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Friendswood Parkway Corridor Study



ACKNOWLEDGEMENTS

This Corridor Study could not have been possible without the involvement of the following partners and community Stakeholders. Their dedication to the project helped guide the project team into developing actionable recommendations.

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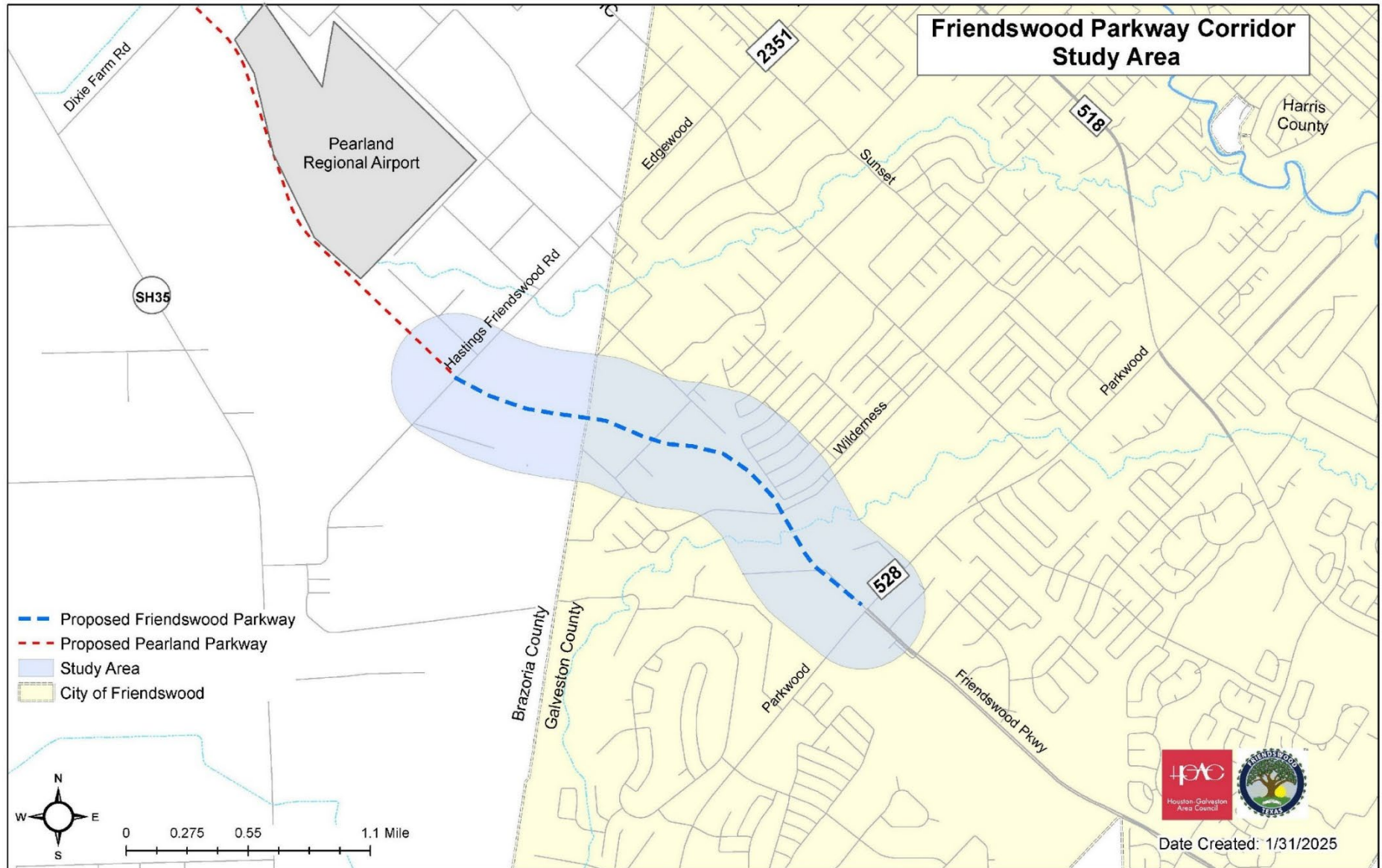
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Executive Summary



Executive Summary

The Friendswood Parkway Corridor Study was initiated to address existing and future transportation challenges in the southern portion of the City of Friendswood while proactively planning for growth, safety, and multimodal connectivity. Conducted in partnership with the Houston-Galveston Area Council (H-GAC), the study followed a structured, data-driven, and community-informed process to identify a preferred corridor alignment and roadway cross section design that supports mobility, resilience, and long-term implementation.

The project was organized around five main tasks that helped guide the study from start to finish. These included:

- 1) **Literature Review** summarizing relevant plans and best practices
- 2) **Issues and Needs Assessment** to understand current and future transportation challenges
- 3) **Public Engagement** effort to hear directly from the community
- 4) **Alternative Analysis** of potential alignments and roadway cross sections
- 5) Development of an **Implementation and Funding** strategy.

Together, these steps created an open and collaborative process that allowed the team to build a clear, practical plan and establish a flexible framework to guide future decisions and investments as Friendswood continues to grow.

APPROACH



Literature Review



Issues and Needs
Assessment



Public Engagement



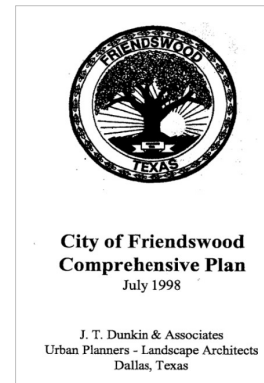
Alternative Analysis



Implementation and
Funding

Literature Review

The Study began with a comprehensive literature and policy review to ensure alignment with local, regional, and state planning efforts. Key documents included the H-GAC 2045 Regional Transportation Plan, City of Friendswood Thoroughfare Plan, Comprehensive Plan, Design Criteria Manual, and recent traffic impact analyses. This step confirmed the long-standing need for an east–west transportation corridor connecting Farm to Market (FM) 2351, FM 528, and adjacent jurisdictions while reinforcing consistency with adopted plans.



Issues and Needs Assessment

An Issues and Needs Assessment was then conducted to evaluate existing transportation conditions and anticipated future demands. This analysis highlighted opportunities to improve east–west connectivity, address congestion along parallel corridors such as FM 518 and FM 528, enhance safety along high-injury roadways, and expand multimodal options in the southern portion of the city. Travel behavior data also indicated a highly auto-dependent environment, reinforcing the importance of providing additional route options and improving overall network connectivity and resilience.



