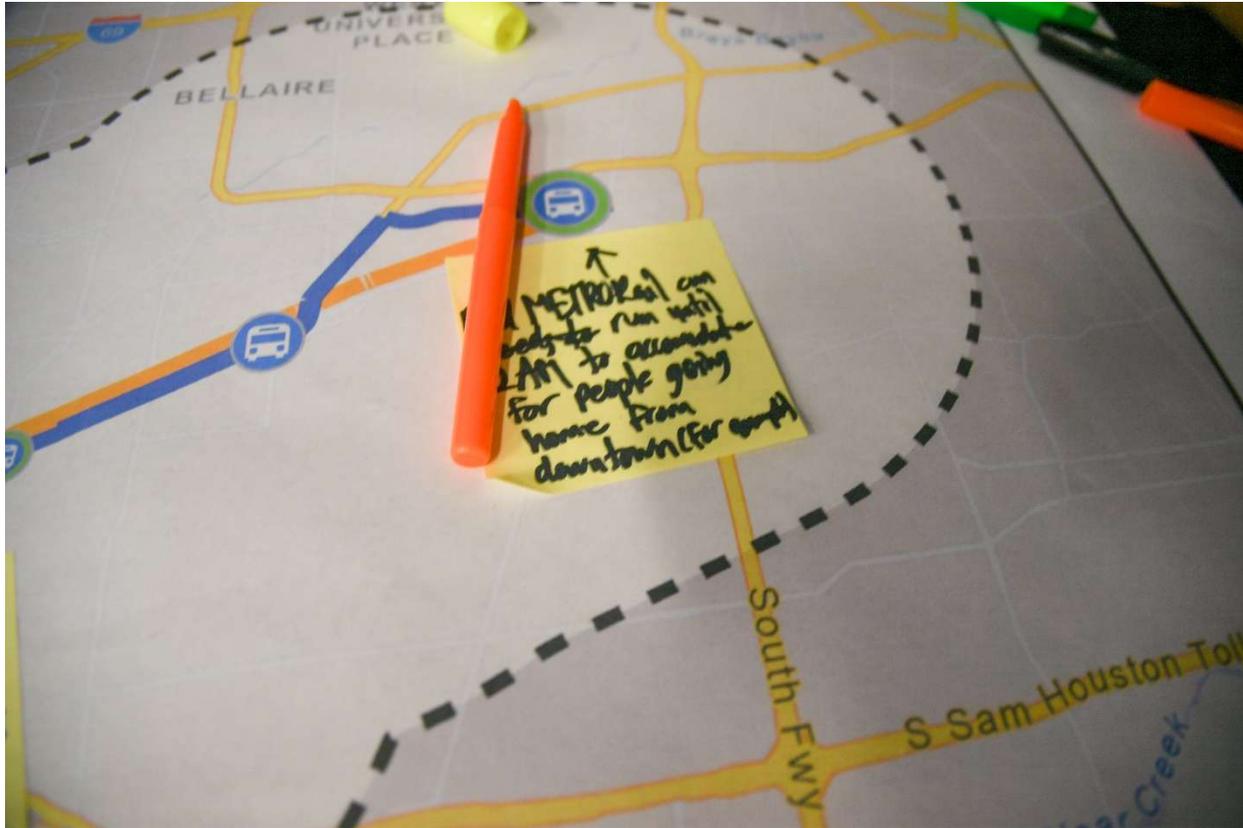
Thanks,

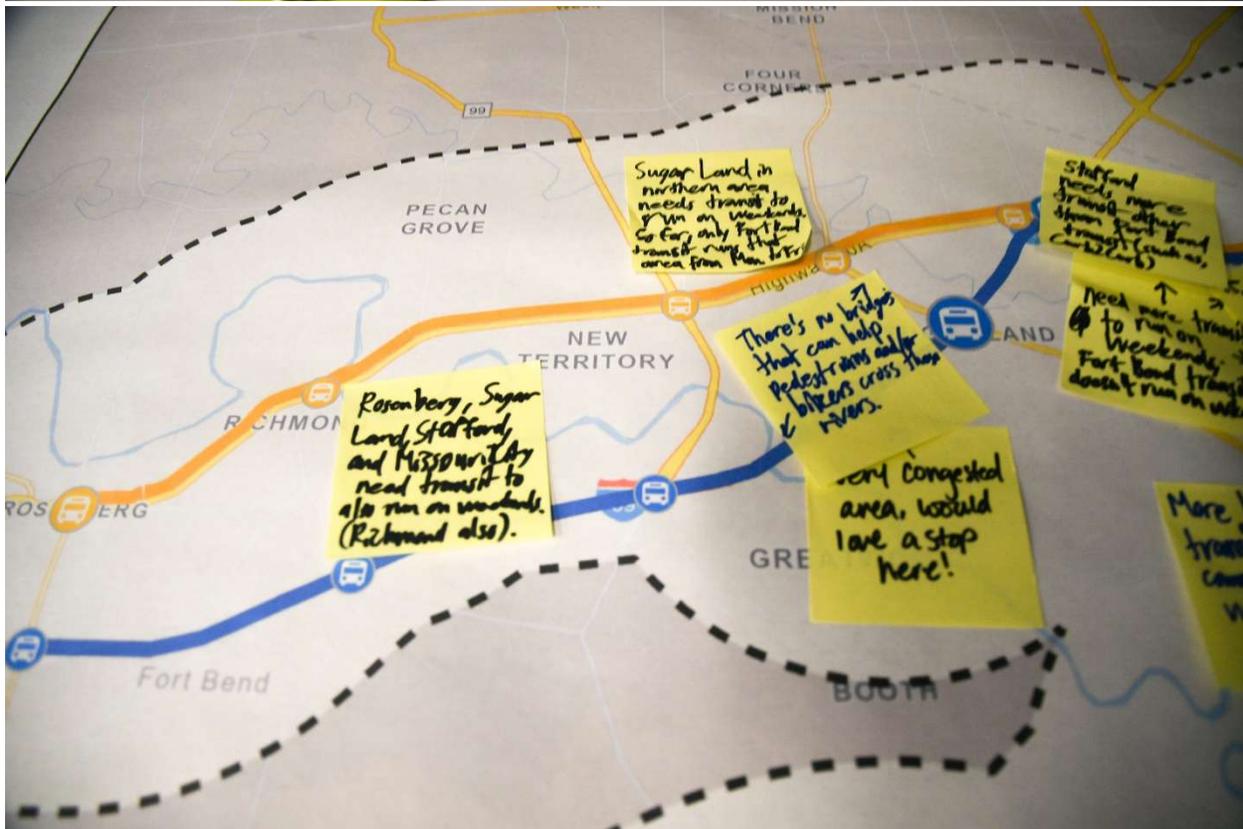
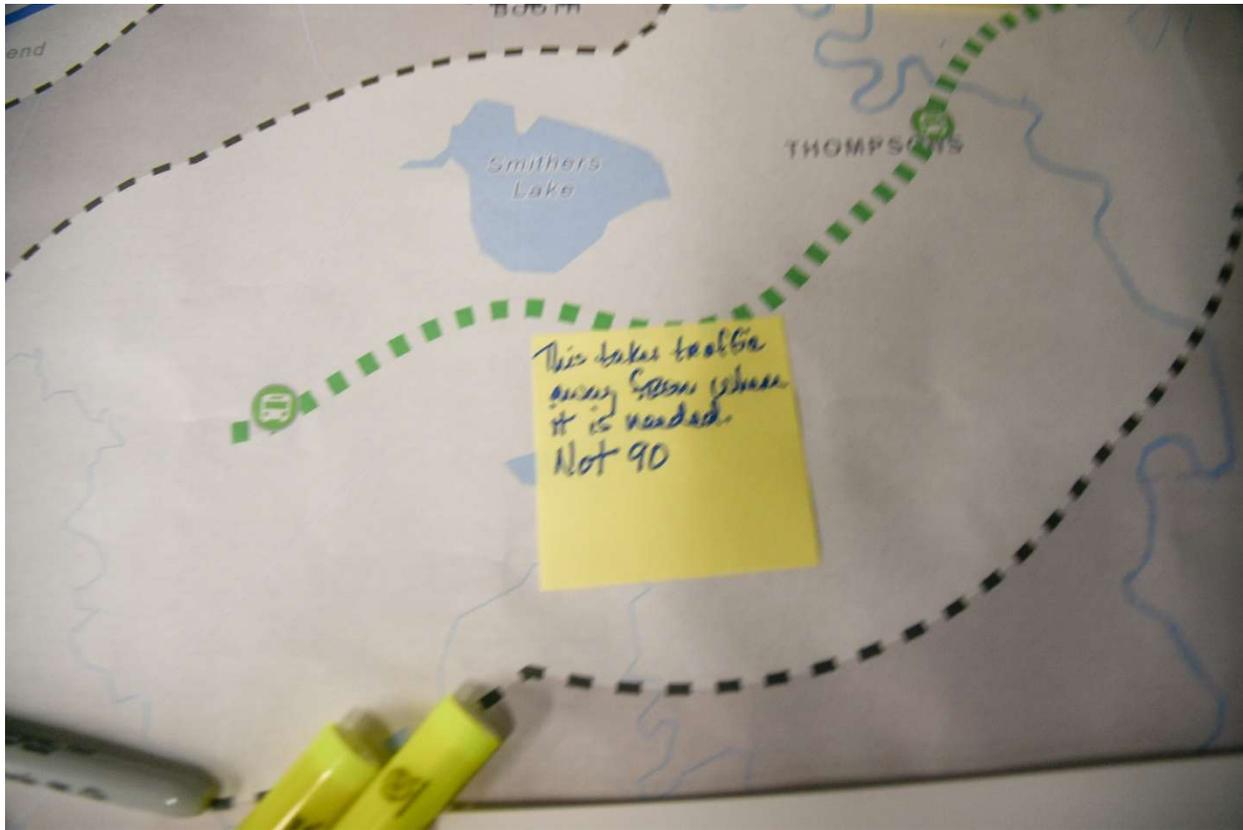
Tim Wood

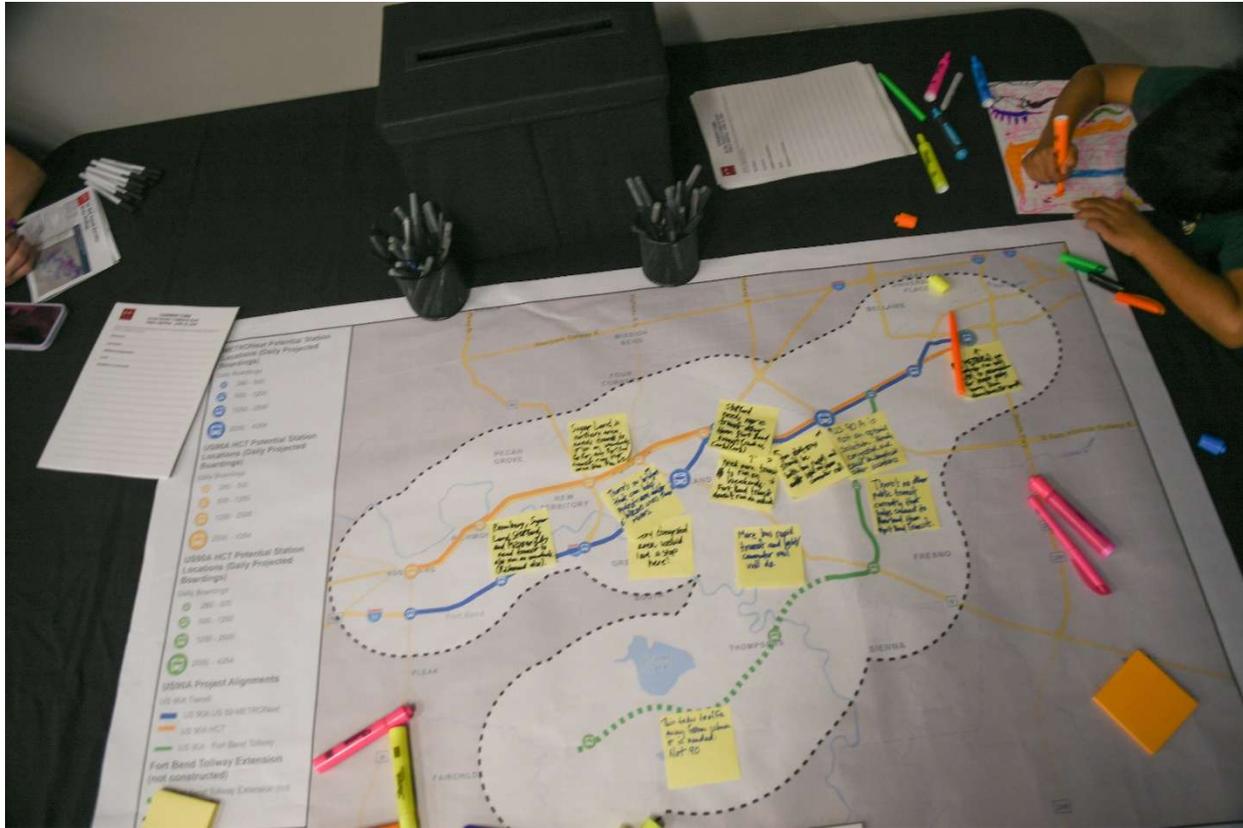
twood@staffordtx.gov











## **C. Noticing Materials**

1. Public Meeting Flyer
2. Stakeholder and Steering Committee E-Blasts
3. Five Corners District Webpage Post
4. Community Impact Article – April 18, 2025
5. H-GAC Facebook Post
6. Community Impact Article – April 24, 2025

# US 90A

TRANSIT CORRIDOR STUDY



# Public Meeting



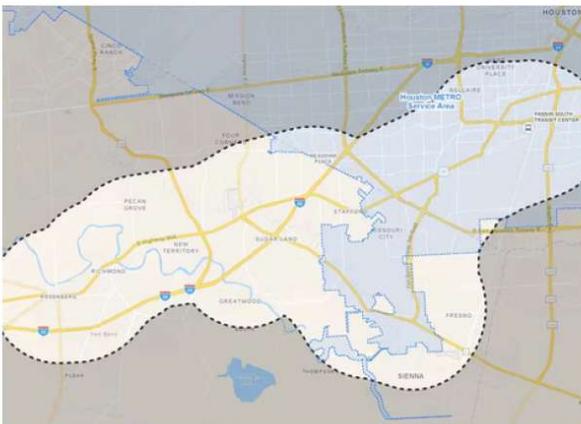
**Wednesday**  
**April 23, 2025**  
**6-8 PM**

**Fort Bend County Libraries -  
Missouri City Branch**

1530 Texas Parkway, Missouri City, 77489

The Houston-Galveston Area Council and Gulf Coast Rail District are studying transit options to improve mobility along the US 90A Corridor—a key route connecting Fort Bend County cities like Missouri City, Stafford, and Sugar Land to the Texas Medical Center in Houston. Despite rapid growth in the area, there is currently no public transit infrastructure along this corridor.

The study will explore options such as light rail or bus rapid transit to better serve commuters and improve regional transportation. A public meeting will be held to gather community input on possible routes.



Scan the QR code  
or visit <https://engage.h-gac.com/us-90a-transit-corridor-study>

**From:** [Gray, Thomas](#)  
**To:** "[Marcus.Snell@Missouricitytx.gov](#)"; "[Kumar, Shashi](#)"; "[Crimmins, Brian - MYR](#)"; "[Hlavacek, Jan - HPW](#)"; "[Fesch, Joe](#)"; "[Kyle Jung](#)"; "[Melanie Beaman](#)"; "[James Turner](#)"; "[Keri Schmidt](#)"; "[Rick Staigle](#)"; "[David](#)"; "[Mandapaka, Patrick](#)"; "[Ortiz, Josie \(HCTRA\)](#)"; "[Webster, Crystal](#)"; "[Abbey Roberson](#)"; [TOMOELLER, Zientek, Richard](#); "[WAIC Houston](#)"; "[sma@southmainalliance.org](#)"; [ch25](#); "[Brays Oaks SNC36](#)"; "[Josh Hawes](#)"; "[Eric Lyons](#)"; "[Barbara Koslov](#)"; "[Josh Hawes](#)"; "[Barker, Scott \(Engineering\)](#)"; "[Barbara Koslov](#)"; "[Donald.buaku](#)"; "[Blythe Payne](#)"; "[Fort Bend Chamber](#)"; "[Cindy Dees](#)"; "[Cindy Chapman](#)"; "[wccpresident@westburycrier.com](#)"; "[Edward Nagorski](#)"  
**Subject:** US 90A Transit Corridor Study - Public Meeting  
**Date:** Thursday, April 10, 2025 2:31:32 PM  
**Attachments:** [US 90A - Public Meeting - April23.pdf](#)

---

CAUTION: Email from outside Hollaway

US 90A Transit Corridor Study Stakeholder Committee Members:

The public meeting for the US 90A Transit Corridor Study will occur on Wednesday, April 23, 2025 from 6:00 to 8:00 pm at the Fort Bend County Library - Missouri City Branch (1530 Texas Pkwy, Missouri City, TX 77489).

The meeting will be an open house format, with a presentation and question and answer session to begin at 6:30.

Please see the attached flyer and distribute it within your organization or to interested parties as appropriate.

Thank you!

**THOMAS B. GRAY, AICP**  
*Principal Planner, Transportation*  
Houston-Galveston Area Council  
3555 Timmons Lane, Suite 120  
Houston, TX 77027  
Mailing Address: P.O. Box 22777  
Houston, TX 77227  
Direct | 832-681-2545  
[h-gac.com](#)

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**Microsoft Teams** [Need help?](#)

[Join the meeting now](#)

Meeting ID: 289 524 426 787

Passcode: 2KH2qG9w



**From:** [Gray, Thomas](#)  
**To:** [Vincent Sanders](#); [katherine.parker](#); ["Barbara Koslov \(bakoslov@aol.com\)"](#); ["Jeff Ross"](#); ["Allen Owen"](#); [D'Armond Perri](#); [Stephan Gage](#); [Shannon, Kelly](#); [Wang, Heng](#); [Zhuo, Weijie](#); [Gao, Jane](#)  
**Cc:** ["Grams, Laura"](#); [Rodenstein, Alan](#); [Tucker, Marcus](#); [carol.lewis](#); [Owens, Jamila](#); ["Arens, Payton"](#); [Blythe Payne](#); [Shannon, Kelly](#)  
**Subject:** US 90A Transit Corridor Study - Public Meeting  
**Date:** Thursday, April 10, 2025 2:32:03 PM  
**Attachments:** [US 90A - Public Meeting - April23.pdf](#)

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CAUTION: Email from outside Hollaway

US 90A Steering Committee Members:

We are letting you know that the public meeting for the US 90A Transit Corridor Study will be held from 6:00 to 8:00 pm on Wednesday, April 23, 2025 at the Fort Bend County Library - Missouri City Branch (1530 Texas Pkwy, Missouri City, TX 77489).

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Please see the attached flyer and distribute it within your organization or to interested parties as appropriate.

Thank you!