75% of Commuters Drive Alone

Auto Dependence



Growth Pressure

New Development Expected along Corridor



Multimodal Gaps

Limited Sidewalk and Bike Connectivity



Congestion

FM 518

Operates at Poor Level of Service

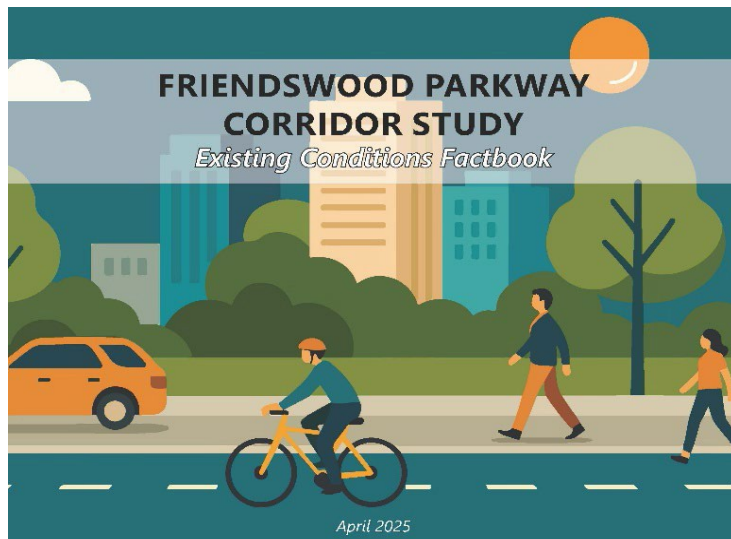


Congestion

High-Injury
Corridors Remain
Overburdened

This Study primarily focused on engaging three different groups to expand participation in this process as much as possible. The Steering Committee was composed of non-elected state and local governmental and non-governmental representatives from the City of Friendswood, City of Pearland, Brazoria and Galveston Counties, H-GAC and Texas Department of Transportation (TxDOT). Post study, this group will collaborate and form partnerships and move towards plan implementation. The Focus Group was composed of non-governmental representatives and characterized as a Citizen Group. The Community wide meetings were attended by the general public at large.

The public engagement strategy for the study centered around community collaboration. Through a variety of methods and formats, the study team gathered input from citizens who were interested and concerned about mobility in the Cities of Friendswood and Pearland. Record of all meetings, interviews, and discussions conducted were provided to the H-GAC in a meeting summary report documenting the public engagement process for the meeting. In addition, the study team utilized the Engage H-GAC website as a platform to update and inform people about the study, its progress, and share reports and feedback shared from stakeholder/public engagement.

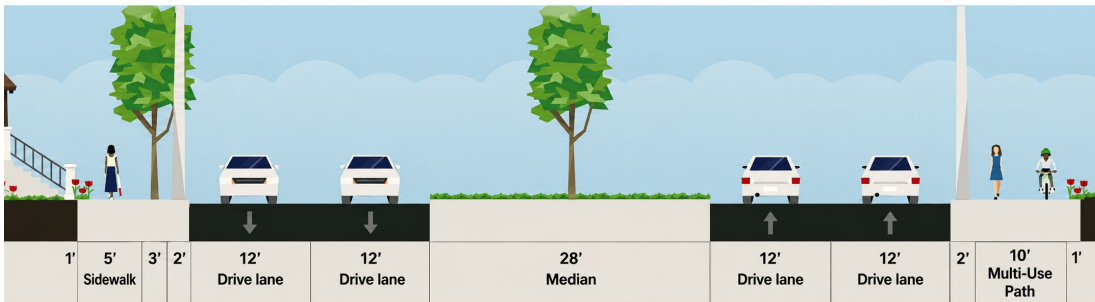


Alternative Analysis

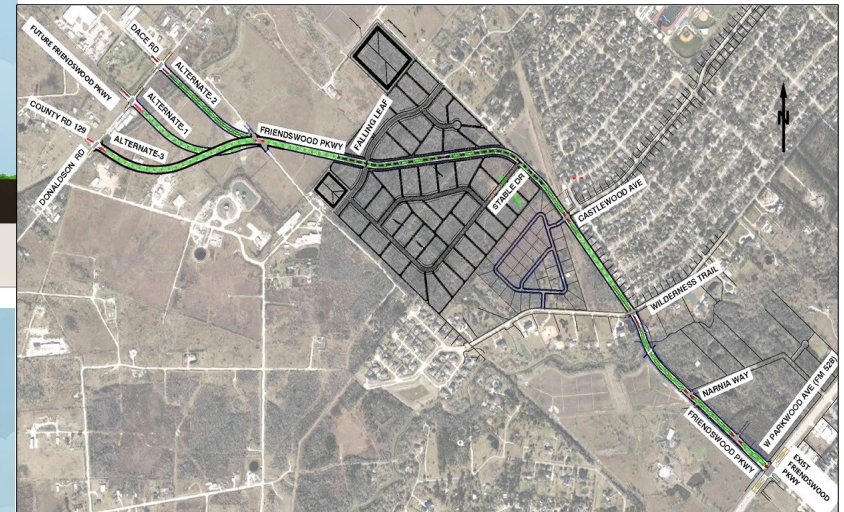
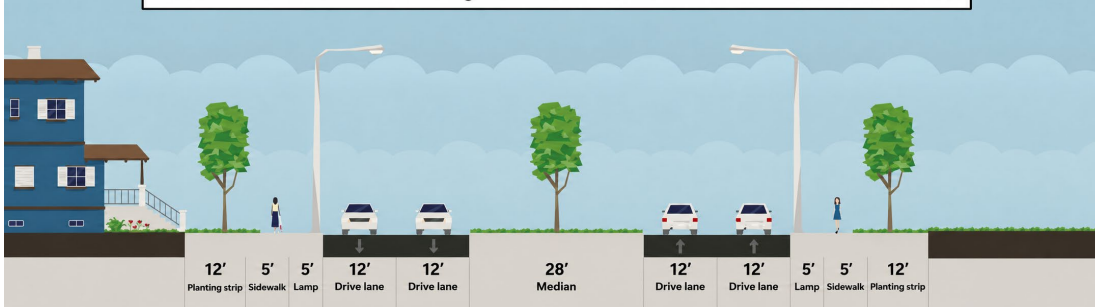
The core of the Study was the Alternatives Analysis, which evaluated three potential corridor alignments and three roadway cross-section options. Alternatives were assessed using a transparent scoring framework tied to project goals developed with input from the steering committee, focus groups, and the public. Performance criteria included connectivity, congestion relief, multimodal accommodation, and emergency evacuation functionality. Traffic operations modeling was conducted for existing conditions and future year 2045, with and without the proposed parkway, to quantify system-wide benefits and identify remaining intersection improvement needs.

Based on this evaluation, the Study identified a Preferred Alternative consisting of Alignment 1, which connects to the future Pearland Parkway to form a continuous regional corridor, paired with Cross-Section B, a four-lane divided roadway with sidewalks and a shared-use path. This alternative best met the Study's goals by enhancing regional connectivity, relieving congestion on parallel corridors, supporting multimodal travel, and improving evacuation capacity.

Friendswood Parkway Alt Cross Section B (100' ROW)



Friendswood Parkway Alt Cross Section A (120' ROW)



IMPLEMENTATION AND FUNDING

The final phase of the Study focused on implementation and funding. An Implementation and Funding Plan was developed to define implementation partners, assign corridor segments, establish realistic phasing timelines, and identify potential local, state, federal, and private funding sources. Short-term and mid-term strategies were established to align with development activity and funding availability, allowing the corridor to be implemented incrementally while preserving the long-term vision, see **Table 1**.

Overall, the Friendswood Parkway Corridor Study highlights the importance of this corridor as a key transportation investment for the region. Through detailed analysis, robust stakeholder engagement, and strong alignment with adopted plans, the study demonstrates how the corridor can enhance safety, improve mobility, and strengthen connectivity between Friendswood and surrounding communities. The study also provides the City of Friendswood with a clear path forward to support future growth while advancing regional coordination.