**THOMAS B. GRAY, AICP**  
*Principal Planner, Transportation*  
Houston-Galveston Area Council  
3555 Timmons Lane, Suite 120  
Houston, TX 77027  
Mailing Address: P.O. Box 22777  
Houston, TX 77227  
Direct | 832-681-2545  
h-gac.com

6/6/25, 8:41 AM

US 90A Public Meeting – Wednesday, April 23 - 5 Corners District

713.724.3862 | info@5cornersdistrict.org

f X



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### US 90A Public Meeting – Wednesday, April 23

April 22nd, 2025

#### Upcoming Events

< Jun 2025 >

June 9, 2025

**Public Safety Committee Meeting**  
June 9, 2025 11:00 am - 12:00 pm  
Virtual Meeting

[See more details](#)

**Economic Development Meeting**  
June 9, 2025 5:00 pm - 8:00 pm  
Virtual Meeting

[See more details](#)

**Environmental and Urban Design Meeting**  
June 9, 2025 6:00 pm - 7:00 pm  
Virtual Meeting

[See more details](#)

June 19, 2025

**SHCCC Meeting**  
June 19, 2025 7:00 pm - 8:00 pm  
Hiram Clarke Multi-Service Center 3810  
W. Fuqua Houston, Texas 77045

[See more details](#)

June 20, 2025

**Board Meeting**  
June 20, 2025 12:00 pm - 1:00 pm

English

6/6/25, 8:41 AM

US 90A Public Meeting – Wednesday, April 23 - 5 Corners District

FountainLife Center, 14083 S Main St,  
Houston, TX 77035

[See more details](#)

[MORE EVENTS...](#)

**US 90A**  
TRANSIT CORRIDOR STUDY

**Public Meeting**

**Wednesday**  
**April 23, 2025**  
**6-8 PM**

**Fort Bend County Libraries -**  
**Missouri City Branch**  
1530 Texas Parkway, Missouri City, 77489

The Houston-Galveston Area Council and Gulf Coast Rail District are studying transit options to improve mobility along the US 90A Corridor—a key route connecting Fort Bend County cities like Missouri City, Stafford, and Sugar Land to the Texas Medical Center in Houston. Despite rapid growth in the area, there is currently no public transit infrastructure along this corridor.

The study will explore options such as light rail or bus rapid transit to better serve commuters and improve regional transportation. A public meeting will be held to gather community input on possible routes.

Scan the QR code or visit <https://engage.h-gac.com/us-90a-transit-corridor-study>

The Houston-Galveston Area Council and Gulf Coast Rail District are studying transit options to improve mobility along the US 90A Corridor—a key route connecting Fort Bend County cities like Missouri City, Stafford, and Sugar Land to the Texas Medical Center in Houston. Despite rapid growth in the area, there is currently no public transit infrastructure along this corridor.

[LEARN MORE...](#)

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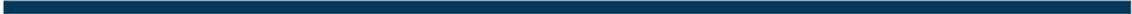
**Related Posts**

English

<https://5cornersdistrict.org/community/us-90a-public-meeting-wednesday-april-23/>

6/6/25, 8:41 AM

US 90A Public Meeting – Wednesday, April 23 - 5 Corners District



CONTACT US

**Physical Address**  
 Five Corners Improvement District  
 c/o Hawes Hill and Associates LLP  
 9600 Long Point Road, Suite 200  
 Houston, Texas 77055  
 713.724.3862

**Mailing Address**  
 Five Corners Improvement District  
 P.O. Box 22167  
 Houston, TX 77227-2167

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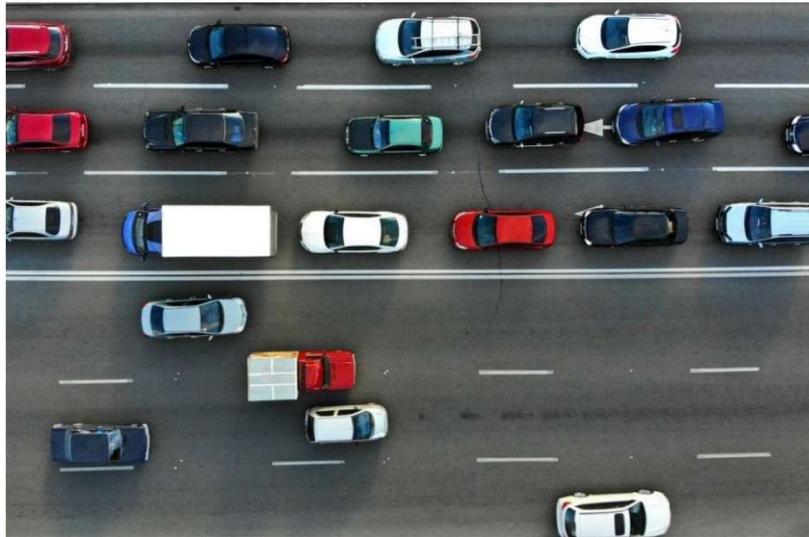


HOUSTON / SUGAR LAND - MISSOURI CITY / TRANSPORTATION

## H-GAC to host public meeting for Hwy. 90A transit corridor study



By [Aubrey Vogel](#) | 11:00 AM Apr 18, 2025 CDT



*The Houston-Galveston Area Council is exploring the possibility of a transit alternative for Hwy. 90A near southwest Houston and Fort Bend County. (Courtesy Adobe Stock)*

Community members will have a final chance in late April to weigh in on the creation of a transit system in southwest Houston and Fort Bend County.

### What residents need to know

The [Houston-Galveston Area Council](#), in partnership with the [Gulf Coast Rail District](#)—which is dedicated to enhancing the economic benefits of railways—is seeking public feedback on creating a transit system along the Hwy. 90A corridor.

The system would pass through Missouri City, Stafford, Sugar Land, Richmond, Rosenberg and Southwest Houston, according to [H-GAC's project website](#). The corridor doesn't currently have transit



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By [Aubrey Vogel](#)   
 Government Reporter

Aubrey joined *Community Impact* as a reporter in February 2024, where she covers government in the Katy, Fulshear, Missouri City and Sugar Land areas. Before coming to CI, she served as Editor-in-Chief at *Insite Brazos Valley Magazine* in Bryan. She also served as the news editor at *The Battalion*, Texas A&M University's student newspaper, before graduating with a major in journalism and minors in business and sports management in 2022. When she's not writing, Aubrey enjoys spending time with her friends, family and her cat, Ferguson.



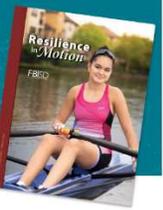
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**Houston-Galveston Area Council**

April 14 · 🌐

**Public Meeting Alert!**

🗓️ Join us from 6–8 PM on Wednesday, April 23, 2025, at the Fort Bend County Libraries – Missouri City Branch to help shape the future of transit along the US 90A Corridor.

The Houston-Galveston Area Council and Gulf Coast Rail District are exploring options like light rail or bus rapid transit to improve regional mobility. Your opinion is always important!

📍 1530 Texas Parkway, Missouri City, TX

📖 Learn more: <https://engage.h-gac.com/us-90a-transit-corridor-study>

#HGAC #US90AStudy #TransitPlanning #CommunityInput #FortBendCounty #PublicMeeting #MobilityMatters #HGACRegion #HoustonGalvestonAreaCouncil

**Public Meeting**

**US 90A**  
TRANSIT CORRIDOR STUDY



**6-8 PM**  
**Wednesday**  
**April 23, 2025**

**Fort Bend County Libraries - Missouri City Branch**

1530 Texas Parkway, Missouri City, 77489



The Houston-Galveston Area Council and Gulf Coast Rail District are exploring transit options—like light rail or bus rapid transit—along the growing US 90A Corridor. This key route connects Fort Bend County cities to the Texas Medical Center but currently lacks public transit. A public meeting will be held to gather input on potential routes.



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### H-GAC seeks public feedback on 3 proposed public transportation routes to address Hwy. 90A congestion



By **Aubrey Vogel** | 12:37 PM Apr 24, 2025 CDT  
Updated 12:37 PM Apr 24, 2025 CDT



Community members share feedback on the proposed routes for a transit system connecting Fort Bend County to southwest Houston. (Aubrey Vogel/Community Impact)



Community members have until May 7 to weigh in on three proposed routes for a transit system in southwest Houston and Fort Bend County.

**The gist**

[Houston-Galveston Area Council](#) officials hosted a public meeting April 23 at the Missouri City Branch

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from Fort Bend County to southwest Houston. The study, which began last March, is exploring alternative transportation routes for public transportation systems such as a light rail transit or bus rapid transit system, according to [H-GAC's project website](#).

"There's a strong desire to increase public transit in the Fort Bend region, especially into the Texas Medical Center and Downtown Houston," Laura Grams, transit planning lead for engineering consultant HDR, said at the public meeting.



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**Digging in**

The system aims to provide alternative transportation options to Missouri City, Stafford, Sugar Land, Richmond, Rosenberg and southwest Houston, per the project website. The Hwy. 90A corridor doesn't currently have transit options.

The study identified five routes for the project, although three were deemed to be feasible, Grams said.

Grams said the three most viable route options include:

- Along Hwy. 90A from Fannin South Transit Center to Rosenberg
- METRONext, a potential partnership with [Metropolitan Transit Authority of Harris County](#), along Hwy. 90A from Fannin South Transit Center, then diverting onto Hwy. 59 south of Rosenberg
- Along the Fort Bend Parkway Toll Road from Hwy. 90A to Hwy. 6 along future Fort Bend Parkway Toll Road extensions and future Grand Parkway extension

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An exact mode of alternative transportation has not been finalized, she said.

**By the numbers**

A [late 2024 survey](#) by H-GAC—which garnered 922 respondents—revealed that 97% of participants drove alone along the study’s corridor, with the Texas Medical Center and Downtown Houston as the primary destinations, Grams said.

Respondents cited traffic congestion and lack of transportation options as the largest concerns regarding the Hwy. 90A area, with 61% expressing an interest in public transportation expansion.



**Get involved**

Community members are invited to visit the project website to provide comments on the proposed

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Following the public comment period, the final report is expected to be completed in May, Gray said. The final report will be shared with [Gulf Coast Rail District](#), H-GAC's partner on the project, who will further study the project.



"This is just the beginning. We are not putting shovels in the ground today. We're just looking at some [transportation] alternatives," Gray said. "We're looking at routes that give people the option of bypassing congestion on Hwy. 90A [while] getting into the Houston urban core."

By [Aubrey Vogel](#) ■  
Government Reporter

Aubrey joined *Community Impact* as a reporter in February 2024, where she covers government in the Katy, Fulshear, Missouri City and Sugar Land areas. Before coming to CI, she served as Editor-in-Chief at *Inside Brazos Valley Magazine* in Bryan. She also served as the news editor at *The Battalion*, Texas A&M University's student newspaper, before graduating with a major in journalism and minors in business and sports management in 2022. When she's not writing, Aubrey enjoys spending time with her friends, family and her cat, Ferguson.



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## **D. Sign-in Sheet(s) from the Public Meeting**

1. Elected Official Sign-In
2. Steering Committee and Stakeholder Sign-In
3. Public Sign-In



**ELECTED OFFICIALS**  
**US 90A**  
**Public Meeting - Fort Benning**  
**April 15, 2014**

No.	Name of Official or Representative (Please Print)	
1	Rodrigo Carreon	Fort Ben
2	Congresswoman Lizzie Fletcher ↳ Grace Kuperman	→
3	FLOYD EMERY	Mo. C.T.
4	Shaneka Smith	FBC Ju
5	Bridie Kelley	Suater
6	Grady Prestage	Fort Ben
7	Wendi Lojo	Senator d
8	Ryan Dunmore	FBC f
9	Jeffrey L. Boren	Mo City
10	Eddie Nagorski	City of



**ELECTED OFFICIALS**  
**US 90**  
**Public Meeting - Fort Belvoir**  
**April 15, 2014**

No.	Name of Official or Representative (Please Print)	
1	Perdita "DiDi" Chavis (Chief of Staff)	Mayor Pro
2	Andy Meyers	County Co
3	Brenda Patton, Director Community Government Relations	Commissioner
4	Monica Riley - City Council MC District A	
5	Rachael Rodriguez	City of Be
6		
7		
8		
9		
10		



### STEERING COMMITTEE/STAKEHOLDER COMMITTEE SIGN-IN SHEET

US 90A Transit Corridor Study  
 Public Meeting - Fort Bend County Libraries - Missouri City Branch  
 April 23, 2025, 6:00 - 8:00 PM

No.	Name (Please Print)	Organization	Email Address	Phone Number
1	Allen Owen			
2	Alan Clark	METRO	ac27@ridemetro.org	
3	Jeff Ross	GCRD		
4	Angeliqe Bartholomew	GCRD		
5	Stephan Gage	TxDOT	on file	on file
6	Vincent Sanders	METRO	on file	on file
7				
8				
9				
10				



**PUBLIC SIGN-IN SHEET**  
 US 90A Transit Corridor Study  
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 April 23, 2025, 6:00 – 8:00 PM

No.	Name (Please Print)	Mailing Address / City / State/ ZIP	Email Address
1	Willie Rainwater	16410 Quail Park Dr	WillieR@swbell.net
2	Abankey	2803 Four Winds	abankey@tntw
3	M		
4	ANGEL JONES	1522 TRUSS PKWY	aj@mctx.gov
5	E. Joyce Iyamu	11	ejiyamu@missauricitytx.gov
6	Joel Samuel	12247 Ashford Valley Dr. Sugar Land TX	Jsamu58043@gmail.com
7	Erik Smith	6740 Peerless St Houston, TX	esmith516@pvamu.edu
8			
9			
10			



### PUBLIC SIGN-IN SHEET

US 90A Transit Corridor Study  
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No.	Name (Please Print)	Mailing Address / City / State / ZIP	Email Address
1	Amy Bonatser	2931 Field Line Drive <sup>Sugarland, TX</sup> 77479	manigamy@hotmail.com
2	Shashi Kumar	1522 Texas Pkwy. TX 77484	Shashi.Kumar@missouricitytx.gov
3	Office of U.S. Rep. AL Green	3003 S. Loop W, #469, Houston TX 77054	Rachael.Rodriguez@mail.house.gov
4	Ayo JIBOWU	PO BOX 540072, HOUSTON TX 77254	ayo.jibowu@h-gac.com
5	Stephanie Brown	1206 Blue Diamond 77489	smeansbrown@aatt.net
6			
7			
8			
9			
10			



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No.	Name (Please Print)	Mailing Address / City / State / ZIP	Email Address
1	FERREL BONNER	COMMISSIONER FBESD 7	fbonner1986@gmail.com
2	TAM NGUYEN	1535 Moore Rd #423, Stafford, TX 77477	tamm5294@gmail.com
3	FOREST E. MCGEE	207 KINGSWAY DR STAFFORD, TX 77477	mcgee_forest88@upbco.com
4	STEVE TRACIE	610 SANTA MARIA ST. SUGARLAND TX 77478	STEVE_TRACIE@US.NETALS.COM
5	Jr Sam Lott	3714 Cat Springs Ln. Missouri City TX 77459	jsumlott@gmail.com
6	Joi Johnson	City of Missouri City Public works	joi.johnson@missouricitytx.gov
7	LORINE THOMPSON	2020 McKinney Houston TX	LORINE.THOMPSON@HOUSTONTX.GOV
8	Jon Maxwell	3911 Ave. F, Rosenberg, TX 77471	jonathan.maxwell@LCSSD.org
9	EARL SHOUSE	3733 WESTHEIMER RD, #1-1141 Houston, TX 77027	earl6401@yahoo.com
10	Samuel Basseg	<del>2855</del> 2855 K	sbmjr328@yahoo.com



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US 90A Transit Corridor Study  
 Public Meeting - Fort Bend County Libraries - Missouri City Branch  
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No.	Name (Please Print)	Mailing Address / City / State / ZIP	Email Address
1	Nguyen Nguyen	5726 Fulshear Plantation Dr. Fulshear TX 77441	84.nguyen@gmail.com
2	Bede Emuka	9406 Bristle Bird Ln Richmond TX 77407	bedeemuka@gmail
3	Kimberly Prejean	4444 21731 Flecherwood Ct Tx 77388	kimberly.prejean@gmail.com
4	Mayra Bontemps	10410 Oberlander Pl. Needville 77461	njguev@hotmail.com
5	Kathy Bridges	6218 Briar Seasons 77489	Kathybridges6218@yahoo.com
6	Tim Wood	2022 Secretariat Pr. Stafford, TX 77477	twood@staffordtx.gov
7	Michael Hmar	4431 Wavertree Dr. Missouri City, TX 77459	mhmair@hntb.com
8	<del>Katie Hurrington</del> Katie Hurrington	1610 Mustang Xing MC, TX 77489	Katie.hurrington@FBCtx.gov
9	M. Carter	1906 Lazy MC TX 77489	Cartmman@yahoo.com
10	Vivian Burley	1138 Mossridge Dr. MC TX 77489	vivian3burley@gmail.com



### PUBLIC SIGN-IN SHEET

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No.	Name (Please Print)	Mailing Address / City / State/ ZIP	Email Address
1	Sie Allen	Missouri City 77459	sie.allen@yahoo.com
2	Sean Matthews	2714 LYNN CRT	SEANJBE@YAHOO.COM
3	Cheryl Hughes	10026 Castleview 77469	cheryl.hughes26@gmail.com
4	Ali Hasnabi		ali.hasnabi@fbctx.gov
5	MAHMOUD SALEHI	Cobb Parkway 22316 Grand Corner #100	M.Salehi@CobbParkway.com
6	Sheila Miller	3	Sheila2744@sbcglobal.net
7	Troy Carter	<del>21443</del> <sup>1757</sup> Texas Parky Missouri City 77450	tcarter64@msu.com
8	Vien Franklin	2415 Valley Bend, Missouri City, TX 77469	editor@fortbendstar.com
9	Aubrey Vogel	9706 Coyote Creek Dr.	avogel@communityimpact.com
10	Ruben Molina		rxmolina@hotmail.com

## **E. Public Meeting Presentation**



**US 90A Transit Corridor Study**

*Public Outreach Meeting  
April 23, 2025*

Regional Collaboration • Transportation Planning • Multimodal Mobility



## Study Purpose and Goal

### Study Purpose:

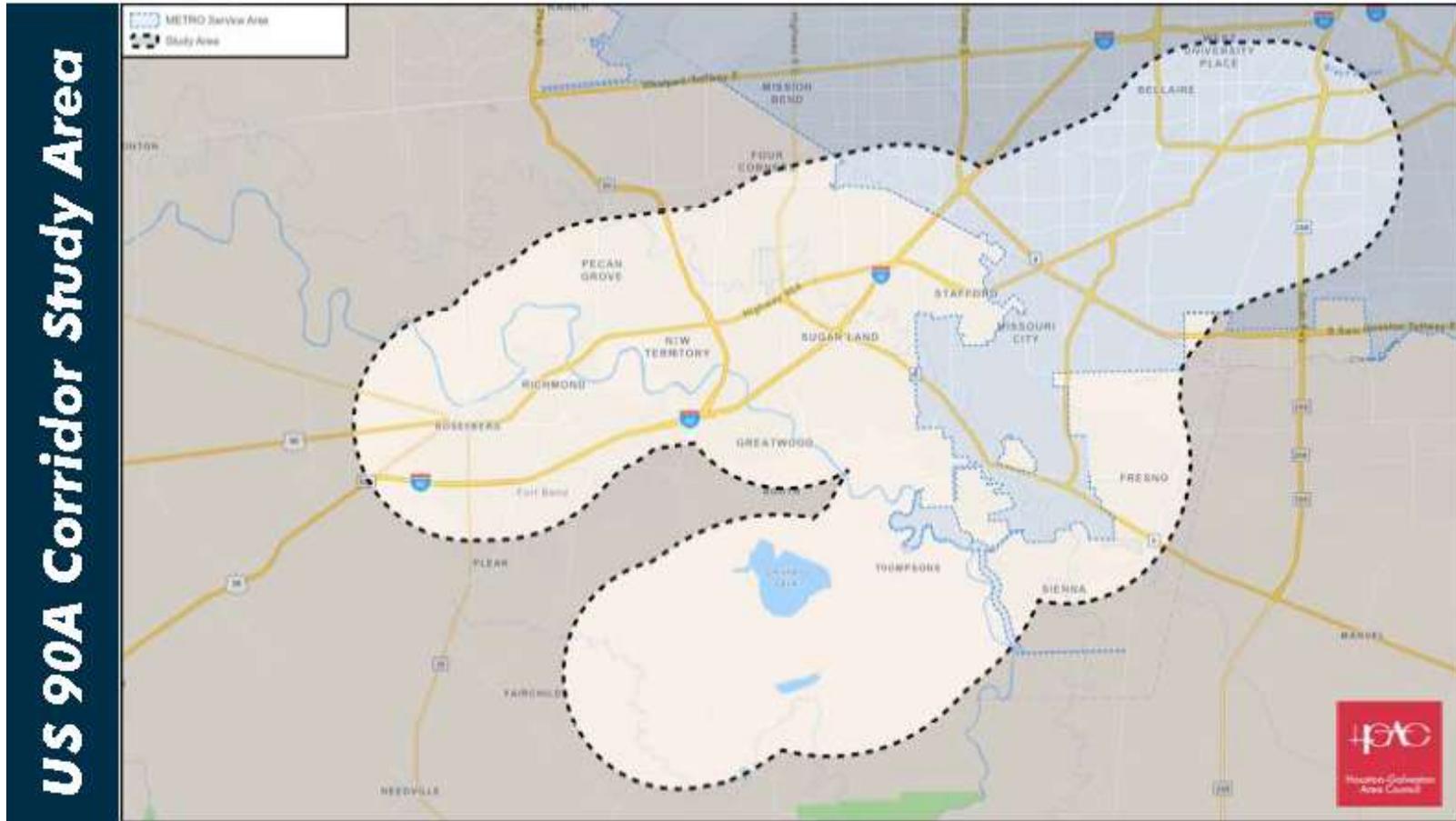
To assess the technological and economic feasibility of establishing and operating efficient transit service along this corridor, using modal options including light rail transit and bus rapid transit, that could have significant benefits to mobility within the region.

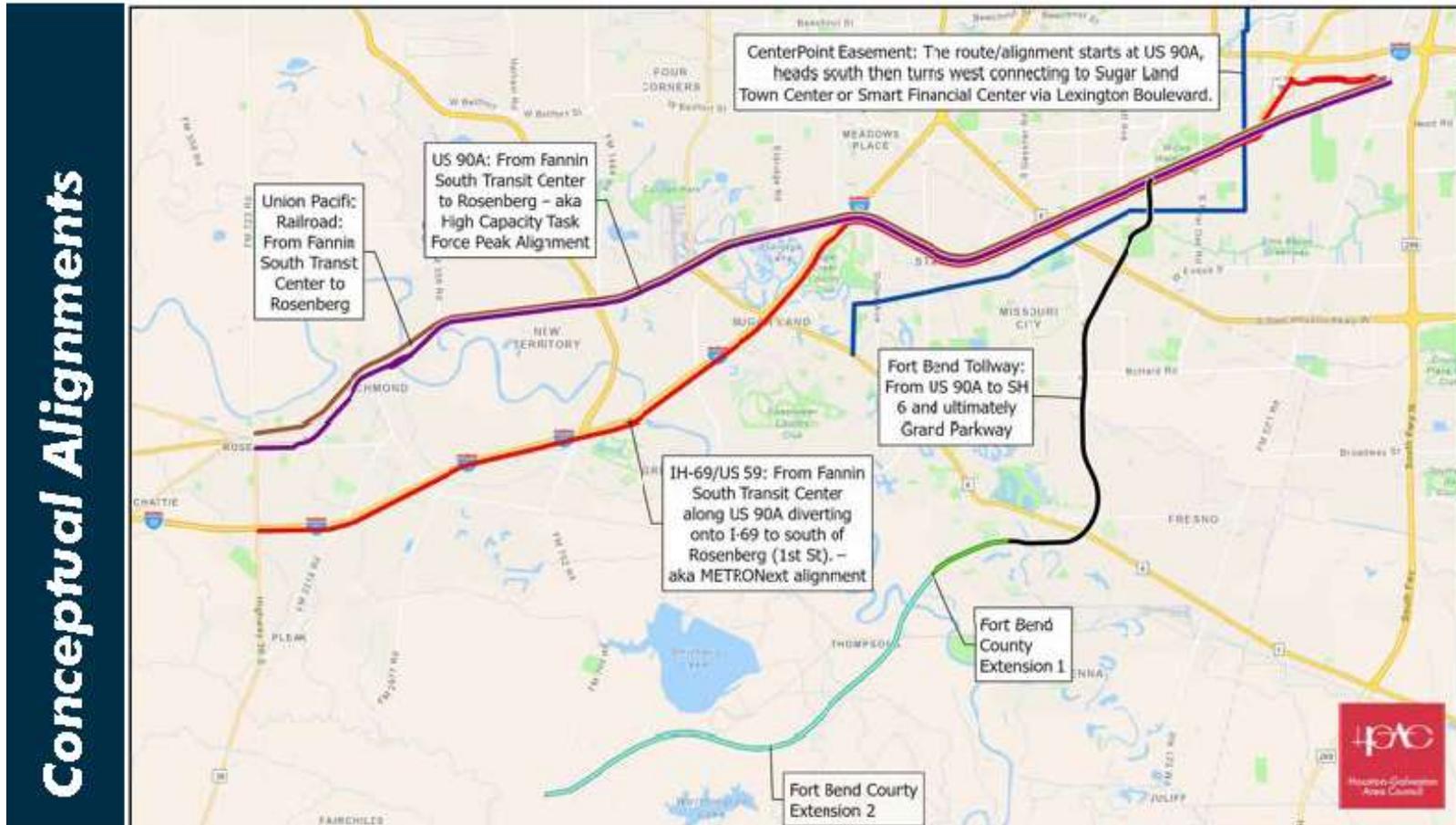


### Study Goal:

To generate feasible and reasonable transit alternative(s) for this corridor that can be advanced into more detailed study and analysis, with an eye towards implementation.







# Transit Modes

Mode	Description	Station Spacing	Vehicle Capacity (seated/standing)	Capital Cost (per mile)	O&M Cost (per hour)
Commuter Rail		2-5 miles	100/225	\$10M (assumes use of UPRR track)	\$250-\$300
Light Rail Transit (LRT)		0.25-1 mile	72/148	\$120-\$180M	\$250-\$300
Bus Rapid Transit (BRT)		0.25-1 mile	60/60	\$25-\$65M	\$100-\$150
Commuter Bus		2-5 miles	50/30	\$600-800k (per vehicle)	\$150-\$250

## What is Tier 1 Screening?



- Filters a wide list of possible strategies (such as different modes, routes, or technologies)
- Uses high-level criteria and readily available data
- Aims to identify which alternatives are fatally flawed, impractical, or don't meet core goals of the study

## Typical Criteria Used in Tier 1 Screenings



- Purpose and Need Alignment
  - Does the alternative address the key problem?
- Geographic feasibility
- Environmental constraints
- Ridership Potential
- Capital and operational costs
- Consistency with plans and policies
- Density
- Right-of-Way Availability
- Stakeholders Support

# Tier 1 Screening Results



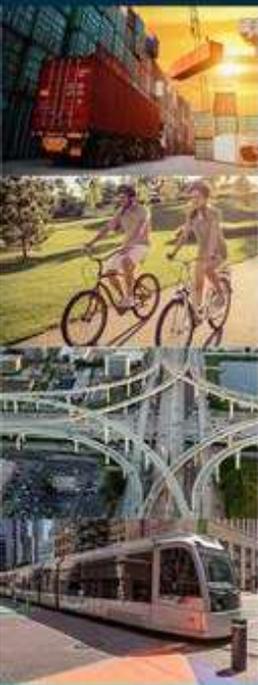
	HCT Peak (US 90A)		Union Pacific Railroad		METRONext Potential Partnership (US 90A to IH 69)		CenterPoint (CenterPoint Easement to IH 69)		Fort Bend Tollway (US 90A to Fort Bend Tollway)	
Length (mi)	27.8 miles		27 miles		26.5 miles		26.4 miles		25.6 miles	
	Score	Description	Score	Description	Score	Description	Score	Description	Score	Description
<b>Environmental Factors</b>	25%	2.9 miles in 100-year floodplain; high number of hazardous material and protected sites, particularly in Segment 5	25%	1.5 miles in 100-year floodplain; high number of hazardous material and protected sites	25%	1.8 miles in 100-year floodplain; high number of hazardous material sites and moderate number of protected sites	75%	2.1 miles in 100-year floodplain; moderate number of hazardous material sites and minimal number of protected sites	25%	6.1 miles in 100-year floodplain; minimal hazardous material sites and no protected sites
<b>Density</b>	25%	Stronger population and employment density in eastern segments	25%	Stronger population and employment density in eastern segments	25%	Stronger population and employment density in eastern segments	25%	Lower existing and future employment density than other alignments	25%	Lowest existing and future population and employment density
<b>Right-of-Way (ROW) Availability</b>	25%	Entire alignment location along US 90A (TxDOT) ROW with pinchpoints in Segment 5	25%	Nearly entire alignment is located along Union Pacific Railroad ROW with pinchpoints in Segment 5	75%	Majority of alignment is located along IH 69 (TxDOT) ROW	25%	Alignment is split between CenterPoint ROW and IH 69 (TxDOT) ROW	25%	Majority of alignment is located along Fort Bend Tollway (Fort Bend County Toll Road Authority)
<b>Stakeholder Support</b>	75%	Strong stakeholder support	0%	Minimal stakeholder support	75%	Very strong stakeholder support	25%	Low stakeholder support	25%	Moderate stakeholder support
<b>Result</b>	Continue to Tier 2 Evaluation		Do not continue to Tier 2 Evaluation		Continue to Tier 2 Evaluation		Do not continue to Tier 2 Evaluation		Continue to Tier 2 Evaluation	

## Tier 2 Screening Criteria

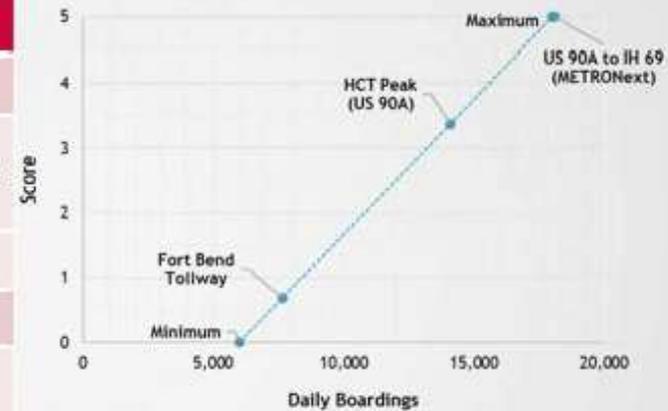


- Ridership
- Capital Cost
  - Construction Cost
  - Right-of-Way (ROW) Need
- Annual Operations and Maintenance (O&M) Cost

# Tier 2 Screening Methodology



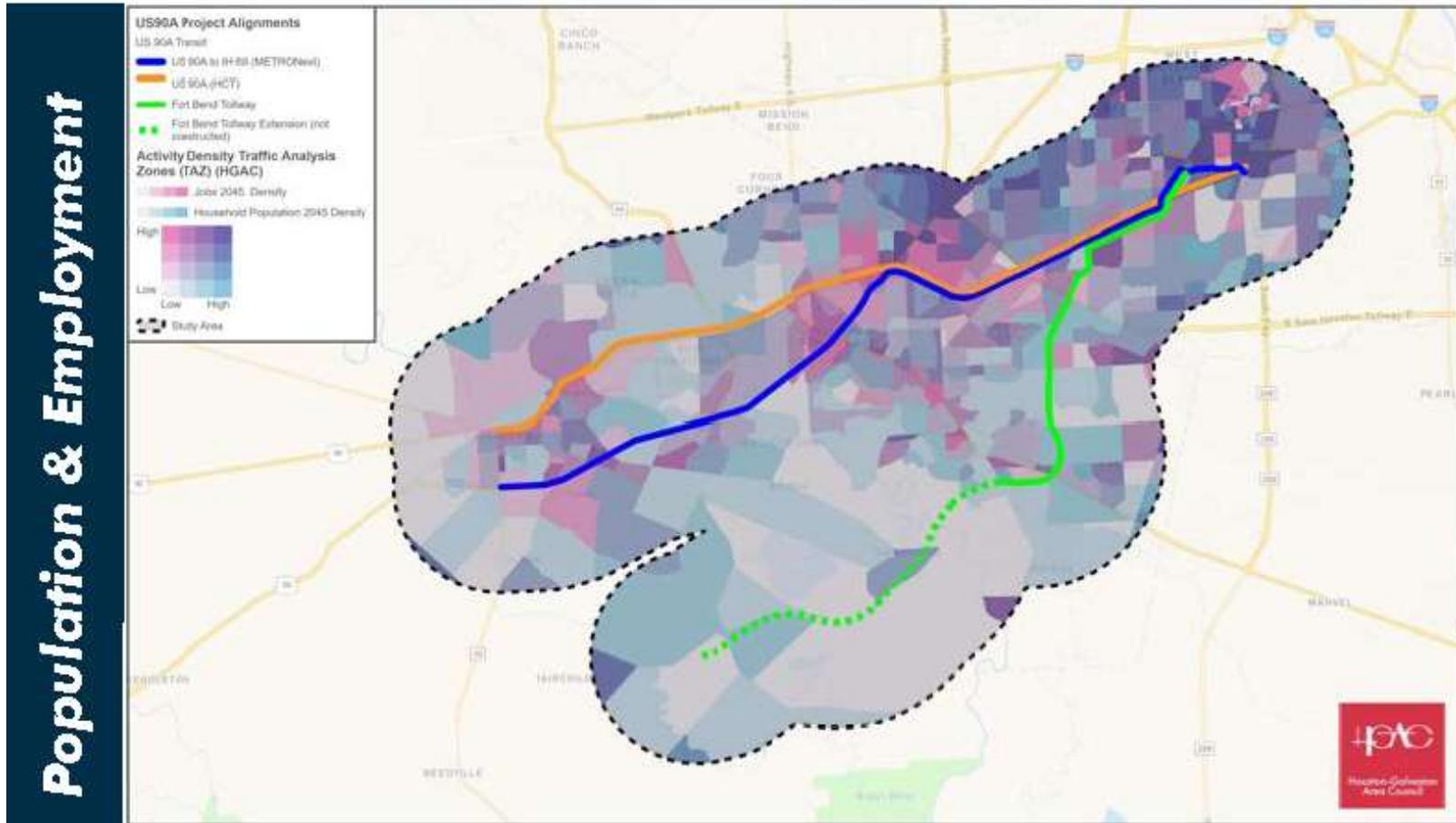
		<i>Maximum Score (5 points)</i>	<i>Minimum Score (0 points)</i>
<b>Ridership (Daily Boardings)</b>		18,000	6,000
<b>Capital Cost (\$1 Million)</b>	BRT Construction	\$1,500.00	\$3,500.00
	LRT Construction		
	HOV Lane Construction	\$500.00	\$600.00
	ROW Need (SF)	0	50,000
<b>Annual O&amp;M Cost (\$1 Million)</b>	BRT	\$20.00	\$60.00
	LRT		

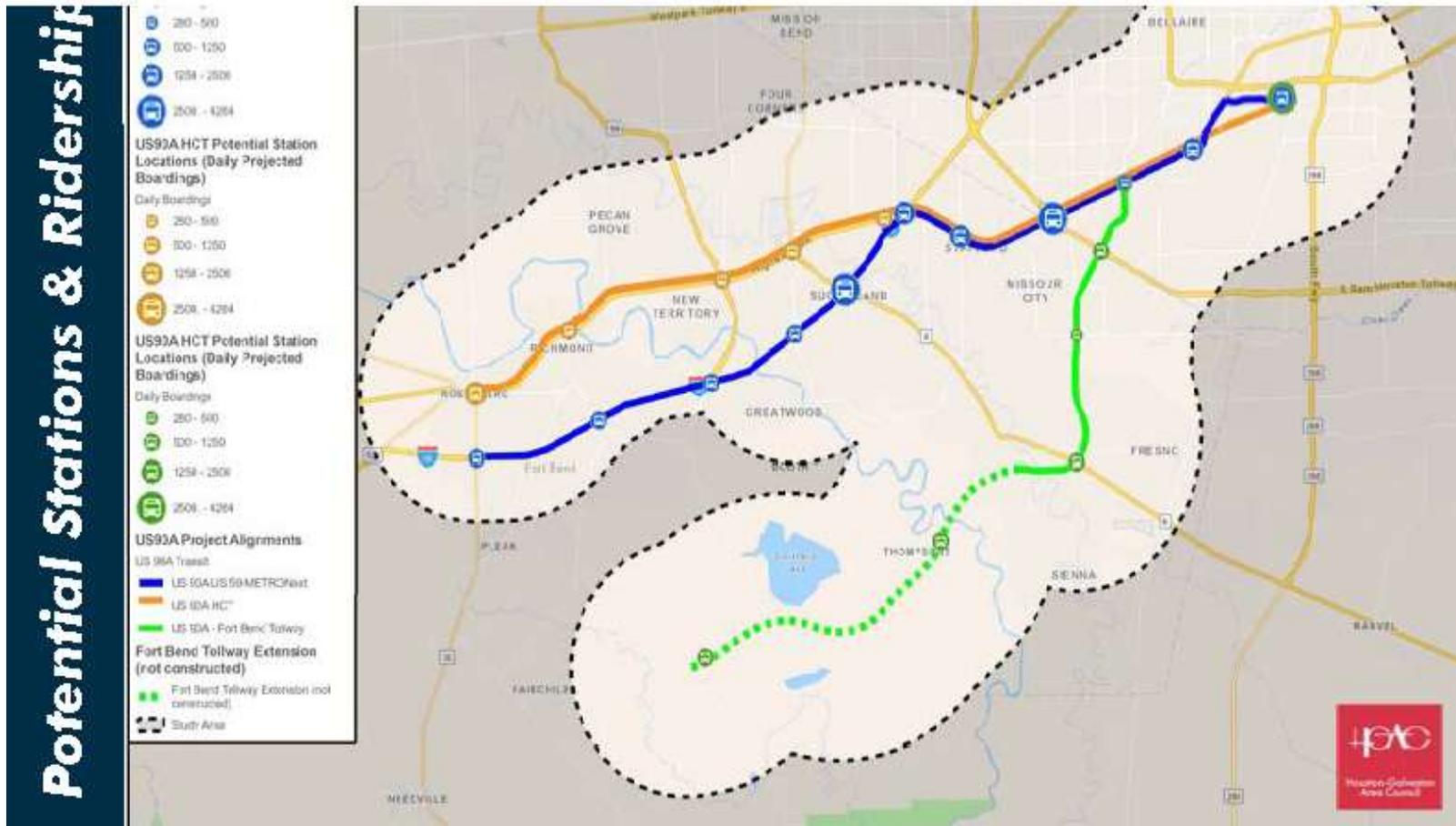


# Tier 2 Screening Results

		US 90A (HCT Peak)		METRONext (US 90A to IH 69)		Fort Bend Tollway	
<b>Length (mi)</b>		27.84		28.55		25.59	
<b>Number of Stations</b>		10		11		8	
<b>Evaluation Criteria</b>		<b>Value</b>	<b>Score</b>	<b>Value</b>	<b>Score</b>	<b>Value</b>	<b>Score</b>
<b>Ridership</b>	Daily Boardings	14,104	●	18,109	●	7,638	○
	<b>Ridership Score</b>	-	●	-	●	-	○
<b>Right-of-Way</b>	ROW Need (SF)	117,000	○	39,000	○	0	●
	<b>Right-of-Way Score</b>	-	○	-	○	-	●
<b>Capital Cost (\$1 Million)</b>	BRT	\$1,840.85	●	\$1,890.23	●	\$1,389.82	●
	LRT	\$3,371.93	○	\$3,460.42	○	\$2,541.91	○
	HOV Lane	\$615.99	○	\$316.97	●	\$468.15	○
	<b>Construction Cost Score</b>	-	○	-	○	-	●
<b>Annual O&amp;M Cost (\$1 Million)</b>	BRT	\$22.61	●	\$23.18	●	\$20.78	●
	LRT	\$60.76	○	\$62.31	○	\$55.85	○
	<b>O&amp;M Cost Score</b>	-	○	-	○	-	○
<b>TOTAL SCORE</b>		-	○	-	○	-	○