Table 1: Friendswood Parkway Corridor Implementation Assignments

#	Corridor Segment	Timeline	Costs	Responsible Party	Funding Source
1	Intersection of FM 2351 (Brazoria County Road 129) and Friendswood Parkway	Mid-Term	~	Brazoria County and/or Developers	Local General Obligation Bonds, Public Private Partnerships, and State and or Federal Grants
2	Segment between FM 2351 (Brazoria County Road 129) and the Brazoria and Galveston County Line	Mid-Term	~	Brazoria County and/or Developers	Local General Obligation Bonds, Public Private Partnerships, and State and or Federal Grants
3	Between Brazoria and Galveston County Line to Wilderness Trail	Short-Term to Mid-Term	~	City of Friendswood and or Developers	General Obligation Bonds, Public Private Partnerships, and State and Federal Grants, Tax Increment Reinvestment Zone (TIRZ)
4	Bridge Class Culvert Crossing at Chigger Creek	Short-Term to Mid-Term	~	Galveston County	General Obligation Bonds
5	Segment between Wilderness Trail and FM 528	Short-Term	~	Galveston County	General Obligation Bonds
6	Intersection FM 528	Short-Term	~	City of Friendswood and/or Developers	General Obligation Bonds, Public Private Partnerships, State and Federal Grants, TIRZ



Introduction



Introduction

The Houston-Galveston Area Council established a partnership with the City of Friendswood, Texas to conduct a Corridor Study of Friendswood Parkway from Farm-to-Market (FM) 2351 to FM 528. The ultimate plan for Friendswood Parkway is to extend the corridor through Friendswood starting at FM 528 into Brazoria County, where it will connect to FM 2351 and eventually, to Pearland Parkway. The completion of this initiative will be a regional effort by the City of Friendswood, City of Pearland, Galveston County, Brazoria County and TxDOT.

The project goal and vision were developed collaboratively with the Project Steering Committee. The Steering Committee provided guidance throughout the process by sharing local knowledge, reviewing key findings, and helping set project priorities. Their involvement ensured the final vision reflected community values, policy objectives, and practical implementation considerations.

GOAL

The goal of this study was to provide a greater level of mobility for residents by determining the preferred alignment for Friendswood Parkway. When complete, the four-lane divided parkway that includes sidewalks and a multi-use trail, will provide an alternative route to Interstate Highway (IH) 45 South, and FM 518, and will also serve as an alternative evacuation route for areas near the Gulf Coast and provide multi-modal options in south Friendswood.

VISION

The vision statement of the project states “The Friendswood Parkway Corridor Study will propose a safe, multi-modal corridor designed to improve mobility, enhance safety, and support the growth of people goods and services for those traveling within and through the City of Friendswood”. To support this vision, the study established clear goals focused on improving regional and local connectivity, providing a viable east–west alternative route, relieving congestion on existing facilities, enhancing multimodal accommodations for pedestrians and bicyclists, and supporting hurricane evacuation needs.