**Rendering of Potential Station**



Regional Collaboration • Transportation Planning • Multimodal Mobility

# Key Factors in Transit-Oriented Development



- Considers urban development around transit lines
- High-level approach on potential ridership for each station
  - Considers vacant or underutilized land
- Increases overall transit use
- Provides more economic opportunities to the surrounding areas



# Survey Responses

## Key Takeaways:

- **922** Survey Responses – **2<sup>nd</sup> largest response since H-GAC began using the EngagementHQ platform**
- **97%** of participants travel alone along the corridor 
  - Primary destinations are the Texas Medical Center (36%) and Downtown Houston (23%)
- Biggest Concerns were **Traffic Congestion** (82%) and **Lack of Transportation Options** (58%) 
- **61%** wants an expansion of the current bus routes and public transit options 
- **62%** wants improved signal timing 

## Survey Responses

### Key Takeaways Continued:

- Strong desire for improved public transportation options 
  - Light rail or commuter rail routes that connect Sugar Land to the Texas Medical Center and Downtown Houston 
- Significant concerns regarding Traffic Congestion and Safety
  - Suggestions include better signal timing, grade separations at railroad crossings, and HOV lanes 
  - Suggestions for increased enforcement of speed limits 

# Study Schedule

We are Here



Tasks	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
Data Collection		Existing Conditions						★								
Development & Evaluation of Alternatives		Screening Initial Alternatives						★								
								Evaluation of Final Alternatives					★			
Final Report													Final Report		★	

★ Study Milestones

## **F. Exhibits/Displays Available at the Public Meeting**

1. Exhibit Boards
2. Study Fact Cards



# ***Welcome to the US90A Transit Corridor Study Public Outreach Meeting***

Regional Collaboration • Transportation Planning • Multimodal Mobility

## Study Purpose and Goal

### Study Purpose:

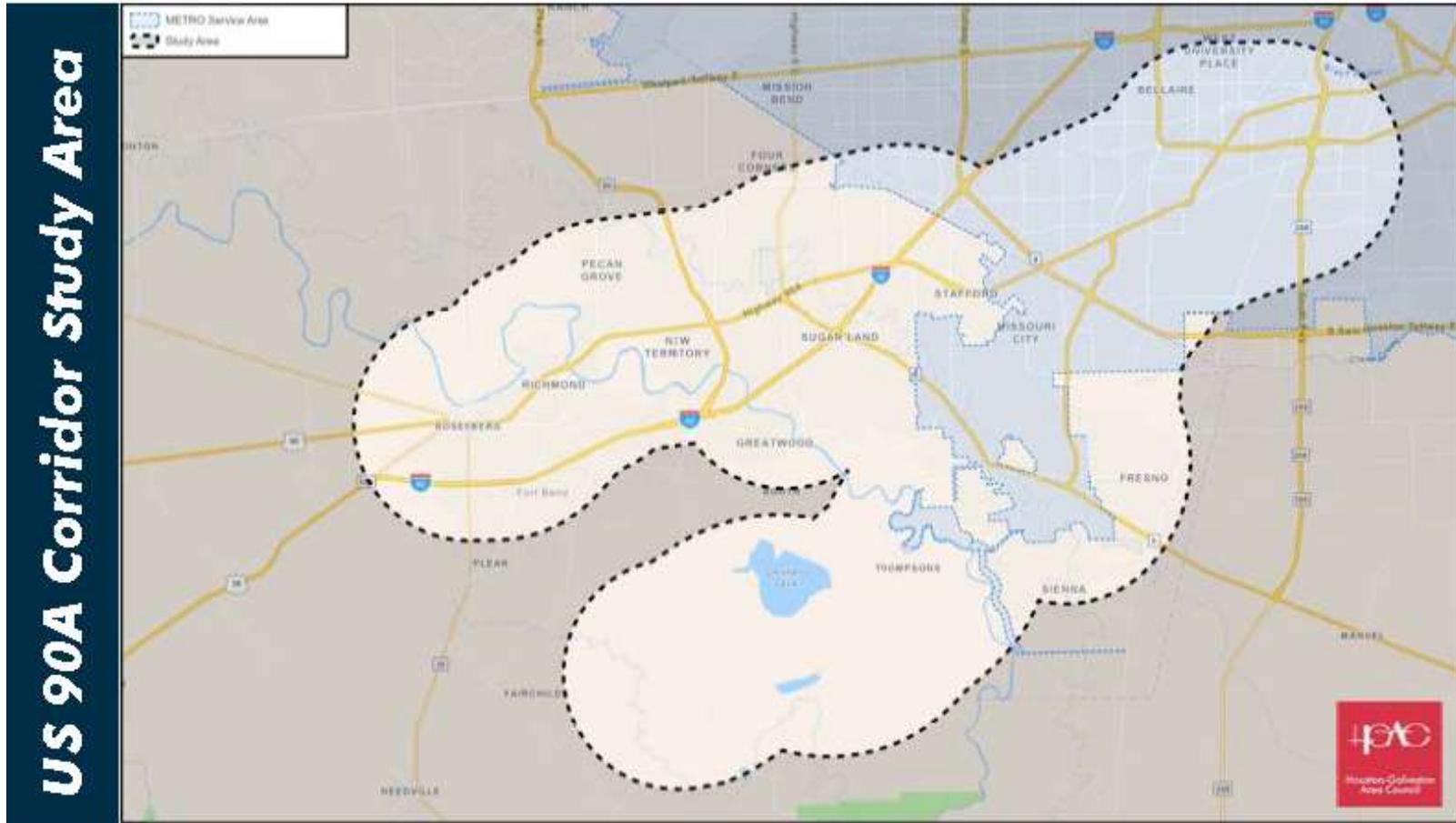
To assess the technological and economic feasibility of establishing and operating efficient transit service along this corridor, using modal options including light rail transit and bus rapid transit, that could have significant benefits to mobility within the region.

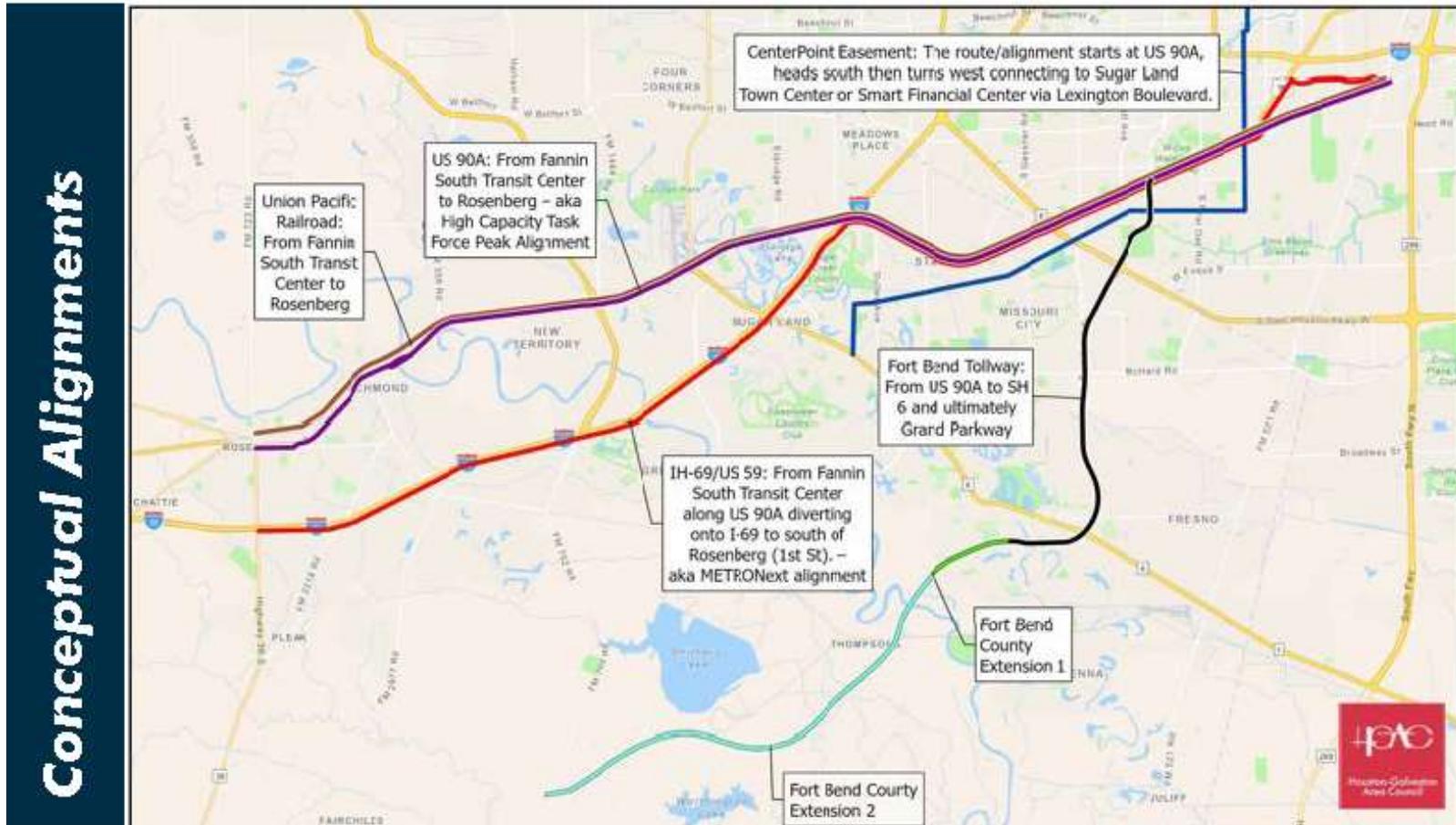


### Study Goal:

To generate feasible and reasonable transit alternative(s) for this corridor that can be advanced into more detailed study and analysis, with an eye towards implementation.



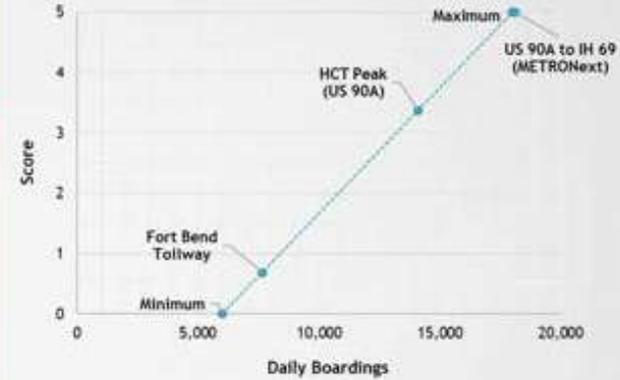




# Tier 2 Screening Methodology



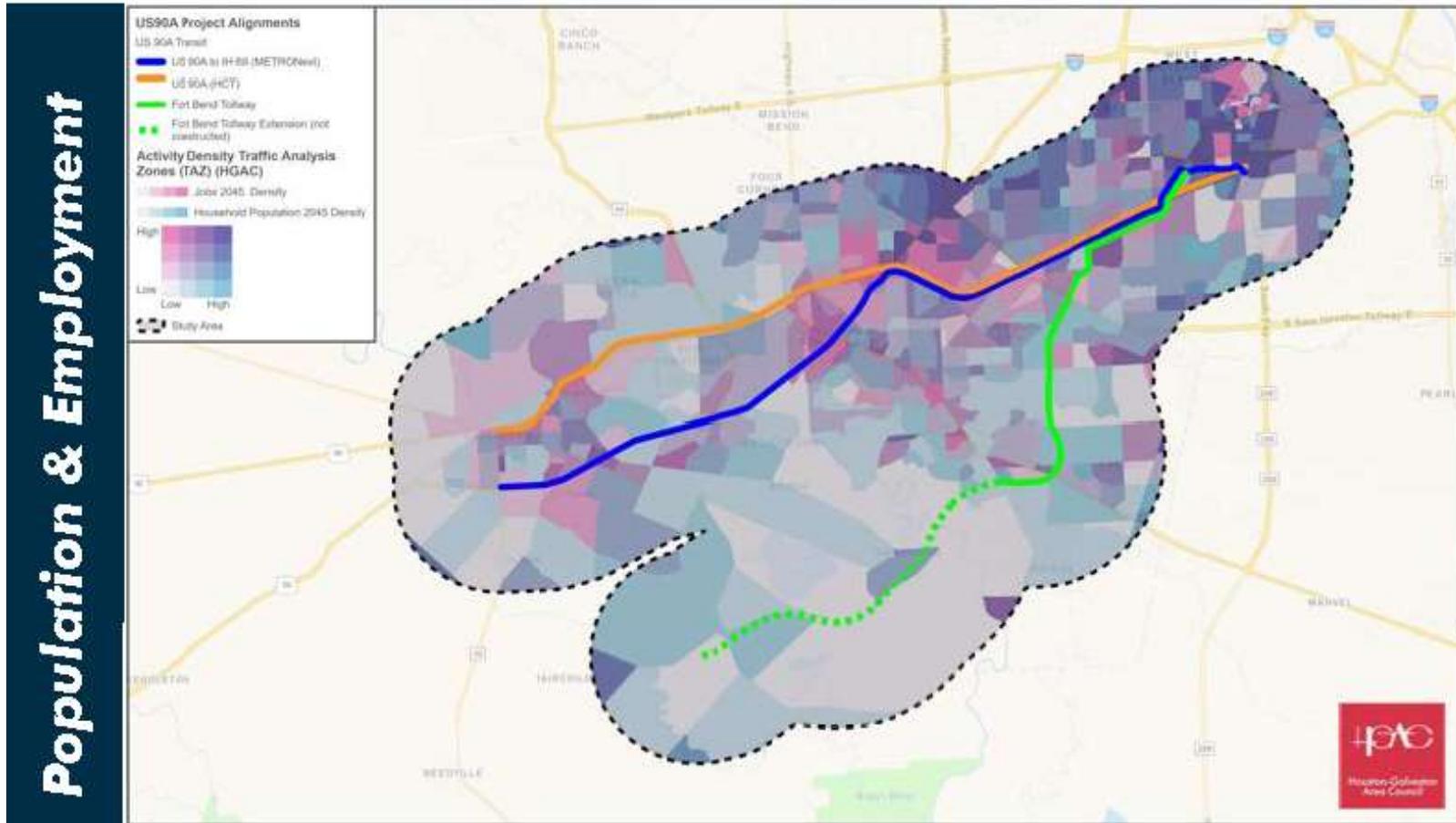
		Maximum Score	Minimum Score
<b>Ridership (Daily Boardings)</b>		18,000	6,000
<b>Capital Cost (\$1 Million)</b>	BRT Construction	\$1,500.00	\$3,500.00
	LRT Construction		
	HOV Lane Construction	\$500.00	\$600.00
	ROW Need (SF)	0	50,000
<b>Annual O&amp;M Cost (\$1 Million)</b>	BRT	\$20.00	\$60.00
	LRT		

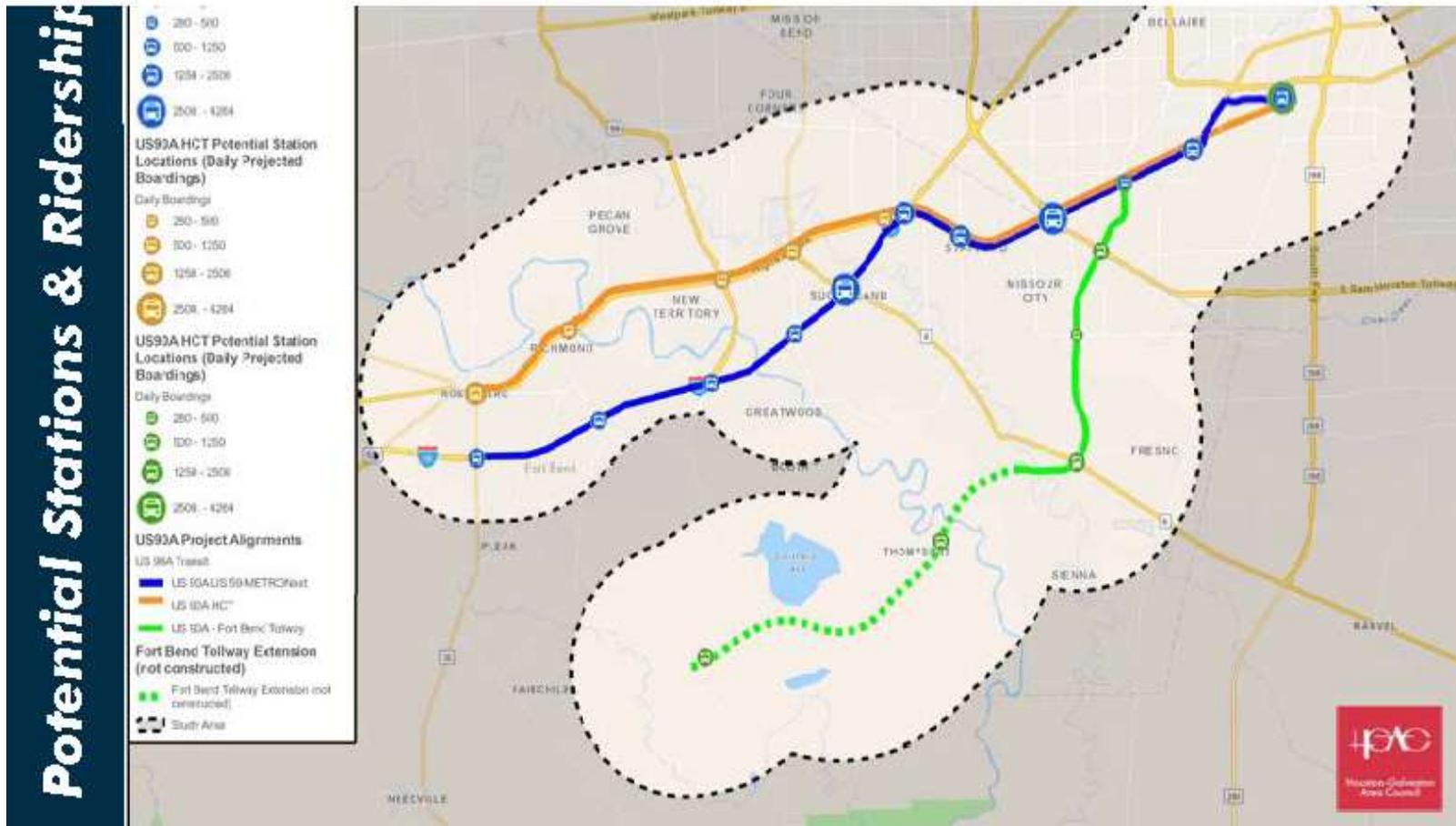


# Tier 2 Screening Results

		US 90A (HCT Peak)		METRONext (US 90A to IH 69)		Fort Bend Tollway	
<b>Length (mi)</b>		27.84		28.55		25.59	
<b>Number of Stations</b>		10		11		8	
<b>Evaluation Criteria</b>		<b>Value</b>	<b>Score</b>	<b>Value</b>	<b>Score</b>	<b>Value</b>	<b>Score</b>
<b>Ridership</b>	Daily Boardings	14,104	●	18,109	●	7,638	○
	<b>Ridership Score</b>	-	●	-	●	-	○
<b>Right-of-Way</b>	ROW Need (SF)	117,000	○	39,000	○	0	●
	<b>Right-of-Way Score</b>	-	○	-	○	-	●
<b>Capital Cost (\$1 Million)</b>	BRT	\$1,840.85	●	\$1,890.23	●	\$1,389.82	●
	LRT	\$3,371.93	○	\$3,460.42	○	\$2,541.91	○
	HOV Lane	\$615.99	○	\$316.97	●	\$468.15	○
	<b>Construction Cost Score</b>	-	○	-	○	-	●
<b>Annual O&amp;M Cost (\$1 Million)</b>	BRT	\$22.61	●	\$23.18	●	\$20.78	●
	LRT	\$60.76	○	\$62.31	○	\$55.85	○
	<b>O&amp;M Cost Score</b>	-	○	-	○	-	○
<b>TOTAL SCORE</b>		-	○	-	○	-	○







# Key Factors in Transit-Oriented Development



- Considers urban development around transit lines
  - Considers vacant or underutilized land
- High-level approach on potential ridership for each station
  - Considers vacant or underutilized land
- Increases overall transit use
- Provides more economic opportunities to the surrounding areas



# Study Schedule

We are Here



Tasks	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
Data Collection		Existing Conditions						★								
Development & Evaluation of Alternatives		Screening Initial Alternatives						★								
								Evaluation of Final Alternatives					★			
Final Report													Final Report		★	

★ Study Milestones



# Learn More About the US 90A Transit Corridor Study!

## Purpose of the Study:

- Identify a high-capacity transit alternative for the US 90A Corridor.
- Identify economically feasible technology.
- Identify an alternative that is aligned with broader regional goals and community needs.

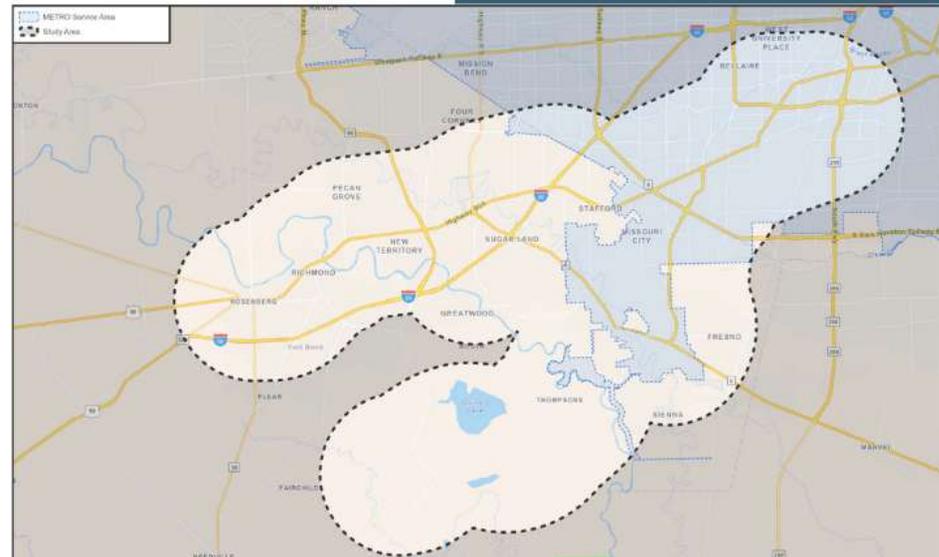
## Goal of the Study:

Generate feasible and reasonable transit alternative(s) for this corridor that can be advanced into more detailed study and analysis, with an eye towards implementation.

Scan the QR Code below to visit the Study Website!



US 90A Transit Corridor Study Area





## **G. Photos from the Public Meeting**

**US 90A Transit Corridor Study  
Fort Bend County Libraries – Missouri City Branch  
1530 Texas Parkway, Missouri City, 77489  
Public Meeting Photolog**



Members of the public and elected officials sign in to the meeting.



Meeting attendees look at exhibits of the study area.

**US 90A Transit Corridor Study  
Fort Bend County Libraries – Missouri City Branch  
1530 Texas Parkway, Missouri City, 77489  
Public Meeting Photolog**



Thomas Gray and Laura Grams give a presentation about the study.



Members of the public leave comments on the study area map and discuss their ideas for the study.

# 13 Appendix E – Resolutions and Additional Comments Received

## RESOLUTION NO. R-25-13

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MISSOURI CITY, TEXAS, DESIGNATING THE FORT BEND TOLLWAY ALTERNATIVE AS THE CITY OF MISSOURI CITY’S PREFERRED ALIGNMENT FOR FURTHER EVALUATION IN THE HOUSTON-GALVESTON AREA COUNCIL US 90A TRANSIT CORRIDOR STUDY; AND CONTAINING OTHER PROVISIONS RELATED THERETO.**

\* \* \* \* \*

WHEREAS, the Houston-Galveston Area Council (H-GAC) has established a partnership with the Gulf Coast Rail District (GCRD) to conduct a study and develop feasible and reasonable transit alternative(s) for the US 90A Highway corridor (the Study); and

WHEREAS, the US 90A Highway corridor parallels the Union Pacific Railroad (UPRR) Glidden Subdivision and passes through some of Fort Bend County’s most significant and growing urban developments, including Missouri City; and

WHEREAS, at the corridor’s eastern end is the Texas Medical Center (TMC), a major employment center that is the destination for many Missouri City commuters; and

WHEREAS, the purpose of the Study is to assess the technological and economic feasibility of establishing and operating efficient commuter transit service, including light rail transit and bus rapid transit, that would significantly benefit the corridor; and

WHEREAS, the goal of the Study is to generate transit alternative(s) for the US 90A Highway corridor that can be advanced into more detailed study and analysis, with an eye toward implementation; and

WHEREAS, the City of Missouri City has been identified as a member of the Stakeholder Committee for the Study; and

WHEREAS, the Stakeholder Committee includes elected officials, county, city, neighborhood and school district representatives, management district and Chamber of Commerce representatives, business, industry and community leaders, and other groups with an interest in the US 90A Highway corridor; and

WHEREAS, the Stakeholder Committee’s purpose is to provide feedback on proposed recommendations and solicit and build continuing support for the Study and its recommendations; and

WHEREAS, based on staff's review of the currently proposed conceptual alignments, the Fort Bend Tollway alignment will be the most beneficial alignment for the residents of Missouri City due to its connection to future high growth areas in Missouri City's jurisdiction; now therefore,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF MISSOURI CITY, TEXAS:

Section 1. That the facts and recitals set forth in the preamble of this Resolution are hereby found to be true and correct and are in all things incorporated herein and made a part hereof.

Section 2. That the City Council hereby finds that, based on staff's review of the currently proposed conceptual alignments, the Fort Bend Tollway alignment, depicted in black and green line segments in Exhibit "A," attached hereto and made a part hereof, will be the most beneficial alignment for the residents of Missouri City, Texas.

Section 3. That the City Council hereby authorizes and directs City staff to take all appropriate steps necessary to effectuate this Resolution.

Section 4. Repeal. All resolutions or parts of resolutions, if any, in conflict herewith, shall be and are expressly repealed to the extent of such conflict.

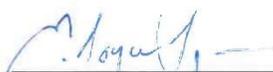
Section 5. Severability. In the event any clause, phrase, provision, sentence or part of this Resolution or the application of the same to any person or circumstances shall for any reason be adjudged invalid or held unconstitutional by a court of competent jurisdiction, it shall not affect, impair, or invalidate this Resolution as a whole or any part or provision hereof other than the part declared to be invalid or unconstitutional; and the City Council of the City of Missouri City, Texas, declares that it would have passed each and every part of the same notwithstanding the omission of any part thus declared to be invalid or unconstitutional, or whether there be one or more parts.

PASSED, APPROVED and ADOPTED this 5<sup>th</sup> day of May, 2025.

  
\_\_\_\_\_  
Robin J. Elackatt, Mayor

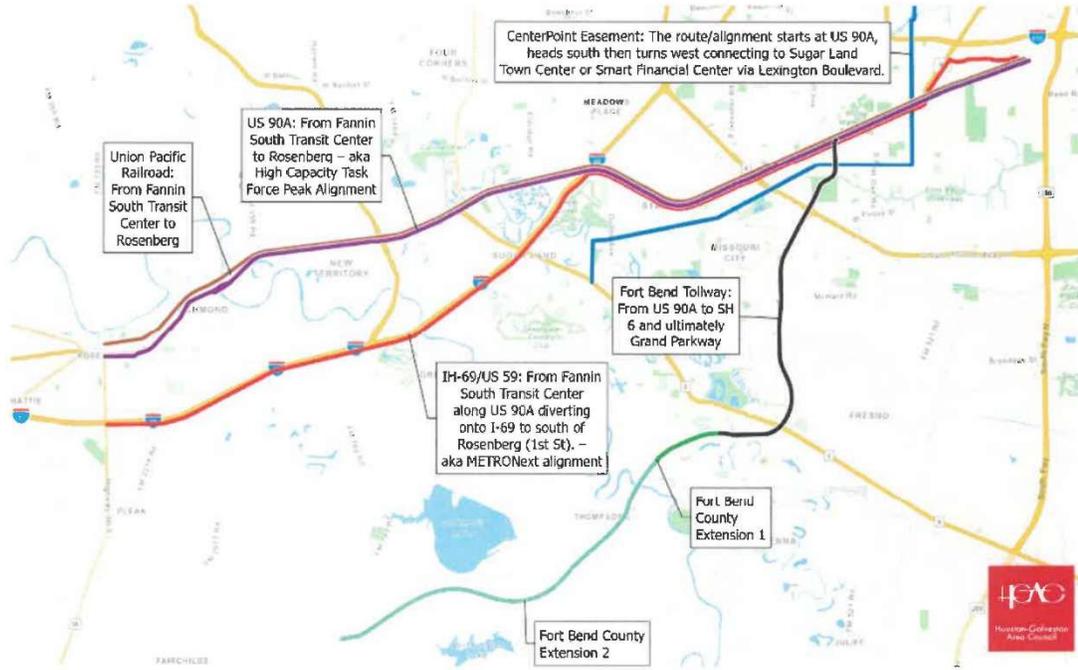
ATTEST:  
  
\_\_\_\_\_  
Crystal Roan, City Secretary



APPROVED AS TO FORM:  
  
\_\_\_\_\_  
E. Joyce Iyamu, City Attorney

**Exhibit "A"**

**US 90A Proposed Alignments**



**RESOLUTION NO. 26-25**

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF STAFFORD, TEXAS SUPPORTING THE SELECTION OF THE CORRIDOR, LOCATED AT US 90A HIGHWAY AND I-69 HIGHWAY, AS A RECOMMENDED STATION FOR A TRANSIT SYSTEM.

\* \* \* \* \*

Whereas, the Houston-Galveston Area Council (H-GAC), in partnership with the Gulf Coast Rail District (GCRD) is currently conducting a study to develop feasible and reasonable transit alternative(s) for the US 90A Highway corridor; and

Whereas, the US 90A Highway corridor parallels the Union Pacific Railroad (UPRR) Glidden Subdivision and passes through some of Fort Bend County's most significant and growing urban developments, including the cities of Stafford, Missouri City, Sugarland, Richmond, and Rosenberg, as well as communities in Southwest Houston; and

WHEREAS, the US 90A Highway itself does not currently have any transit priority infrastructure, even though it provides a key connection between Fort Bend County and surrounding communities.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF STAFFORD, TEXAS:

Section 1. That the City Council hereby supports the addition of a station, at the intersection of US 90A Highway and I-69 Highway corridor for a transit system, highlighted in blue and attached hereto as "Exhibit A" and incorporated herein for all purposes.

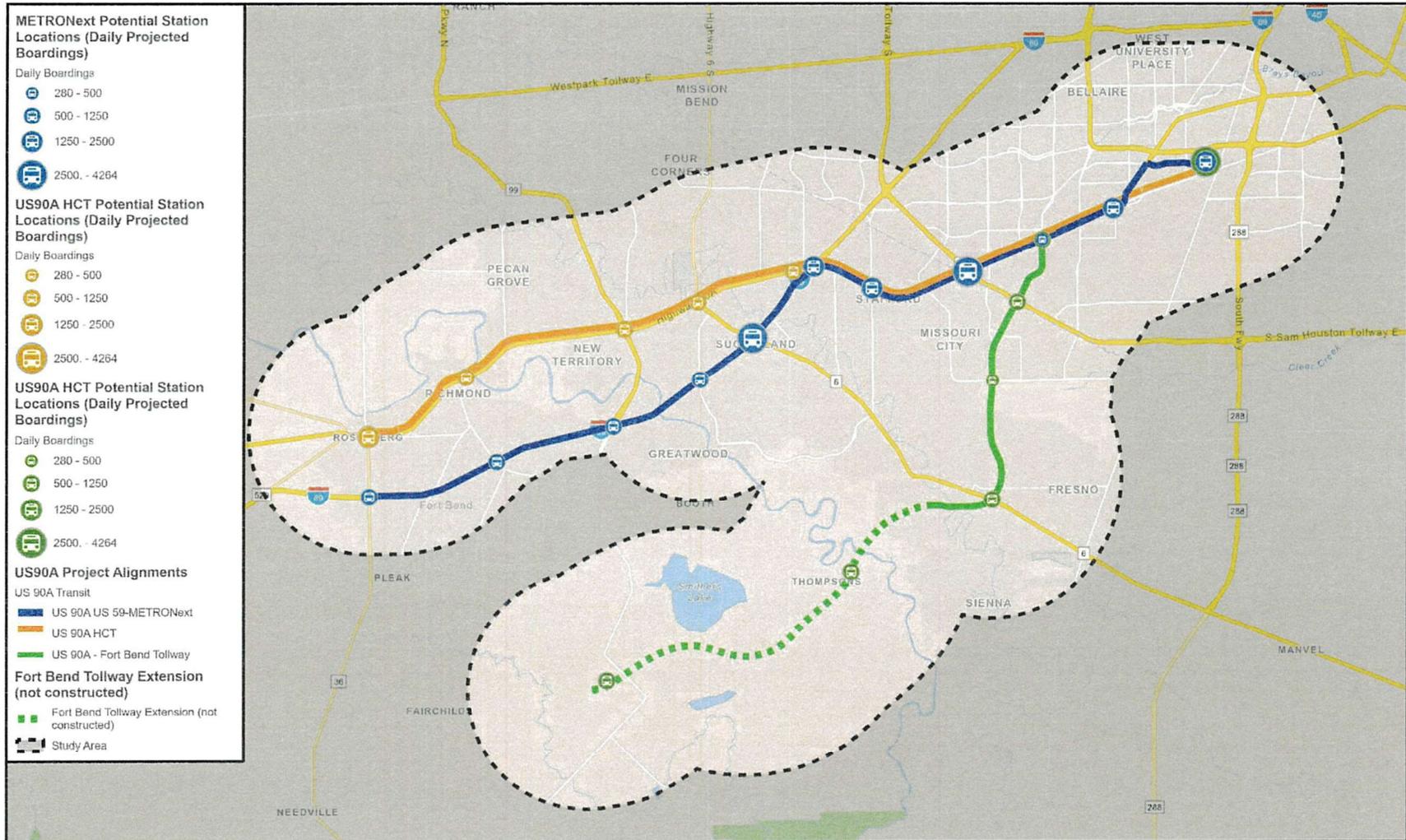
PASSED, APPROVED and RESOLVED this the 21<sup>st</sup> day of May, 2025.

  
\_\_\_\_\_  
Ken Mathew, Mayor

ATTEST:

  
\_\_\_\_\_  
Roxanne Benitez, City Secretary

**EXHIBIT A**



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**Vehicle Inspection no longer required for Texas drivers by 2025**

**UPDATE: CenterPoint. Entergy release new timelines for power restoration in Houston...**

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**Breaking down the 14 state propositions on your ballot November**



HOUSTON / SUGAR LAND - MISSOURI CITY / GOVERNMENT

## Missouri City officials urge H-GAC to choose Fort Bend Parkway Toll Road for potential transit route



By **Aubrey Vogel** | 2:18 PM May 6, 2025 CDT  
Updated 2:18 PM May 6, 2025 CDT



*Missouri City City Council approved a resolution to support the Fort Bend Toll Road alignment for the Hwy. 90A alternative transportation route study. (Aubrey Vogel/Community Impact)*

Missouri City officials are calling on the [Houston-Galveston Area Council](#) to choose an alternative transportation route for the Hwy. 90A corridor that can benefit city residents.