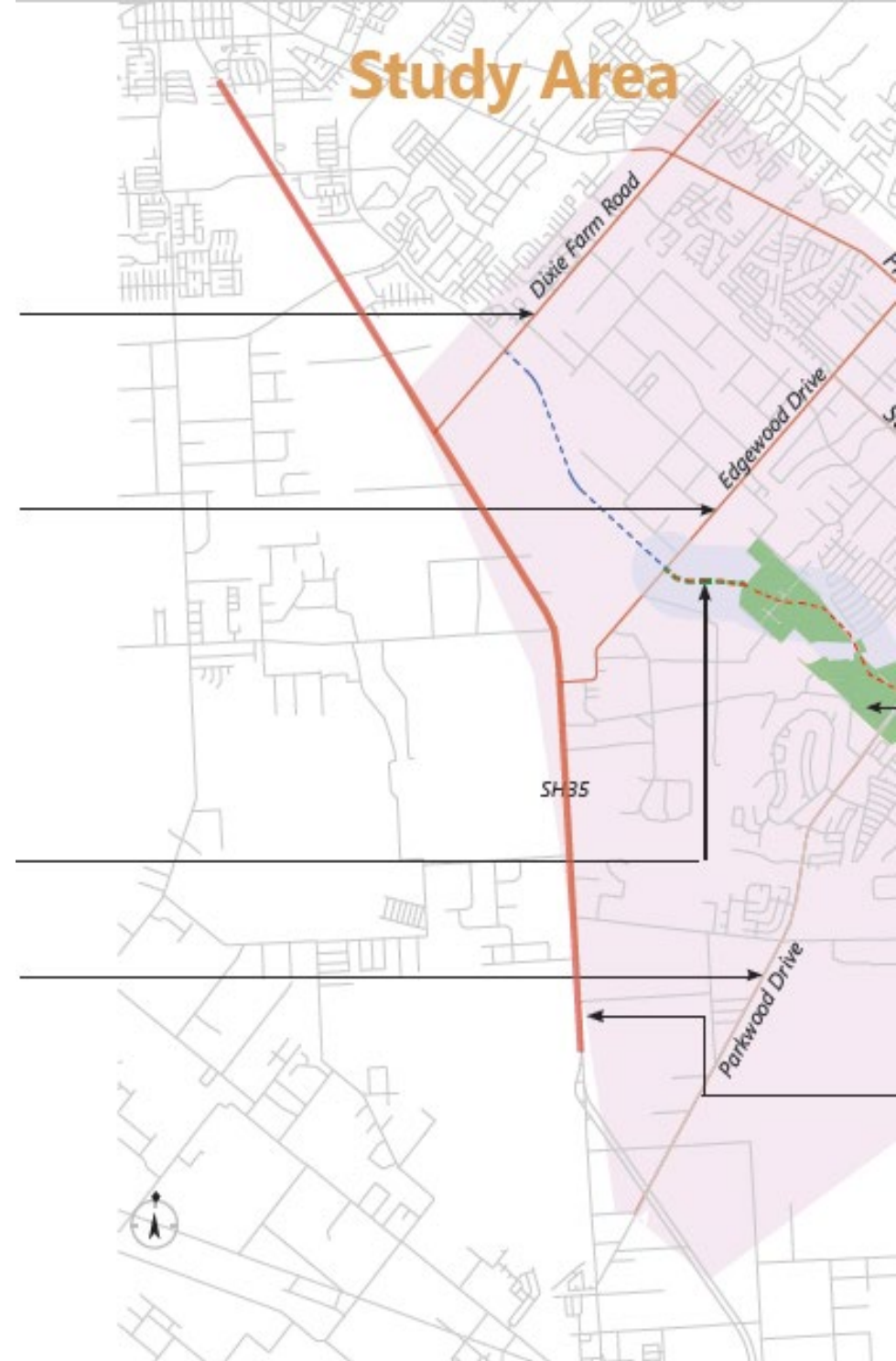
Major Streets in the Study Area

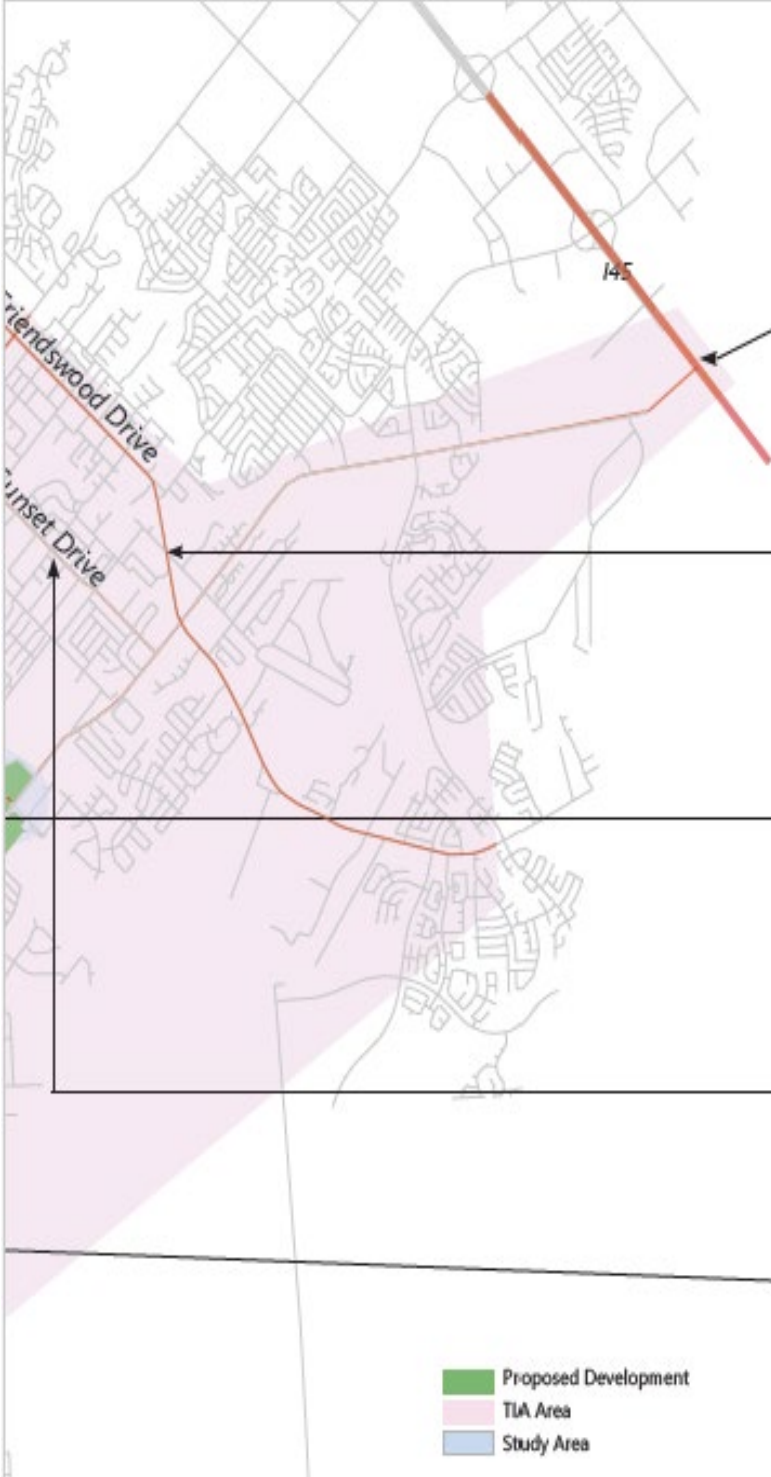
Dixie Farm Road is primarily a four-lane, divided roadway, with traffic traveling in north and south (two travel lanes in each direction). The route connects State Highway (SH) 35 to the south and IH 45 to the north. This corridor runs through suburban residential areas. The Friendswood Parkway Corridor Study will terminate at Dixie Farm Road on the west side of the corridor.

Edgewood Drive/FM 2351 is primarily a two-lane roadway, with traffic traveling in north and south (two travel lanes in each direction). The route connects SH 35 to the south and IH 45 to the north. This corridor is part of TxDOT's transportation network. The corridor runs primarily through suburban residential areas, however as it travels through the City of Friendswood, the roadway transitions to include a center left-turn lane. The future Friendswood Parkway corridor will intersect FM 2351 on the west side of the corridor. FM 2351 is classified as a Major Thoroughfare in the City of Friendswood 2018 Thoroughfare Plan.

There is currently a subdivision being developed. The segment between the subdivision being developed and Edgewood Drive is not part of the subdivision development project limits.

E. Parkwood Drive/FM 528 is primarily a four-lane roadway, with a center left-turn lane, and with traffic traveling in north and south (two travel lanes in each direction). The route connects SH 35 to the south and IH 45 to the north. This corridor runs primarily through suburban residential areas, on the north and south ends of the corridor. At its intersection with Friendswood Drive the corridor travels through commercial, retail, and multi-family land uses. The future Friendswood Parkway Corridor Study will terminate at FM 528 on the east side of the corridor. FM 528 is classified as a Major Thoroughfare in the City of Friendswood 2018 Thoroughfare Plan.





Interstate 45 is primarily an eight-lane, freeway, with traffic traveling in an east-west (four travel lanes in each direction) route just north of the City of Friendswood city limits. This freeway also has three one-way lane frontage roads on either side of the main lanes, providing access to commercial and retail land uses along the route. This corridor is part of TxDOT's transportation network and the interstate system. This corridor parallels the future Friendswood Parkway corridor.

FM 518/Friendswood Drive is primarily a four-lane, divided roadway, with traffic traveling in an east-west (two travel lanes in each direction) route bisecting the city. The route connects the City of League City to the east and the City of Pearland to the west. This corridor is part of TxDOT's transportation network and has the designation of a FM 518. This corridor runs through different land uses but predominately travels through the City's urban core accessing the City's municipal buildings, retail, commercial and multi-family land uses. This corridor runs parallel to the future Friendswood Parkway corridor. FM 518 is classified as a Major Thoroughfare in the 2018 Friendswood Thoroughfare Plan.

Proposed Development: During the existing conditions analysis, a developer acquired property along the corridor and indicated plans to develop single-family residential units and low-density retail uses. The proposed land use and site layout have influenced the planning process and influenced the future alignment of a segment of the corridor to ensure compatibility with anticipated access needs, traffic circulation, and infrastructure connectivity.

Sunset Drive is primarily a two-lane roadway, with a center left-turn lane and traffic traveling in the east and west (two travel lanes in each direction) direction. The route connects FM 528 to the east and FM 2351 to the west. This corridor runs through suburban residential areas. The Friendswood Parkway corridor runs parallel to Sunset Drive. Sunset Drive is classified as a Collector in the City of Friendswood 2018 Thoroughfare Plan.

SH 35 is primarily a four-lane roadway, with traffic traveling in an east-west then north-south (two travel lanes in each direction) route south of the Friendswood city limits. The route connects the City of League City to the east and the City of Pearland to the west. This corridor is part of TxDOT's transportation network. A segment of this corridor runs parallel to the future Friendswood Parkway corridor.