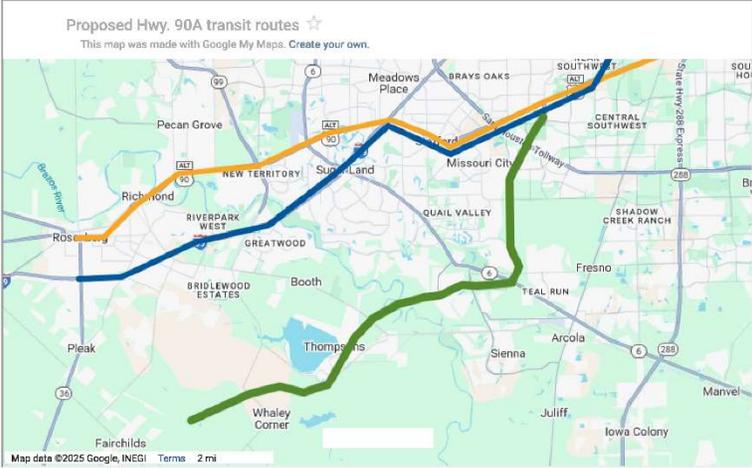
At a May 5 meeting, Missouri City City Council approved a resolution requesting that H-GAC consider the Fort Bend Parkway Toll Road as the preferred alignment for further study.

**The background**

H-GAC officials hosted a [public meeting](#) April 23 to gather community input on three proposed routes for a transit system aimed at addressing congestions along the Hwy. 90A corridor.

Project officials said the three most viable options include:

- Along Hwy. 90A from Fannin South Transit Center to Rosenberg
- A potential partnership with the [Metropolitan Transit Authority of Harris County](#) to add a route along Hwy. 90A from Fannin South Transit Center, then diverting onto Hwy. 59 south of Rosenberg
- Along the Fort Bend Parkway Toll Road from Hwy. 90A to Hwy. 6 along the toll road's future extension and the future Grand Parkway extension



**What they're saying**

Several council members, including Jeffrey Boney, expressed their support for the Fort Bend Parkway Toll Road route, citing population growth as the corridor continues to extend.

"I felt like this option was truly the best option and most beneficial to Missouri City and the region generally," he said. "Area transportation—it's a regional issue—but this particular [route] is going to cover all those areas down near Thompson and areas that are going to be developed in the future."

**Looking ahead**



Community members can submit comments through May 7 via an online interactive map on the project's website or by email to Project Manager Thomas Gray at [thomas.gray@h-gac.com](mailto:thomas.gray@h-gac.com).

H-GAC's final report on the alternative transit route for Hwy. 90A is expected to be completed in May, officials previously said. The final report will be shared with the [Gulf Coast Rail District](#), H-GAC's partner on the project, who will further study the project.

By **Aubrey Vogel**   
Government Reporter

Aubrey joined *Community Impact* as a reporter in February 2024, where she covers government in the Katy, Fulshear, Missouri City and Sugar Land areas. Before coming to CI, she served as Editor-in-Chief at *Insite Brazos Valley Magazine* in Bryan. She also served as the news editor at *The Battalion*, Texas A&M University's student newspaper, before graduating with a major in journalism and minors in business and sports management in 2022. When she's not writing, Aubrey enjoys spending time with her friends, family and her cat, Ferguson.



**Thanks for reading!**

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[Become a CI Patron](#)



**More stories from Sugar Land - Missouri City**

Comments and Suggestions Received			Engage H-GAC: US 90A Transit Corridor Study		
Date of contribution	Ideas		Contributor Details	Votes	Visitors
	Title	Description	Contributor Summary (Signup form Qs - Detailed breakup on the right > )		
Oct 30 24 07:37:30 am	Yes on More Rail Transit!	As a resident of Sugar Land, this is a service I would use regularly for longer trips into Houston. Commutes on local roadways and on freeways have been getting longer and more unpredictable. Additionally, I would like to see more grade-separated crossings for a smoother flow of traffic and and safer connections for Pedestrians & Bikers.	Jsamu53043.jsamu53043@gmail.com,, Sugar Land, TX 77478	5	30
Nov 20 24 04:10:06 am	Yes For Rail From Rosenberg.	I'm disabled and handicapped and I live in Rosenberg, I've reached a point that I can't or just do not wish to drive anymore to get to some of my doctors appointments plus trying to find parking at some of these facilities especially with low clearance parking garages because my Van is a high top Van. And a couple of my doctors are 120 miles round trip or 60 miles one way. Also If rail was available here in Rosenberg I would also be able to ride into Houston for events like the Houston Rodeo and other events, it would also be nice to one day be able to ride the rail and go spend the day at Galveston.		5	17
Nov 20 24 09:12:28 pm	More Public Transit Options (Especially Late at Night, Midnight, and Early Morning)	It would be nice if there are more public transit options (like buses, vans, and rail of any kind) in the Missouri City, Sugar Land, Richmond, Stafford, and Rosenberg areas that can operate late at night, midnight, and/or early morning in case people come back from work or anywhere. (I forgot to mention that we need public transit running during the weekends just in case.)	RosettaxCloud ,tamn5294@gmail.com,, Stafford, TX 77477	4	19

<p>Nov 21 24 05:41:55 am</p>	<p>No to buses and rail. Unless it would be commuter train on the current rail line.</p>	<p>The commuter rail downtown was horrible for vehicle traffic and businesses. We already have to deal with the active train line and trains stopped on tracks blocking intersections. Adding more rail to 90 would reduce turning options and lead to increase train and vehicle accidents. Busses would cause more stop and go traffic.</p>	<p>Jake.jacobbullard@gmail.com,,Richmond, TX 77406</p>	<p>0</p>	<p>31</p>
<p>Apr 23 25 05:43:38 am</p>	<p>Accommodate other modes of transport in your paln</p>	<p>Not everyone can drive, and not everyone wants to drive. Yes, driving is a huge factor but cannot be the only factor.</p>	<p>michael.jefferson09,michael.jefferson09@gmail.com,,Rosenberg, TX 77471</p>	<p>1</p>	<p>8</p>
<p>Apr 25 25 05:36:45 am</p>	<p>No Thank You</p>	<p>I have lived in Sugar Land since 1982. I have watched the transformation of southwest Houston through those years. I have watched the slow creep of degredation of the local economies slug it's way down 59 from the Galleria to Sugar Land. For most of those years SL was able to stay virtuall immune to the progression mostly as a result of the construction of the Sam Houston Tollway that provided a barrier for some time. Unfortunately the tide can no longer be held back. With the growth of Sugar Land along with the "no place else to go", the degredation is slowly marching straight through SL. This mass transit project will only fast track the degredation. I have lived for many years in cities that embrace mass transit and have seen first hand how it gives full access to undesireable elements to access nice areas at a very cheap price. I asked my buddy once why there were so many homeless on the beaches in LA, he said "wouldn't you want to pitch camp here if you were homeless and encouraged to do so?". I come to my conclusions through my own personal experience and witness throughout the years in southwest Houston. When I first moved here the Galleria was oppulent, but too far and congested outside of special occasions, the next closest thing was Sharpstown Mall, it was really nice, safe, and not as far as the Galleria. Sharpstown went down the tubes at lightspeed so the next option was Westwood mall which used to be nice, safe, and even closer.</p>	<p>slresog,marked_man72@yahoo.com,,Sugar Land, TX 77478</p>	<p>0</p>	<p>15</p>

		<p>Westwood mall fell victim to the creep of degradation down 59 and followed Sharpstown down the tubes. They made an attempt at Deauville Mall in Stafford that never made it past the opening stages. Finally they opened First Colony mall in Sugar Land which was very nice and ultra convenient when it opened. It is headed down the tubes as we speak. I understand that the bad comes with the growth, but I see no reason speed up the process with a mass transit system. Crime used to be a car stereo getting stolen in Sugar Land. We never had to worry about homeless people, prostitutes, and the associated crime and drug problems that follow. It was never even an afterthought. Unfortunately now it is at our doorstep and will literally be delivered there by a mass transit system. Believe it or not Braeburn used to be an ultra luxurious, opulent community. Go drive over there now, it's less than ten minutes from Sugar Land. That is exactly how Sugar Land is going to end up in the next 25 years and a mass transit system is going to help speed that along, mark my words. The people with money will move out of Sugar Land further down 59 towards Rosenberg. And Sugar Land will be left to it's own devices and go straight down the tubes just like every formerly "nice" community along 59 from the Galleria straight to Sugar Land.</p>			
		<p>History tends to repeat itself, people rarely like or are open to hearing the truth, and zebras just don't change their stripes. Mass transit in any form extended to or through Sugar Land will only hurt the already ailing local economy. This is my humble opinion.</p>			
Apr 30 25 12:07:55 pm	Comment response to "Yes on More Rail Transit!"	<p>Stops need to be safe and secure with ample security &amp; high visibility. Buses and Trains too!</p>	Jsamu53043.jsamu53043@gmail.com., Sugar Land, TX 77478	0	0
Nov 21 24 10:10:00 am	Comment response to "Yes For Rail From Rosenberg."	<p>Rosenberg is home to the Fort Bend County Fairgrounds, Fort Bend County Epicenter, and a DMV location, among many other attractions/services. As a Sugar Land resident, I would love to access some of the above without needing a car. Big YES to rail from me!</p>	wec.purlamaknitco@gmail.com., Sugar Land, TX 77479	0	0
Nov 21 24 10:12:51 am	Comment response to "More Public Transit Options (Especially Late at Night, Midnight, and Early Morning)"	<p>Very much agree! The current Fort Bend county transit stops for too early for me to use, especially if I have to stay late to work or decide to meet up with coworkers for a drink.</p>	wec.purlamaknitco@gmail.com., Sugar Land, TX 77479	0	0

<p>Nov 21 24 10:19:23 am</p>	<p>Comment response to "No to buses and rail. Unless it would be commuter train on the current rail line."</p>	<p>I agree that mixing traffic like the the light rail (Purple and Green lines) in downtown Houston or the railroad running along Hwy 90 Alt. was a big issue. I hope to see the railroad along Hwy 90 Alt. become fully grade separated so wait times can decrease, but I would personally love to have some transit options IF (big if) they are built properly.</p>	<p>wec.purlamaknitco@gmail.com., Sugar Land, TX 77479</p>	<p>0</p>	<p>0</p>
<p>Apr 30 25 12:05:40 pm</p>	<p>Comment response to "Accommodate other modes of transport in your pain"</p>	<p>Yes! If provided a safe and fast alternative to wasting time in traffic I would rather take that!</p>	<p>Jsamu53043.jsamu53043@gmail.com., Sugar Land, TX 77478</p>	<p>0</p>	<p>0</p>
<p>May 03 25 01:34:07 pm</p>	<p>Comment response to "No Thank You"</p>	<p>Then, why are Fort Bend Transit and the Sugar Land microtransit systems allowed to be to go to and through Sugar Land? They're part of mass transit after all Yet, they didn't speed up the decline of the quality of Sugar Land. Just curious on your reasoning and wanting to understand.</p>	<p>RosettaxCloud ,tamn5294@gmail.com., Stafford, TX 77477</p>	<p>0</p>	<p>0</p>
<p>May 03 25 06:10:16 pm</p>	<p>Comment response to "No Thank You"</p>	<p>SL has been in a steady freefall from it's one time glory for the last 20 years Rosetta, so I agree to disagree with you on whether or not the transit and microtransit systems have contributed to that decline. Regardless, there is a massive difference between jumping in a van or on a bus and jumping on a subway or in our case, light rail. Visit NYC, Chicago. LA, or Philly sometime and ride their mass transit for some length of duration and you'll come to understand exactly what it is I am referring to. We don't need mass transit to the med center, we have our own very functional med center in SL. If you have a terminal condition that requires you to be in the med center then make the necessary arrangements... you don't bring down the economy for everyone because some of the people work and visit there frequently. You don't sacrifice the welfare of the many for the needs of a few. Again, just my opinion. If you had lived in SL from 83-2003 you would understand far more clearly what we used to have and my concern for where we are headed.</p>	<p>slresog.marked_man72@yahoo.com., Sugar Land, TX 77478</p>	<p>0</p>	<p>0</p>

**Gray, Thomas**

---

**From:** s w <seble77@hotmail.com>  
**Sent:** Wednesday, April 23, 2025 6:17 PM  
**To:** Gray, Thomas  
**Subject:** Hwy 90 Transit Project

**CAUTION:** This message originated outside of H-GAC. Please do not click links or open attachments unless you recognize the source and know the content is safe. Report any suspicious email using the Phish Alert button.

Hello Mr. Gray,

I reside in Promenade for over 20 years and a resident of Fort Bend for over 45 years. Promenade is located on Hwy 90 near Hwy 59. I'm not able to make tonight's meeting.

I am concerned with crime whenever public transportation is added to the suburbs. I've noticed the high crime in Alief which was once a respected area for middle class families.

Can you share a 6-month crime report for the areas that have Metro transit?

Thank you for your time,

Seble Woubshet  
534 Jays Lane  
Stafford, TX 77477  
713-256-8996

**Gray, Thomas**

---

**From:** Joel Samuel <jsamu53043@gmail.com>  
**Sent:** Sunday, April 27, 2025 10:32 PM  
**To:** Gray, Thomas  
**Subject:** EOL Marked Spam> 90A Transit Study Comments

**CAUTION:** This message originated outside of H-GAC. Please do not click links or open attachments unless you recognize the source and know the content is safe. Report any suspicious email using the Phish Alert button.

Dear HGAC 90A Transit Study Team and Partners,

My name is Joel Samuel, and I am a young professional and future urban planner living in Sugar Land. I'm writing to share my support for a bold, connected vision for transit along the US 90A Corridor—and to encourage stronger integration with Sugar Land's broader regional mobility and redevelopment goals.

While attending the recent public engagement meeting for the 90A Transit Study, I was energized by the amount of community support for expanding high-capacity transit in Fort Bend County. Sugar Land has an incredible opportunity to shape a future-ready transit system that not only serves commuters but truly anchors new destinations and vibrant, walkable places.

In particular, I urge the study team to consider the creation of Transit-Oriented Developments (TODs) and multimodal hubs at three strategic locations:

- **US 59/90A Intersection at Sugar Creek Regional Activity Center**  
A major crossroads ideal for a park-and-ride, commuter rail stop, or multimodal transit hub that connects the broader region and catalyzes redevelopment of surrounding commercial areas.
- **Lake Pointe / Sugar Land Town Center**  
A natural heart of the city that, with improved transit access, could evolve into a dynamic, mixed-use lakefront community. The City's vision for an aerial transportation system (gondola) could integrate beautifully here alongside regional rail or bus rapid transit (BRT) service.
- **University of Houston Sugar Land / Smart Financial Centre**  
With its expanding educational and entertainment institutions, this area is primed for a future TOD that serves students, workers, and visitors alike, building on investments like the Wisk Aero advanced air mobility partnership.

These sites represent real opportunities to build a connected network of places—not just stations—that embody the Central Sugar Land Livable Center Study's goals of creating vibrant, multimodal destinations.

Furthermore, I encourage HGAC and its partners to explore collaboration with the City of Sugar Land, METRO, and TxDOT to develop additional pedestrian linkages, such as bridges over US 59, trails along Oyster Creek, and integrated first/last-mile systems like microtransit or aerial systems.

I believe that thoughtful transit planning along the 90A Corridor can not only meet today's mobility needs but set the foundation for a new era of regional living.



As a young resident deeply invested in staying and thriving here, I am excited by the potential—and hope you will pursue a bold, coordinated, and people-centered vision.

Thank you for the opportunity to share my thoughts.

Sincerely,

**Joel Samuel**

Sugar Land Resident / Future Urban Planner

**Gray, Thomas**

---

**From:** Jeffrey L. Boney <jeffrey.boney@missouricitytx.gov>  
**Sent:** Friday, April 25, 2025 11:43 AM  
**To:** Gray, Thomas  
**Cc:** Wemple, Charles; Angel L. Jones; Shashi Kumar  
**Subject:** US 90A Corridor Transit Study Feedback

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Good morning Thomas,

I attended the H-GAC US 90A Corridor Study Public Meeting this past Wednesday evening and thought I would have been given an opportunity to share my thoughts on the study.

I just wanted to share some personal feedback with you regarding my views on this study and proposed options that have been presented.

Area transportation is a regional problem. While rail along 90A, has been previously proposed, it has not come to fruition.

In Missouri City, we have seen the development and expansion of the Fort Bend Tollway, and the recent opening of the METRO parking garage at Highway 6 and the Fort Bend Tollway.

In my humble opinion, any proposal being considered is only beneficial to the region if it connects to the METRO system in Houston.

Based off the options I have seen, the option that follows the Fort Bend County Toll Toad from around 90A, south to State Highway 6 and beyond, would make the most sense for the City of Missouri City and for the region, if it is implemented and properly funded.

I just want to stress this MAJOR point!

The City of Missouri City joined the METRO system in the 1970s. The primary reason the citizens voted to be a part of the METRO system was the unfulfilled promise of providing rail and accessible transit to and from downtown Houston and the Medical Center.

It was not until 2018, when I joined the Missouri City Council, that we pushed for increased mobility and transit options, and can now state that we are finally realizing SOME of the benefits of being a part of the METRO system.

As it relates to the other Fort Bend County cities, especially the larger ones, I believe it is significantly important that a regional plan is developed and implemented to address increased traffic congestion, factor in current and future development, consider smaller cities in the southern part of the region, and address the environmental impact from traffic.

Sincerely,

Jeffrey L. Boney  
City Councilmember, City of Missouri City, TX  
NLC Vice-Chair CED Federal Advocacy Committee  
H-GAC Board of Directors and NBC-LEO Region XI Director



**Jeffrey L. Boney**  
**Council Member District B**  
1522 Texas Parkway | Missouri City, Texas 77489  
t. +12814038500  
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[website](#) | [map](#) [f](#) [v](#) [i](#) [x](#)

~ A Safe, Scenic City rated one of America's "Best" Places to Live ~

The Mission of the City Government of Missouri City is to provide municipal services in a financially responsible and customer friendly manner, while engaging our residents. How can we better serve you? Take our customer satisfaction survey.

**Gray, Thomas**

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**From:** jsamlott.amsllc@gmail.com  
**Sent:** Sunday, April 27, 2025 7:08 PM  
**To:** Gray, Thomas  
**Subject:** US90A Transit Corridor Study

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Hey, Thomas.