Existing Conditions & Issues



Existing Conditions & Issues

Existing Conditions

As part of the Friendswood Parkway Corridor Study, the project team evaluated existing transportation conditions and conducted a Bike and Walk Shed Analysis to identify current challenges and inform future corridor alternatives. The analysis considered both vehicle operations and multimodal access to address mobility, safety, and connectivity. The analysis of existing conditions identified several key transportation issues in the southern part of the city, highlighting the need for this project:

1. Traffic Circulation & Capacity - FM 518, the primary east-west corridor, operates at a lower Level of Service (LOS), indicating a need for an additional route to alleviate congestion.
2. Safety Concerns - FM 518 is a high-injury corridor, serving both local and through traffic. A new route with safety-focused design could reduce accident rates and improve overall network safety.
3. Alternative Transportation - The study found gaps in bicycle and pedestrian infrastructure, underscoring the need to expand multimodal transportation options within the corridor.
4. The walk shed and bike shed analysis highlighted deficiencies in the pedestrian and bicycle infrastructure. Pedestrian infrastructure deficiencies range from missing, partial, to incomplete sidewalks, or lacking signage and crosswalks. The bike infrastructure deficiencies range from missing bike lanes, faded pavement markings, lack of connections to nearby trails and other destinations.

These deficiencies in both pedestrian and bicycle infrastructure highlight the need for targeted improvements to enhance multimodal connectivity and encourage more sustainable travel options along the corridor.

Travel Modes to Work

According to the US Census Bureau American Community Survey (ACS) 5 - Year Estimates, 75% of people commuting to work over the age of 16 drove alone, 7.40% carpooled, 0.6% utilized public transportation, .7% walked, 0.0% used a bike, and .4% utilized a taxicab, motorcycle, or other means. Finally, after the experience with the COVID pandemic, 16% were able to work from home. **Table 2** depicts the percentages below. As can be seen by the data above, the City of Friendswood is very much auto dependent. Other factors in influencing the travel characteristics are land use and the transportation network. Currently there are no transit services within the City of Friendswood.

Table 2: Means of Transportation to Work in the City of Friendswood (2023 Five-Year Estimate)

2023 - 5 Year Estimate - Means of Transportation to Work (Workers 16 Years and Over)	
Measure	Value
Drove alone	75.00%
Carpool	7.40%
Public transportation	0.60%
Walked	0.70%
Bicycle	0.00%
Taxicab, motorcycle, or other means	0.40%
Worked from home	16.00%

Source: US Census Bureau American Community Survey 5 - Year Estimates

Pedestrian Facilities

According to the City of Friendswood Thoroughfare Plan (2018) and Google Earth observation, within the study area, most of the major corridors lack sidewalks on both sides of the roadway segments. Local streets in the residential districts have sidewalks on both sides of the street. However, there is connectivity missing to the collector and arterial roadway part of the transportation network. Specifically at intersections and at disconnected subdivisions with minimum accessibility to the collector and arterial part of the transportation network. Friendswood completed its Parks Master Plan in 2025 and is currently working with H-GAC to develop its first Active Transportation Plan.

Bicycle Network

According to the City of Friendswood Thoroughfare Plan 2018 and Google Earth observation, within the study area, most of the major corridors lack bike lanes on both sides of the roadway segments. There is a trail system, however trails are few and far between and mostly within a park setting. As mentioned above currently Friendswood completed its Parks Master Plan in 2025 and is currently working with H-GAC to develop its first Active Transportation Plan.

Travel Time To Work

According to the ACS, for workers 16 years and older, travel times to work for the City of Friendswood was 28.80 minutes. For Galveston County the travel time was 30.0 minutes, and for the state of Texas the travel time was 27.20 minutes, see **Table 3**. These numbers indicate the travel time to work were similar for the City of Friendswood, Galveston County and the State of Texas and reflect a suburban context where the population uses a vehicular mode to drive to work.

Table 3: Population and Transportation Characteristics - 2023

City of Friendswood Population and Transportation Comparisons				
Location	Population	Workers 16 and Over	Travel Time to Work*	No Vehicle Availability for Work*
Texas	29,640,343	14,801,534	27.20 minutes	2.70%
Galveston County	354,721	172,166	30.00 minutes	1.40%
City of Friendswood	40,827	18,893	28.80 minutes	1.60%

* For workers 16 and over

Travel Modes To Work

This section details travel modes for the population of the City of Friendswood for workers 16 years and older and is summarized in Table 3 below. According to ACS, 75% of workers drove alone to work, which is higher compared to statewide (71.70%) and lower than countywide (79.0%) averages. The City of Friendswood has a higher rate of residents working from home (16.0%), compared to 8.9% in Galveston County and 13.7% in Texas. Regarding public transit facilities, 0.6% of the city's population utilized public transportation services (park and ride) for their journey to work, compared to 0.5% in Galveston County, and 0.90% in Texas, according to the ACS. The percentage of commuters who walk to work is only 0.70%, which is lower than Galveston County (1.10%) and Texas (1.4%). 75% of the city's population using cars, trucks, or vans to work is a large contradiction to utilizing other modes of travel. It should be noted that this data does not include recreational walking and bicycling trips. The journey to work commute characteristics data is presented in **Table 4** below.

Table 4: Means of Transportation to Work- Comparison (2023 Five-Year Estimate)

City of Friendswood Work Commute Characteristics Comparison						
Jurisdiction	City of Friendswood		Galveston County		State of Texas	
Employed Persons*	18,893		172,166		14,801,534	
Modal Split	Commuters	%	Commuters	%	Commuters	%
Drove Alone	14,169.75	75.00%	136,011.14	79.00%	10,612,700	71.70%
Carpool	1,398.08	7.40%	16,183.60	9.40%	1,568,963	10.60%
Public Transit	113.36	0.60%	860.83	0.50%	133,214	0.90%
Walk	132.25	0.70%	1,893.83	1.10%	207,221	1.40%
Bike	0.00	0%	344.33	0.20%	29,603	0.20%
Other	75.57	0.40%	1,549.49	0.90%	236,825	1.60%
Worked from Home	3,022.88	16.00%	15,322.77	8.90%	2,027,810	13.70%

* 16 years and older

Transit Facilities

At the present time, the only transit service closely available to the City of Friendswood is the El Dorado Park and Ride located in the eastern part of town at the intersection of El Dorado and Glenwest Drive. This facility provides commuter service between Friendswood and downtown Houston.