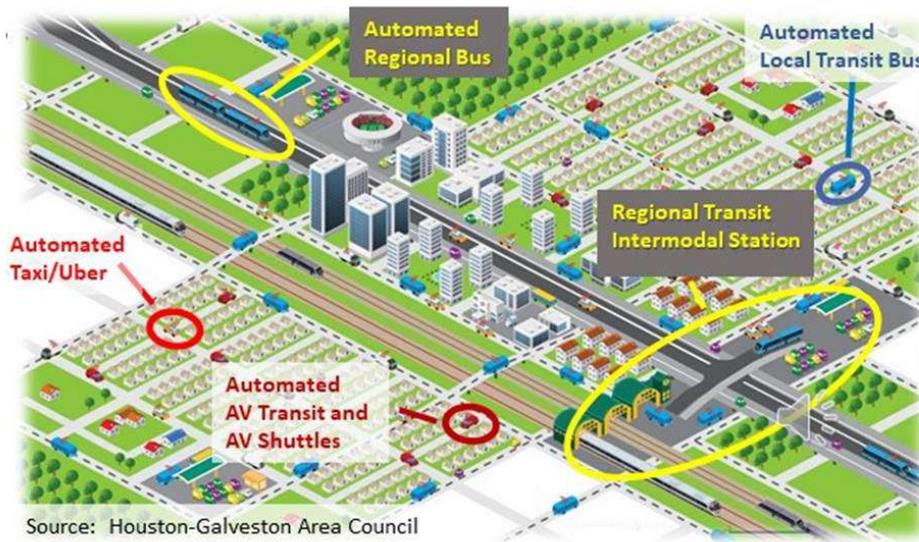
Sorry that I have not been able to give you substantive engagement on the 90A Corridor Study over the past few months, since I have been really strapped in finding any extra time beyond my work time for the National Renewable Energy Laboratory. But I have been giving it some thought since the public meeting this past week and I will offer some high-level thoughts here for your consideration.

First, with respect to my research under the auspices of NREL for what we call Automated Mobility Districts (AMDs), I will make reference to this AMD concept in my comments below. I believe this concept of a district with dense urban-style development is highly relevant to the Texas Medical Center district as the anchor for any of the transit alignment options. But it also will be relevant to the Sugar Land Town Center, and in the future there is good prospect in my mind of similar future high-density development along the Fort Bend Parkway over the next few decades.

With regard to the AMD concept, take a look at the following published technical paper that was published in conference proceedings, and also published by NREL on their website.

**Conference Paper:** Stanley E. Young and J. Sam Lott. 2024. "Automated Mobility Districts – A Conceptual Definition." Presented at the Infrastructure Intelligence Conference, Austin, TX, 6–7 June 2023. [www.nrel.gov/docs/fy24osti/86453.pdf](http://www.nrel.gov/docs/fy24osti/86453.pdf).

Note that in the conference paper above, the H-GAC concept illustrations that I worked with you guys on going back to my time when at TSU include the concept of strategically placed, high capacity intermodal stations where AV circulation systems operating within the AMD make their strategic first-mile/last-mile connections to regional transit systems like you are considering in the 90A Corridor study.



**The concept of an AMD involves multiple fleets of AVs in operation within the same district—each providing complementary transport services.**

Also, another published paper that is relevant to the comments below addresses the size, configuration, and operational complexity of these large transit stations. This class of intermodal transit station will be representative of the strategic stations where regional transit like what will operate in the 90A corridor. I think they should be planned for placement within or at the edge of TMC, as well as in or adjacent to other dense urban/suburban districts and town centers. The station footprint, roadway/transitway connections, and strategic placement of these intermodal stations is alluded to in my comments below. Check out the transit station paper in the link given below.

**Conference Paper:** J. Sam Lott, Stanley E. Young, Andrew Duvall, and Alejandro Henao. 2022. “Passenger Boarding Station and Curbfront Configuration Concepts for On-Demand Services with Small Automated Vehicles.” Presented at ICTD, Seattle, WA, 31 May–3 June 2022. [www.nrel.gov/docs/fy22osti/81976.pdf](http://www.nrel.gov/docs/fy22osti/81976.pdf).

Now let me offer some high-level comments on the 90A Transit Corridor Study.

1. **Two Northern Alignment Options Through Sugar Land** – These two alignments that pass through Sugar Land to me are essentially serving the same basic communities, but with direct connections to different “suburban/urban” districts. The pure 90A corridor alignment through Sugar Land does not appear to me to directly serve what will be the principal high-density district and major activity center that is developing around Town Center. As you know, Melanie Beaman is leading the development of planning for internal circulation systems that will provide mobility around the Town Center, Sugar Land Mall, the Smart Financial Center and U of H campus (as I understand the plan). This to me provides the suitable anchor point for the 90A Transit Line and other parts of Sugar Land can be connected to this 59 alignment with similar FM/LM systems (90A is about 2 miles away). I know that there is development going on along 90A, such as at the Imperial Sugar site, but it doesn’t seem to me to be nearly as significant as Town Center.

- 2. Southern Alignment Option Along Fort Bend County Tollway** – The current western end of the tollway is in Sienna, where I now live. When built the next extension over the Brazos River will soon connect to the Grand Parkway (not sure of the schedule for its construction or for the 99/Grand Parkway segment construction), and the development that will occur in the wide-open land there will be an explosion of growth. As I have observed how the development along the Grand Parkway between 59 and I-10 has been quite dramatic, I can say with certainty that the forecasted population and business development along this third alignment option will be extremely large and will continue to accelerate throughout the rest of this century.

Providing the regional transit backbone to this high growth area seems to me as being essential for managing future traffic congestion along the Fort Bend Tollway and lower 90A corridor. The tollway is already pretty congested during commute hours, and I think a higher capacity transit line will be very important to support the growth beyond the river.

- 3. Texas Medical Center Intermodal Station** – This station(s) where a very large quantity of employees, students and visitors will pass through every day, must be designed with sufficient capacity for not only the frequent arrival of transit vehicles, but especially for the capacity of the many first-mile/last-mile (FM/LM) vehicles to provide convenient and efficient connections for passengers bound for destinations within the TMC district. These transport vehicles providing internal circulation within the district may be combinations of transport fleets serving single-travel party rides and for large vehicles providing share-ride service. And there is no doubt that in the near to medium term, these TMC circulation fleets will be primarily autonomous vehicles.

One aspect of the BRT-like station concept illustration that is in the 90A project information with a single side platform along a city street look much like the current LRT stations along the existing lines through downtown and in TMC. This style of station is designed to serve primarily pedestrians who walk to the station. However, I believe that with the huge size of the TMC, passengers will arrive on one of the FM/LM transport vehicles carrying passengers from other origin/destination nodes within the TMC.

- 4. Technology Options Between LRT and BRT** – LRT technology will obviously provide a higher possible total line throughput capacity, but in the future this won't be so true. Over the coming near to medium term, bus AV technology will allow bus platooning to be common place along dedicated bus roadways such as HOV lanes or BRT alignments. When two or three buses can operate in a platoon and then move to offline station with parallel berths, when compared to LRT trains that must all stop at every station and pass through serial berths, the AV bus option could actually be a greater line throughput capacity. This should be a continuing study to assess this technology advantage when autonomous buses can platoon together along the 90A Transit Line, with stations designed like those illustrated in my published paper on this topic (see above).
- 5. Certainty of AV Technology to Provide Connections to the 90A Line** – I am suggesting, of course, that the AMD concept discussed above will need to be considered in the spatial provisions for the TMC intermodal station(s) where internal circulation systems must have their AV fleet vehicles accommodated. And that this spatial provisions at the intermodal stations must also provide for the certainty that AV technology will allow large buses to platoon along HOV/BRT lines, with the station having associated vehicle berths that allow multiple vehicles that will arrive simultaneously to “dock” at the station to board and alight the passengers connecting from the AV circulation systems.

Well, this is an initial brain dump I have for you. If you would like to see a presentation that gives an overview of the first three phases of our AMD research with NREL, I have one “in the can” that we gave a few weeks ago to an industry group. Let me know if you are interested. That may help explain some of my comments about TMC in particular.

Sam

J. Sam Lott  
Automated Mobility Services, LLC  
M: 713-927-3048

**Gray, Thomas**

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**From:** Robert Pulliam <tubularrail@aol.com>  
**Sent:** Thursday, May 1, 2025 12:17 PM  
**To:** Gray, Thomas  
**Subject:** Re: Contact Information  
**Attachments:** Concept\_Paper General Pass 8 8 18.pdf

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Thomas,  
I have attached the Concept Paper for Passenger Rail. I enjoyed our chat and hope we can continue it at some point. The website <http://www.tubularrail.com> has both a video and an assortment of images. I looked at the Rail District's web page and there would seem to be an opening to look (develop) alternatives as everybody knows UP wants nothing to do with commuter rail. I will keep looking for some more info on our response to the Metro RFI on the Southwest Corridor. Thanks for your time  
Robert Pulliam  
Tubular Rail Inc.  
Houston TX  
713 834 7905  
781 857 0601  
[www.tubularrail.com](http://www.tubularrail.com)

On Wednesday, April 30, 2025 at 04:13:05 PM CDT, Gray, Thomas <thomas.gray@h-gac.com> wrote:

William,

It was good talking to you earlier this afternoon. This is my email address.

Thank you!

**THOMAS B. GRAY, AICP**

*Principal Planner, Transportation*

Houston-Galveston Area Council

3555 Timmons Lane, Suite 120



Houston, TX 77027

Mailing Address: P.O. Box 22777

Houston, TX 77227

Direct | 832-681-2545

[h-gac.com](http://h-gac.com)

**Gray, Thomas**

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**From:** sean matthews <seanjoe3@comcast.net>  
**Sent:** Tuesday, May 20, 2025 4:12 PM  
**To:** Gray, Thomas  
**Subject:** US90-A transit

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Hello Thomas,

Apologies, I know I may be out of date and past the due date. I really liked the light rail idea and would encourage a stop at University Blvd, either by light rail or any other bus means if that is planned.

Currently, University/Highway 59 serves a very big population of Telfair and New territory so this added stop here would go a long way.

Thanks  
Sean

## Tubular Rail Prototype Project

### Abstract:

Tubular Rail's goal is to build a transportation system reducing installation cost and infrastructure impact yet achieving the energy efficiencies inherent in steel railway systems. Its *Prototype Project* constructs a full scale operating system to test and prove all components, reconfiguring the essential functional elements of the rail / rail bed and train. It reverses orientation of steel rail and steel wheel; putting rails on the car and propulsion on the supports.

Research will include optimized design and coordination of construction, mechanical, electrical, structural elements, and control systems, to produce a mass transit/high speed, grade separated, system revolutionizing cost and installation paradigms. This project, creating a "fourth form" of transportation, will have the impact that the locomotive, Model T and Kitty Hawk had in their day. The two mile prototype system will herald the birth of a new "Green" industry addressing GHG emissions, oil imports, infrastructure costs and job creation.

### Technical Section

Tubular Rail is the patented reconfiguration of the essential functional elements of the railroad and train. These are: (1) steel wheels running on a steel rail, (2) railroad bridges, (3) the roadbed, (4) the locomotive engine and (5) passenger cars.



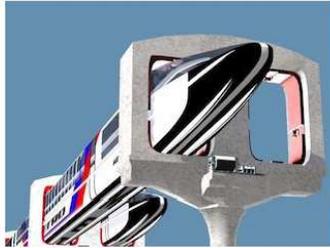
Tubular Rail Technology maintains the same five characteristics of rail transportation but reconfigures them in a highly innovative fashion producing an elevated system that provides many of the advantages of rail transport while avoiding grade crossing conflicts. It has the ability to relieve urban congestion while being minimally intrusive to existing infrastructure, buildings, roads and landscape.

#### **1. The Passenger Car and Steel Rail are now one; the Roadbed is eliminated and the Car Becomes the Bridge.**

Tubular Rail Technology uses the principle of the cantilever beam - a projection anchored at one end. Since the car is moving within - and is held by - the support rings (stanchions), the effect is to create a cantilever beam. The beam is fixed in its vertical orientation but mobile in its horizontal orientation.



The Tubular Rail passenger car is more like that of an aircraft fuselage in its structure and design and uses the principle of the cantilever beam to span across to supporting rings. The Tubular Rail passenger car is moving within - and is held by - the support stanchions. The car is a box beam design which is stiffest in the vertical plane but will have controlled motion in the horizontal plane to allow for turns.



The maximum spacing between the stanchions for the Prototype will be 100 feet. The maximum distance that can be spanned is a function of the length of the car, but the distance between support rings does not have to be uniform; it may be shortened to avoid roads, pipelines or other infrastructure obstacles. (This flexibility minimizes infrastructure disruption and thus greatly reduces costs.) The length of the car will be such that there is always a minimum of three stanchions

supporting the passenger car. This means the car can never get out of the virtual barrel created by the rings – a true bullet train.

There is no roadbed. The roadbed concept has been replaced with the tower/hoop stanchion, which is unique but utilizes existing technology.



Since TRI makes use of existing technology and is not assuming any technological breakthroughs, R&D is focused on integration of component parts and optimization of systems and structures. Since the entire system's goal is to reduce the cost and lessen the installation impact of a transportation system in order to achieve energy efficiencies inherent in rail type systems, an understanding of the pivotal role the characteristics of the Tubular Rail car is needed. The Federal Railroad Administration sets forth the Ride Quality and Comfort Standards for passenger rail and we have used them in previous work done by Dartmouth's Thayer School of Engineering. The proposed R&D effort will now take that work and in conjunction with a structural composite manufacturer both confirm and improve the allowable span distance between columns while minimizing mass of the vehicle.

**2. Propulsion is Removed from the Locomotive to the Stanchion; the Steel Wheels Become Rollers on the Stanchion.**

The locomotive is eliminated entirely and replaced by a series of electric motor powered rollers mounted in the elevated stanchions with support structures set on a concrete foundation.



Each motor merely helps advance the car as far as the next supporting ring, the power of each motor matched to its location and function (acceleration requires more power).

While span length is critical to the number of columns needed, mass of the vehicle drives the specifications for column design and power needed to accelerate the vehicle. At constant speed, increased power consumption is marginal for unit increases in mass but aerodynamic drag increase as the square of speed. Thus the nose and tail configuration and their integration as structural elements are also critical. To quote the Second Year Thayer work:

... [T]he problem is to work within given parameters to design a passenger car that is rigid enough to span the columns but allows deflection horizontally for turns. It must minimize weight, allow for the maximum span length and provide a safe, comfortable ride for passengers.

Expertise in this area can be found in American companies producing products ranging from light weight aircraft components to railcars, freight trailers and composite wind turbine blades.

Building upon the characteristics of the car, specifications for the footers, columns, steel rings, rollers, propulsion, braking and control systems are derived from various engineering disciplines. Power and propulsion design work is contemplated on distributed control, fault tolerant control, stability analysis, and dynamic systems modeling. Additional work areas include motors, drives, control, power management, power monitoring, safety, remote monitoring, machinery condition monitoring and prognostics, wireless communications, field service and repair, logistics, and data management. Cutting edge technology such as intelligent distributed control (e.g. autonomous agents), wireless self-powered sensor nodes, prognostics with compensating control, and advanced power management and communications technologies are emerging from industry and can contribute to an unprecedented energy efficient transportation system.

Beyond the design work for distribution of power Tubular Rail proposes to examine the incorporation of developments in solar and wind generation of power and near motor storage of said power through ultra-capacitors, batteries, or flywheels. These energy storage devices can serve to load level the system, removing the traditional "lumpiness" of Transit System power requirements. This provides additional energy savings by lowering the steep demands required by traditional transit systems. Thus the system offers the possibility of net generation of power in some circumstances. We have received suggestions to incorporate solar-thermal energy for cooling/air-conditioning of the cars using an ammonia absorption cycle thus reducing the load drawn from the system. Site acquisition and foundation work is a major cost item for solar and wind installation. Appropriately sized units placed on the support rings for wind and/or solar

would move towards the Administration's goal of reduced green house gases. Regenerative braking of the car through the rollers adds to the overall energy efficiency of the system.

As to the footers, columns, steel rings and rollers; all are very well established technologies and little R&D work is contemplated. However a team approach will be needed and flexibility in early design is anticipated.

Although the vast majority of the Tubular Rail components are currently commercially available, as a system Tubular Rail would be classified as late TRL 4 (Technology Readiness Level) level or early level 5 as the integration of the various components has not been demonstrated in a full scale system. It is projected that at the end of 24 months the system would be at TRL 8 and move to commercialization.

## **Mission Impact Section**

### **1. Why Tubular Rail Technology Is Transformational**

Tubular Rail focuses on the gap between the need for transportation options and the ability to fund said systems. Without the ability to rapidly build rail infrastructure to stay ahead of population growth, urban populations turn to automobiles andacerbate congestion which then leads to more road building in a self perpetuating cycle.

In 2008, for the first time in human history, most people on this planet lived in cities. Urban population is expected to rise from 2.9 to 4.9 billion from 2000-2030. The sheer size of this migration is unprecedented and the need to address its impact on energy demand and emissions is urgent. Developing and funding systems to transport people within and between cities is a top priority for planners. And global warming and it's possible impacts threaten the coastal urban areas worldwide.

It is reported that in India unencumbered land, land with clear title, is more expensive than land in Downtown Tokyo. Yet the Indian Government sees the need to build 25 Metro systems - not lines - systems, in its largest cities. Funds for these systems will have to compete with other pressing needs as India and similar economies develop. Similar development and planning is occurring in China and other developing nations.

The United States has adopted a land use pattern heavily dependent on the personal automobile for mobility. This ad hoc approach is now being called into question as never before. The ideals of the New Urbanism call for Transit Oriented Development, Urban Boundary Growth Limits and restrictions on auto use through Congestion Pricing and Vehicle Miles Traveled to address some of the very real problems associated with our relationship with the automobile. Positive impacts on climate change from such societal changes will take decades to be noticed and implementation is fraught with the variable winds of public policy formation and legal challenges to eminent domain and private property rights. Most promising of the above, Transit Oriented Development is a market

based approach to Green House Gas reductions but is dependent on the actual existence of transit or the ability to build new systems.

Proponents of current mass transit options, and those planned based on existing technologies; argue that they will reduce greenhouse emissions and urban congestion. Opponents doubt the cost effectiveness of such systems in meeting these goals. Considerable debate continues. There is no debate about the high cost of building such systems.

In Honolulu, a twenty mile elevated rail system was projected to cost 5.4 billion dollars or over 250 million per mile. However, like so many transit projects costs increases and construction delays have impacted this system and some say the final costs may hit 13 billion dollars.

Houston and Los Angeles light rail systems come in above 150 million per mile and the 2<sup>nd</sup> Ave subway in New York is approaching 3 billion dollars per mile. California has its share of cost increases in these types of projects with the State's flagship High Speed system years behind schedule and approaching 100 billion dollars for a downsized system that won't be able to achieve the promised speeds the voters were sold. San Jose is embarking on an extension of the BART system, partly in a tunnel that current estimates put at 900 million per mile.

While the *need* for urban systems is measured in the hundreds of miles, actual constructed miles are measured at a mile or two per year for a given city. We simply will not be able to afford meaningful change in travel and development patterns unless we address the costs of creating new systems and the time it takes to build them. The Federal Transit Administration's yearly budget is about 10 billion dollars and political support is getting harder to muster for some of these mega cost projects. It is hard to see how small increases in any budget will result in a significant increase in new systems while current systems suffer from under funding for operations and maintenance backlogs continue to grow. In fact in the last part of 2018 estimates came out putting the transit state of good repair needs at some 90 billion dollars.

***Tubular Rail is a transformational approach to building transportation systems because it addresses costs and build times. The five keys to this transformation are use of readily available technology, the ability to pre-fabricate and mass produce the component parts, reduced land use, complete grade separation (lack of contact between ground-level transportation and trains) and minimal disruption of existing infrastructure during construction and operation.***

In some ways our approach is similar to that used by NASA for the recent satellite landings on Mars: Quicker, Faster, Cheaper. Use existing technology, reconfigured in an innovative fashion to produce affordable transportation alternatives in and between urban areas that lessens use of imported oil and is energy efficient.

Tubular Rail is not just an alternative to auto use for energy conservation, it compares well to current forms of rail. The table below is from the Year Three Tubular Rail Study by the Thayer School of Engineering which as part of that study examined BTU's per passenger mile of various forms of transportation.

Mode of Transportation	BTUs/Passenger/Mile
Airplane	~4,000
Cars	~3,800
Light Rail	~3,500
Bus	~4,500
Tubular Rail	~800

BTUs/Passenger for different modes of Transportation

The Thayer report went on to say, in its conclusion about Tubular Rail:

We strongly believe in the spirit of Tubular Rail and would like to see the project receive funding soon. An improvement upon conventional technology is necessary because existing technologies for high-speed and urban transit are expensive, difficult to build through populated areas, and more environmentally unfriendly. In summary the basic advantages of Tubular are:

- An initial investment 54% less than the competition (\$20 million/mile)
  - Operation 450% more efficient than conventional technology
  - Thirty Five percent less CO<sub>2</sub> emitted than other forms of transportation.
- Tubular Rail is a viable option for the future of the rail industry.

Thayer also did work confirming a much lower coefficient of drag than existing high speed trains equipped with pantographs and found TR's drag coefficient to be .23 while the German ICE which was used for comparison had a value of .69. This makes perfect sense and the impact of wheels, bogies and pantograph to energy consumption is noted by Jean-Claude Raoul, technical director of GEC-Alsthom, who states in an article for *Scientific American*, "Diverse analytical tools—including sophisticated computer simulation programs, scale-model tests in wind and water tunnels, and analyses of wind around full-size trains on tracks—all show that most of the drag impeding the forward motion of current high-speed trains derives from the bogies and other equipment under the frame. Future generations of TGV's will therefore have smoother underframe contours."

The University of Texas and Texas A&M also completed studies on Tubular Rail with a focus on energy recovery (85%) and a cost benefit analysis compared to subway and Bus Rapid Transit. Additionally engineering students in Pakistan and India did independent work as part of their graduation requirements.

Tubular Rail Inc. was privileged to work with Thayer and the others schools but it is now time to build. Design work and installation of the footer and columns, rings and rollers can proceed at a rate while final design work is done on the car and control system.

Working with a Tubular Rail-led coalition of American companies universities, and local governments, and- we hope – the US Department of Transportation, this project will produce a two mile full scale system prior to commercialization. The project will produce results to substantiate lower per passenger mile construction costs, reduction in Green House Gases for transportation over alternatives modes, job creation in a new industry that has worldwide implications, and reductions in petroleum usage by making transit systems and high speed rail more economically justifiable and thus available to current auto and air users.

The Prototype Project will maintain and enhance US technological lead in at least two critical areas. The first is energy management. Teaming with American companies as well as a group of select academic institutions, the Prototype Project offers an opportunity to adapt well developed products and systems not only for the efficient distribution and management of electrical power but potentially its production as well. The renewable production and storage of said power in the immediate vicinity of its primary use avoids losses through long transmission. However TR systems will nonetheless be connected to the larger grid making possible the return to the grid of excess power.

By providing a potentially large new market for the use of domestically designed and manufactured composite structural elements for the Tubular Rail car, the Prototype Project lays the foundation stone for large scale application of techniques and expertise currently suffering from variabilities in the aircraft and other transportation markets.

Tubular Rail's patented technology revolutionizes transportation in and between urban areas with a solution that substantially reduces building costs and infrastructure disruption while providing green technology to a marketplace that can no longer bear the sky-rocketing costs, urban congestion, and environmental degradation associated with existing technologies.

These advantages have not been lost to potential customers and the Company has marketing opportunities in recreational and people-moving applications, urban transit, high speed rail, and even freight moving. Combating Global warming is now mainstream as China and India urbanize at a rate unparalleled in human history. The market is global and the need is great.

## **2. The Key Technical Risks**

While engineering work needs to be done, there do not appear to be any significant technical risks to overcome. Any obstacles to the development of the Tubular Rail Technology are economic. For instance, if a 100' span between stanchions is not

technically feasible; the span can be reduced to 90 feet. Whether this is feasible will be a question of economics, not technical expertise.

**Conclusion**

In conclusion TR is the introduction of a new form of mass transit that will serve a variety of markets, speeds and locations. It offers a lower and more controllable cost structure, more efficient use of energy and a technology threshold within reach. The Pecos Street Project will take Tubular Rail Inc. through the “Valley of Death” for late stage innovation to a point where commercialization may occur. A business strategy has been formed to work with larger technology companies for rapid development and deployment and markets have been identified.

Employment will occur within a short time frame and larger gains will evolve as the system is scalable and suppliers are widespread and available. Additional information, videos, and images can be found at



[www.tubularrail.com](http://www.tubularrail.com)

Tubular Rail urges those concerned with the future to become involved in this project and support the next generation of “rail” transportation. With a team of distinguished universities and innovative American corporations, Tubular Rail's patented technology can be rapidly tested, proven, built and introduced to the market place. Thank you for

your consideration.

**Tubular Rail, Inc.  
Pecos Prototype Project  
Cost Summary  
Development Period - 24 Months**

	Materials	Labor	Professional	Combined
<b>Design and Engineering</b>				
Footer and Columns	\$-	\$-	\$50,000	\$-
Geotechnical			50,000	100,000
Steel Upperworks			100,000	100,000
Roller / Suspension			100,000	100,000
Electrical and Controls			250,000	250,000
Passenger Car			1,000,000	1,000,000
Coordination Eng and Design			250,000	250,000
			1,800,000	1,800,000

**Project Management**

Contract Project Management –				
Technical/Transportation Public				
University				
	Project Administration, Test	Design, Evaluations	750,000	750,000
			750,000	750,000

**Two Mile Prototype System - Operating Full Scale System**

Guideway Component Elements				
	Concrete	720,000	80,000	800,000
	Steel	800,000	3,200,000	4,000,000
1	Motor / Electrical	3,750,000	1,250,000	5,000,000
	Rollers and Suspension	1,000,000	500,000	1,500,000
	Drilling	150,000	1,350,000	1,500,000
	Passenger Car	2,000,000	2,000,000	4,000,000
	Contingency	2,000,000	500,000	2,500,000
		10,420,000.0	8,880,000.0	19,300,000

**Accessment, Research, Development, Demonstration**

Onsite Power Generation /				
Storage				
	Wind, Solar, Flywheel	2,500,000	1,500,000	1,000,000
			400,000	1,600,000
				2,000,000

**General and Administration**

<b>Total Project Cost Summary</b>		\$12,920,000	\$10,780,000	\$5,150,000	\$28,850,000
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The above table captures a best estimate of the total cost of the Tubular Rail Prototype Project. Labor, materials and Professional services are broken down. The car will not be a ready for service model but instead will be a functional shell subject to extreme weight testing and equipped with monitors to obtain data on performance. It will however be rideable and perform all of the necessary functions of a later commercial version. The system itself will be required to accelerate, maintain and then slow the vehicle through repeated cycles. The automated control system will be subject to a variety of testing of real or contemplated conditions. R&D will be performed to evaluate possible on-site, near motor power generation and how this will interact with power from grid. The car will also serve as a platform to evaluate sub components from a variety of suppliers (such as automated doors). Different roller designs can be tested and evaluated.

## 14 Appendix F - Ridership Modeling Results

RouteName	Mode	Dist(mi)	PKTime	OPTime	PKHeadway	OPHeadway	PkVeh	OpVeh	TotPass	TotPaxMi	TotPaxhr
US 90A	4	26.15	44.82	44.82	15	30	4	2	14104	93516	2670
US 90A IH-69	4	27.37	46.91	46.91	15	30	4	2	18109	142200	4059
US 90A - Fort Bend Toll (Orig Scenario)	4	25.97	44.52	44.52	15	30	4	2	7638	58379	1534
US 90A - Fort Bend Toll (Enh Devt Scenario)	4	25.97	37.44	37.44	15	30	4	2	17022	130103	3419

Field	Definition
RouteName	Transit Route Name
Mode	Type of transit mode
Dist(mi)	Route distance (miles)
PKTime	Peak period travel time (minutes)
OPTime	Off-peak period travel time (minutes)
PKHeadway	Peak time headway
OPHeadway	Off-peak period headway
PkVeh	Number of vehicles during peak period
OpVeh	Number of vehicles during off-peak period
TotPass	Total passenger volume
TotPaxMi	Total passenger miles traveled
TotPaxhr	Total passenger travel time (hours)

**US 90A**

NAME	MODE	N	NODESEQ	STATION_LOCATION	STOPN	DIST	CULDIST	TIME	CULTIME	VOL	ONN	OFFN
801 EB	4	14085	1	Rosenberg - Avenues H & I @ First Street	1	3.23	3.23	5.54	5.54	1454	1454	0
801 EB	4	14075	2	Richmond - US 90A @ Fourth Street	1	4.58	7.81	7.85	13.39	1898	697	253
801 EB	4	14095	3	Sugar Land - US 90A @ Grand Pkwy	1	2.4	10.21	4.11	17.5	2711	915	102
801 EB	4	14065	4	Sugar Land - US 90A @ SH 6	1	3.08	13.29	5.27	22.77	2774	715	652
801 EB	4	14055	5	Sugar Land - US 90A @ Dairy-Ashford	1	2.63	15.92	4.5	27.27	2813	773	734
801 EB	4	14045	6	Stafford - US 90A @ Murphy Road	1	2.21	18.13	3.78	31.05	3159	904	558
801 EB	4	14035	7	Missouri City - US 90A @ Beltway 8	1	2.81	20.94	4.82	35.87	2196	409	1372
801 EB	4	15735	9	Missouri City - US 90A @ Fort Bend Toll Rd	1	2.37	23.31	4.07	39.94	2240	116	72
801 EB	4	18005	11	Houston - US 90A @ Hiram Clarke Rd	1	2.84	26.15	4.88	44.82	2601	1069	708
801 EB	4	17385	14	Houston - Fannin South P&R	1	2.84	26.15	4.88	44.82	0	0	2601
801 WB	4	17385	1	Houston - Fannin South P&R	1	2.84	2.84	4.88	4.88	2288	2288	0
801 WB	4	18005	4	Houston - US 90A @ Hiram Clarke Rd	1	2.37	5.21	4.07	8.95	2122	656	822
801 WB	4	15735	6	Missouri City - US 90A @ Fort Bend Toll Road	1	2.81	8.02	4.82	13.77	2203	165	84
801 WB	4	14035	8	Missouri City - US 90A @ Beltway 8	1	2.21	10.23	3.78	17.55	4679	2797	321
801 WB	4	14045	9	Stafford - US 90A @ Murphy Road	1	2.63	12.86	4.5	22.05	4145	610	1144
801 WB	4	14055	10	Sugar Land - US 90A @ Dairy-Ashford	1	3.08	15.94	5.27	27.32	1924	186	2407
801 WB	4	14065	11	Sugar Land - US 90A @ SH 6	1	2.4	18.34	4.11	31.43	895	136	1165
801 WB	4	14095	12	Sugar Land - US 90A @ Grand Pkwy	1	4.58	22.92	7.85	39.28	736	59	218
801 WB	4	14075	13	Richmond - US 90A @ Fourth Street	1	3.23	26.15	5.54	44.82	360	155	531
801 WB	4	14085	14	Rosenberg - Avenues H & I @ First Street	1	3.23	26.15	5.54	44.82	0	0	360

**US 90A TO IH-69**

NAME	MODE	N	NODESEQ	STATION_LOCATION	STOPN	DIST	CULDIST	TIME	CULTIME	VOL	ONN	OFFN
801 EB	4	16895	1	Rosenberg - US 59 @ First Street	1	3.72	3.72	6.38	6.38	695	695	0
801 EB	4	16885	2	Richmond - US 59 @ FM 762	1	4.32	8.04	7.4	13.78	1711	1112	96
801 EB	4	16835	3	Sugar Land - US 59 @ Grand Pkwy	1	2.3	10.34	3.94	17.72	2181	536	66
801 EB	4	16825	4	Sugar Land - Lexington Blvd @ Smart Financial Ctr	1	1.69	12.03	2.9	20.62	2607	542	116

801 EB	4	16785	5	Sugar Land - US 59 @ SH 6	1	2.48	14.51	4.24	24.86	4176	2318	749
801 EB	4	14055	6	Sugar Land - US 90A @ US 59	1	2.63	17.14	4.5	29.36	4029	865	1012
801 EB	4	14045	7	Stafford - US 90A @ Murphy Road	1	2.21	19.35	3.78	33.14	4334	1085	780
801 EB	4	14035	8	Missouri City - US 90A @ Beltway 8	1	2.81	22.16	4.82	37.96	2805	491	2020
801 EB	4	15735	10	Missouri City - US 90A @ Fort Bend Toll Road	1	2.37	24.53	4.07	42.03	2845	137	97
801 EB	4	18005	12	Houston - US 90A @ Hiram Clarke Rd	1	2.84	27.37	4.88	46.91	3309	1274	810
801 EB	4	17385	15	Houston - Fannin South P&R	1	2.84	27.37	4.88	46.91	0	0	3309
801 WB	4	17385	1	Houston - Fannin South P&R	1	2.84	2.84	4.88	4.88	2476	2476	0
801 WB	4	18005	4	Houston - US 90A @ Hiram Clarke Rd	1	2.37	5.21	4.07	8.95	2385	636	727
801 WB	4	15735	6	Missouri City - US 90A @ Fort Bend Toll Road	1	2.81	8.02	4.82	13.77	2487	176	74
801 WB	4	14035	8	Missouri City - US 90A @ Beltway 8	1	2.21	10.23	3.78	17.55	5979	3775	283
801 WB	4	14045	9	Stafford - US 90A @ Murphy Road	1	2.63	12.86	4.5	22.05	5852	912	1039
801 WB	4	14055	10	Sugar Land - US 90A @ US 59	1	2.48	15.34	4.24	26.29	4256	563	2159
801 WB	4	16785	11	Sugar Land - US 59 @ SH 6	1	1.69	17.03	2.9	29.19	1421	394	3229
801 WB	4	16825	12	Sugar Land - Lexington Blvd @ Smart Financial Ctr	1	2.3	19.33	3.94	33.13	830	37	628
801 WB	4	16835	13	Sugar Land - US 59 @ Grand Pkwy	1	4.32	23.65	7.4	40.53	639	46	237
801 WB	4	16885	14	Richmond - US 59 @ FM 762	1	3.72	27.37	6.38	46.91	159	40	520
801 WB	4	16895	15	Rosenberg - US 59 @ First Street	1	3.72	27.37	6.38	46.91	0	0	159

**FORT BEND TOLLWAY (ORIGINAL SCENARIO)**

NAME	MODE	N	STATION_LOCATION	STOPN	DIST	CULDIST	TIME	CULTIME	VOL	ONN	OFFN
801 EB	4	17245	Fort Bend Toll Road @ Grand Pkwy	1	12.60	12.60	21.59	21.59	767.16	767.16	0
801 EB	4	17005	Missouri City - Fort Bend Toll Rd @ SH 6	1	5.98	18.58	10.25	31.84	1034.8	453.79	186.15
801 EB	4	16955	Missouri City - Fort Bend Toll Rd @ Beltway 8	1	2.06	20.64	3.53	35.37	1444.64	540.65	130.81
801 EB	4	15735	Missouri City - US 90A @ Fort Bend Toll Road	1	5.33	25.97	9.15	44.52	654.29	4.66	795.02
801 EB	4	17385	Houston - Fannin South P&R	1	5.33	25.97	9.15	44.52	0	0	654.29
801 WB	4	17385	Houston - Fannin South P&R	1	5.33	5.33	9.15	9.15	1062.48	1062.48	0
801 WB	4	15735	Missouri City - US 90A @ Fort Bend Toll Road	1	2.06	7.39	3.53	12.68	1493	445.35	14.82
801 WB	4	16955	Missouri City - Fort Bend Toll Rd @ Beltway 8	1	5.98	13.37	10.25	22.93	974.42	58.49	577.07



801 WB	4	17005	Missouri City - Fort Bend Toll Rd @ SH 6	1	12.60	25.97	21.59	44.52	655.93	0	318.49
801 WB	4	17245	Fort Bend Toll Road @ Grand Pkwy	1	12.60	25.97	21.59	44.52	0	0	655.93

**FORT BEND TOLLWAY (ENHANCED DEVELOPMENT SCENARIO)**

NAME	MODE	N	STATION_LOCATION	STOPN	DIST	CULDIST	TIME	CULTIME	VOL	ONN	OFFN
801 EB	4	17245	Fort Bend Toll Road @ Grand Pkwy	1	7.72	7.72	10.29	10.29	2081	2081	0
801 EB	4	17015	Fort Bend Toll Road @ Thompson Road	1	4.88	12.60	6.50	16.79	2998	917	0
801 EB	4	17005	Missouri City - Fort Bend Toll Rd @ SH 6	1	3.59	16.19	4.78	21.57	4408	1716	306
801 EB	4	16985	Missouri City - Fort Bend Toll Rd @ McHard Rd	1	2.39	18.58	3.19	24.76	4880	930	458
801 EB	4	16955	Missouri City - Fort Bend Toll Rd @ Beltway 8	1	2.06	20.64	3.53	28.29	5641	1209	448
801 EB	4	15735	Missouri City - US 90A @ Fort Bend Toll Road	1	2.37	23.01	4.07	32.36	4734	605	1512
801 EB	4	18005	Houston - US 90A @ Hiram Clarke Rd	1	2.62	25.63	5.08	37.44	5010	1108	832
801 EB	4	17385	Houston - Fannin South P&R	1	0.34	25.97	0.00	37.44	0	0	5010
801 WB	4	17385	Houston - Fannin South P&R	1	2.96	2.96	5.08	5.08	4914	4914	0
801 WB	4	18005	Houston - US 90A @ Hiram Clarke Rd	1	2.37	5.33	4.07	9.15	4652	815	1077
801 WB	4	15735	Missouri City - US 90A @ Fort Bend Toll Road	1	2.06	7.39	3.53	12.68	5576	1516	592
801 WB	4	16955	Missouri City - Fort Bend Toll Rd @ Beltway 8	1	2.39	9.78	3.19	15.87	4847	454	1183
801 WB	4	16985	Missouri City - Fort Bend Toll Rd @ McHard Rd	1	3.59	13.37	4.78	20.65	4388	462	921
801 WB	4	17005	Missouri City - Fort Bend Toll Rd @ SH 6	1	4.88	18.25	6.50	27.15	2982	297	1703
801 WB	4	17015	Fort Bend Toll Road @ Thompson Road	1	7.72	25.97	10.29	37.44	2075	0	907
801 WB	4	17245	Fort Bend Toll Road @ Grand Pkwy	1	7.72	25.97	10.29	37.44	0	0	2075