Figure 1: Traffic Analysis Area

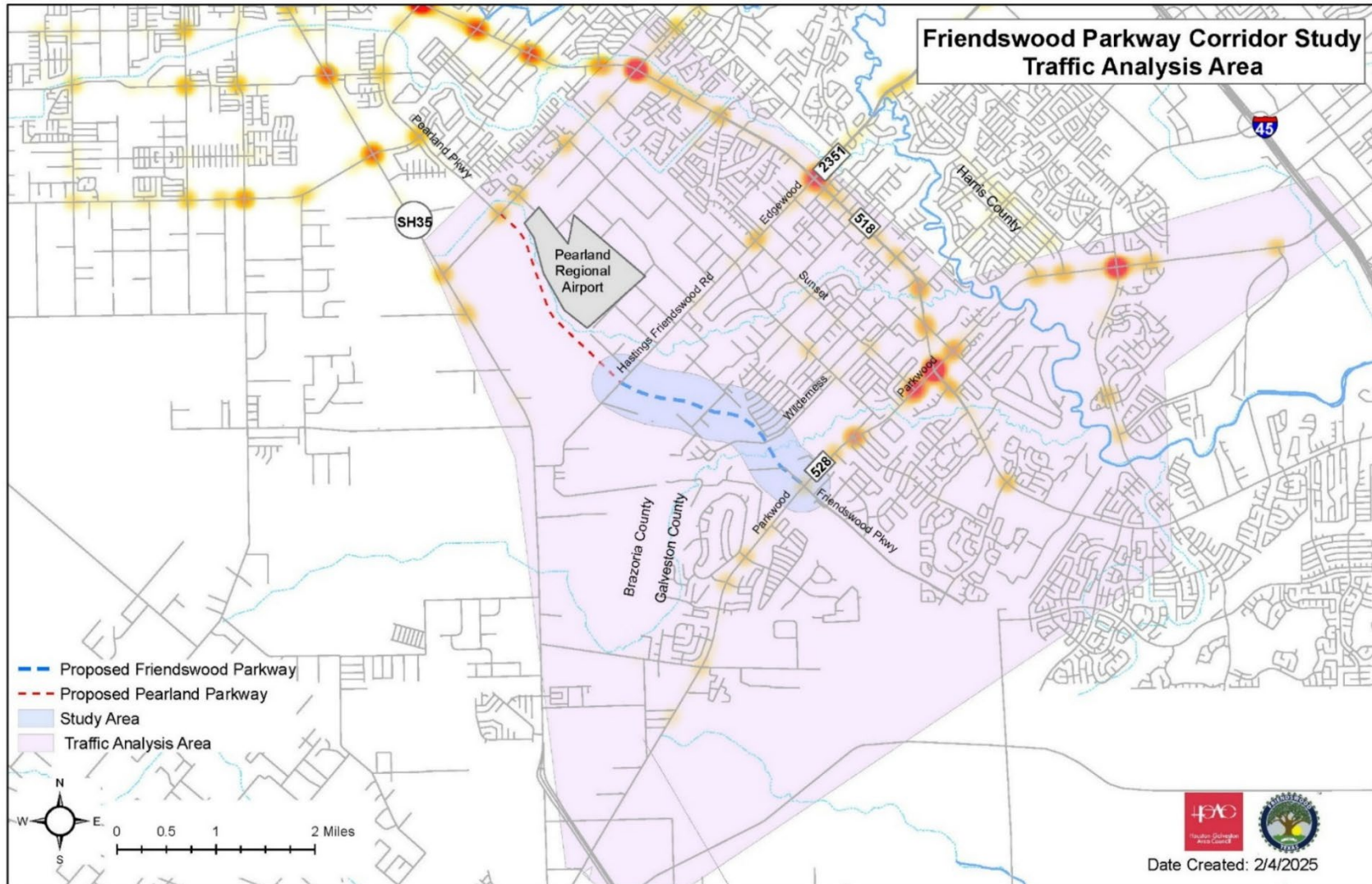


Figure 2: Corridor Walkshed

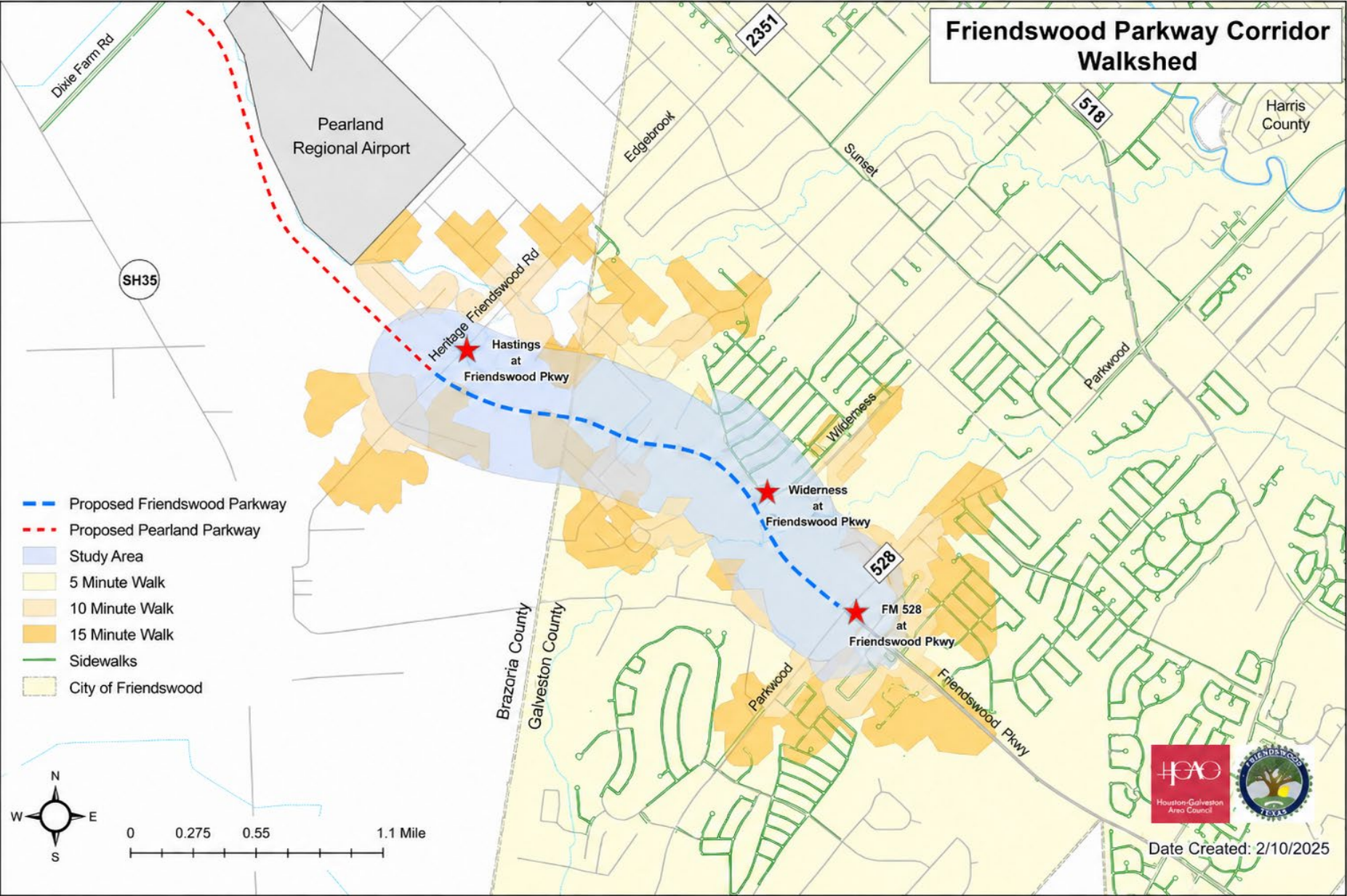
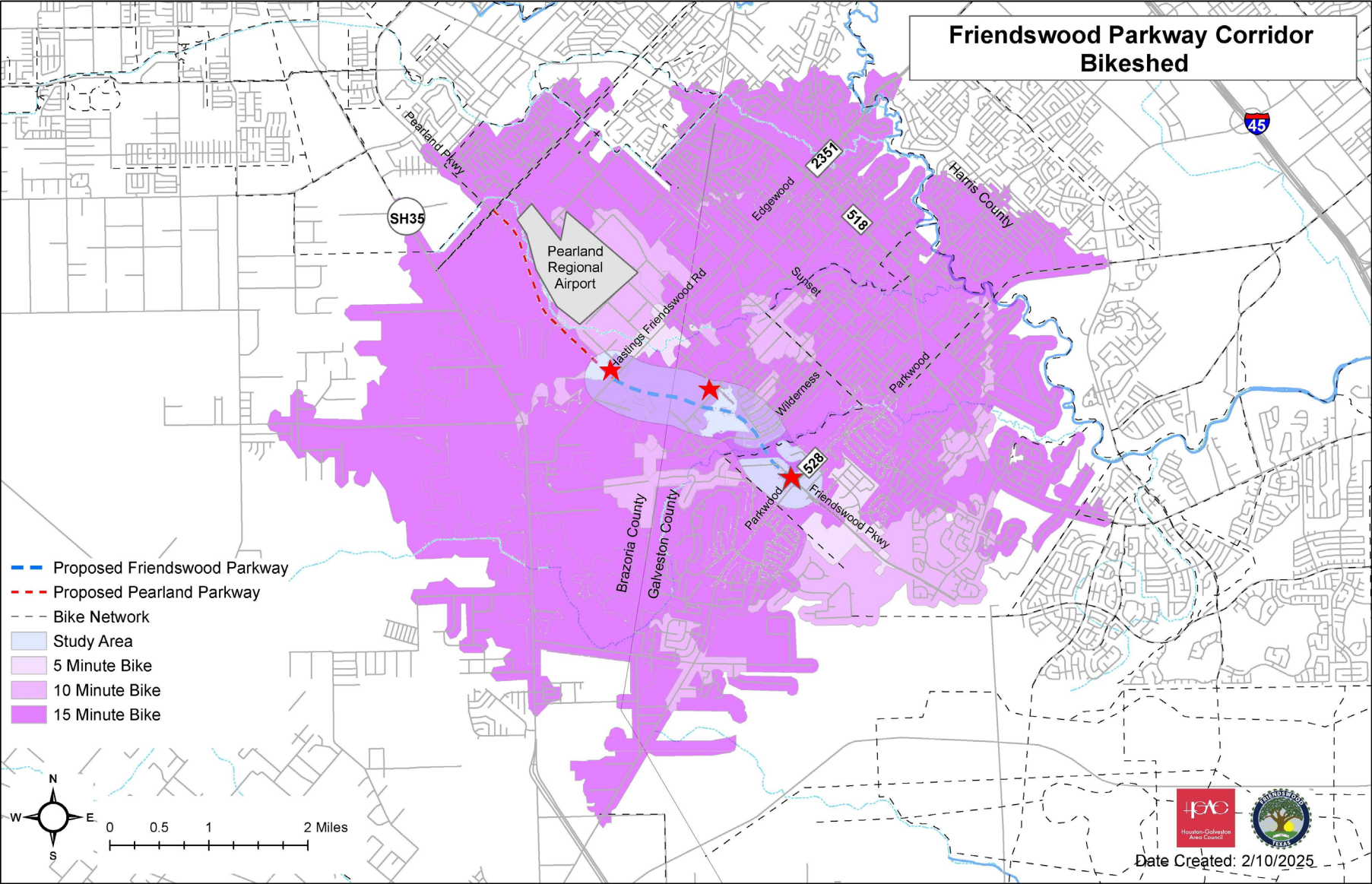


Figure 3: Corridor Bikeshed



Existing Issues: Analysis

A planning-level analysis of the Friendswood Parkway corridor was conducted as part of the Study, covering the proposed alignment between FM 2351 and FM 528 across Brazoria and Galveston counties. The analysis took a broad look at the factors that shape how people get around in the corridor today — including commute patterns from US Census data, how land use influences travel choices, and what the City's own design standards require for new roadway construction. On that last point, the City's current 2021 Design Guidelines only require a four-foot sidewalk on boulevard-classified roadways and make no provision for bicycle facilities — a baseline that sets the stage for many of the gaps identified in the field. The analysis also took stock of existing pedestrian and bicycle infrastructure along the corridor and across the wider study area, as well as the broader transportation network, including vehicular operations and transit availability. It's worth noting that no transit service currently exists within the City of Friendswood, making active transportation connections all the more important for residents who don't drive.

The walkshed and bikeshed analysis — evaluated at 5-, 10-, and 15-minute travel intervals from four key intersections along the proposed corridor. This analysis painted a clear picture of where the network falls short. Across 17 identified segments, both sidewalks and bike lanes are missing in some form, with conditions ranging from facilities that simply don't exist to deteriorated pavement, missing crosswalk markings, and absent pedestrian warning signs. Natural features like creek crossings and heavy vegetation, along with manmade barriers such as fences and subdivision walls, make matters worse by cutting off otherwise nearby neighborhoods from the corridor. The vehicular analysis found that a number of intersections already struggle during peak hours, and travel demand modeling shows those conditions would deteriorate further without the parkway. The proposed Friendswood Parkway is projected to provide meaningful relief to the broader network and improve overall system performance.

Level of Service

Systemwide LOS is a measure of effectiveness used to describe the operations of an intersection, a roadway segment, or an entire transportation network. In a macro level analysis, a travel demand model can be used to measure the operations of a roadway segment using volume-to-capacity ratio to analyze future roadway operations. The scale ranges from LOS "A" to LOS "F", with LOS "A" being free flow traffic operations and LOS "F" described as a breakdown in operations or bumper to bumper traffic. See **Figure 4. Traffic Operations** (on the following page) at the study streets and intersections were evaluated for the following scenarios:

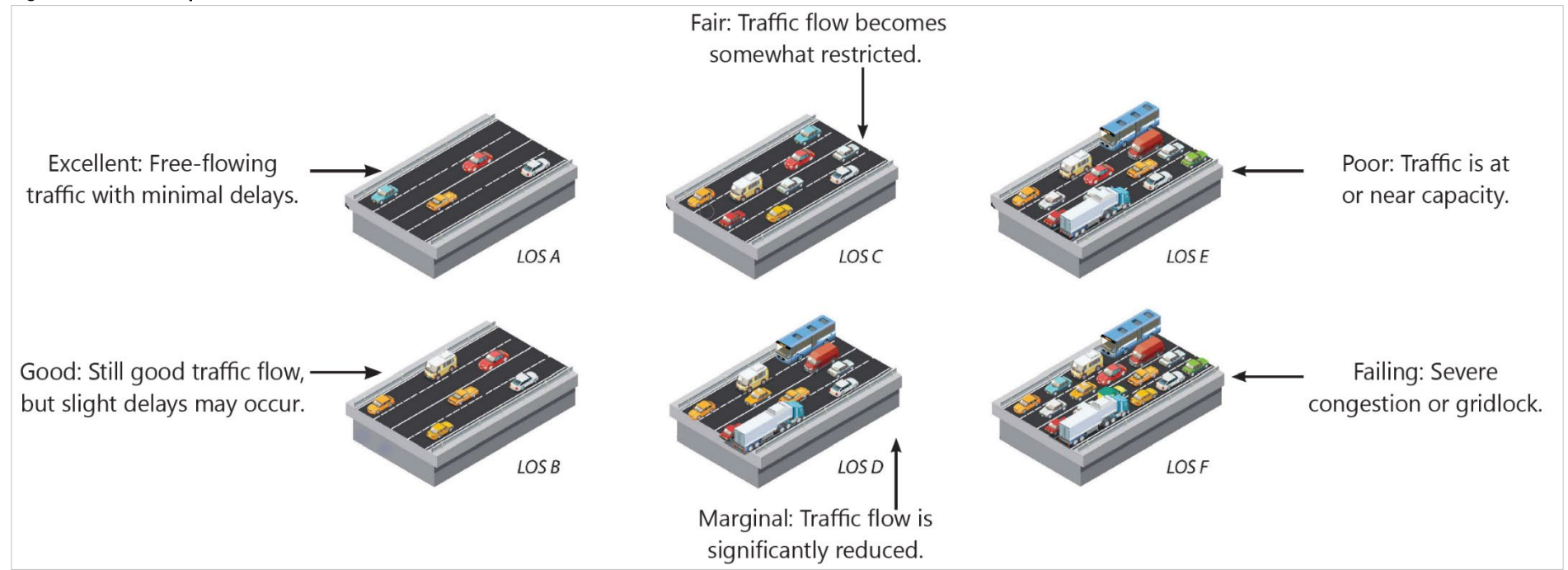
1. 2023 Existing Conditions
2. 2045 without Friendswood Parkway
3. 2045 with Friendswood Parkway

2023 Existing Conditions

The 2023 AM and PM peak-hour LOS maps illustrate daily variations in traffic operations within the Friendswood Parkway Corridor Study area. During the AM peak, most local and collector streets operate at LOS A or B, reflecting generally free-flowing conditions, while congestion is largely confined to major regional corridors such as FM 518, FM 528, SH 35, FM 2351, SH 96, and I-45, where higher commuter volumes result in LOS D through F

conditions. PM peak conditions show broader and more pronounced congestion as commuter, school, and local trips overlap. Several arterial corridors, including FM 518, FM 528, SH 35, and I-45, experience degraded operations at LOS D, E, and F, though many local streets continue to function acceptably. These patterns underscore the need for the proposed Friendswood Parkway, Pearland Parkway, and future east–west connections to improve network redundancy, better distribute traffic, and relieve pressure on overburdened regional corridors as growth continues. See **Figure 5 and 6**.

Figure 4: Traffic Operations



2045 without the Proposed Friendswood Parkway Corridor

The 2045 AM and PM LOS maps without the Friendswood Parkway show increasing congestion as traffic demand grows on the existing roadway network. In the AM peak, while some local streets continue to operate at LOS A-C, major corridors such as FM 518, FM 528, SH 35, FM 2351, SH 96, and areas near I-45 experience LOS D, E, and F, reflecting higher commuter volumes and limited route alternatives. Conditions worsen in the PM peak, with congestion becoming more widespread and severe across regional arterials and freeway connections. Several corridors shift to LOS E and F, indicating increased delays and reduced reliability during the evening commute. See **Figure 7 and 8**.

2045 with the Proposed Friendswood Parkway Corridor

The 2045 AM and PM LOS maps with the Friendswood Parkway show improved traffic operations compared to the no-build scenario by adding new east–west connectivity through the study area. In both peak periods, the Parkway helps redistribute traffic away from congested regional corridors such as FM 518 (NASA Boulevard), FM 528, and SH 35, resulting in more roadway segments operating at LOS A-C and fewer severe congestion points. While some arterials continue to experience LOS D and E during peak hours due to regional travel demand, the extent and severity of LOS F conditions are reduced. Overall, the importance of Friendswood Parkway is illustrated by improving network efficiency, providing route redundancy, and helping maintain acceptable levels of service under 2045 traffic conditions. See **Figure 9 and 10**.

Figure 5: Level of Service in AM, Year 2023

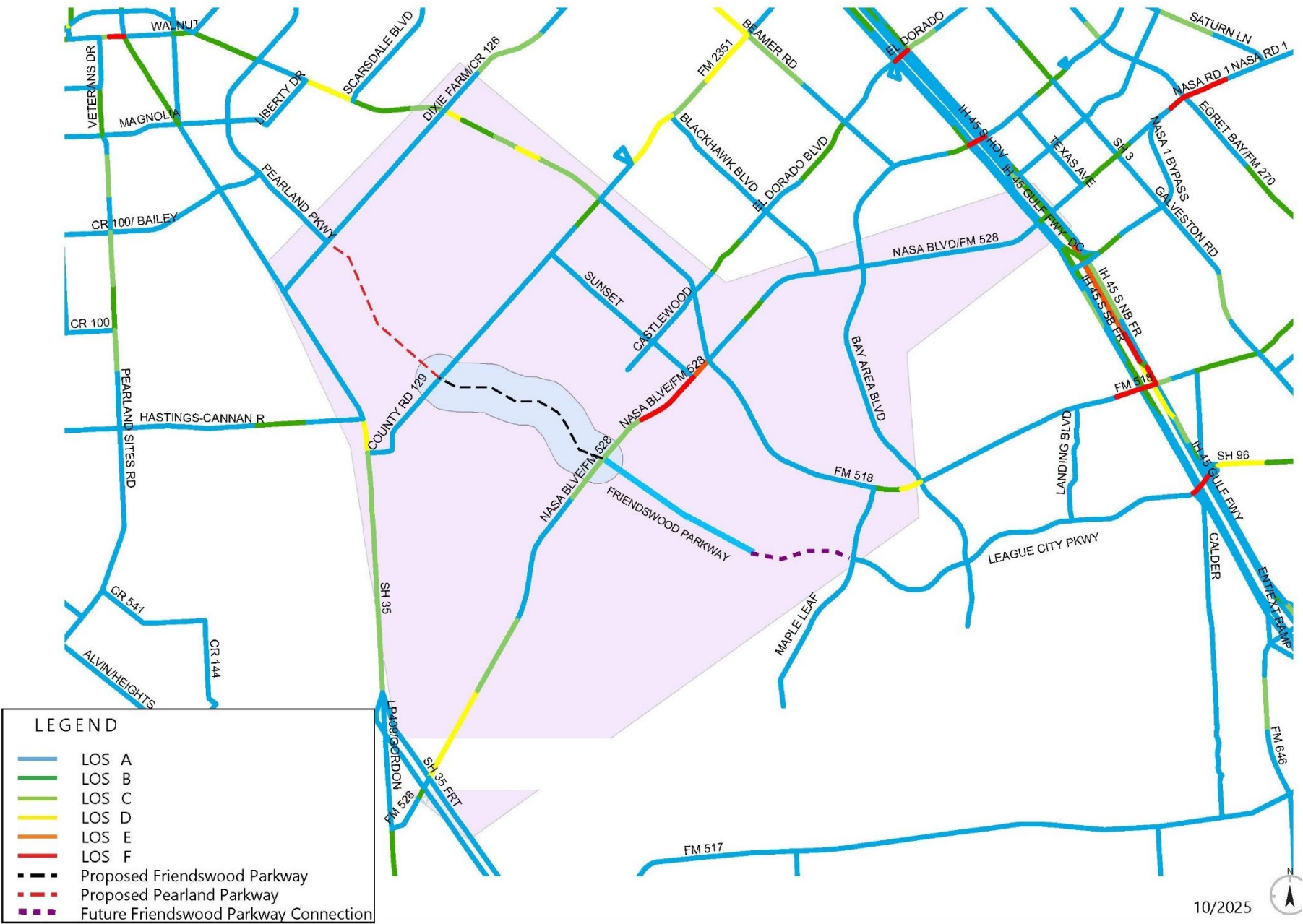


Figure 6: Level of Service in PM, Year 2023

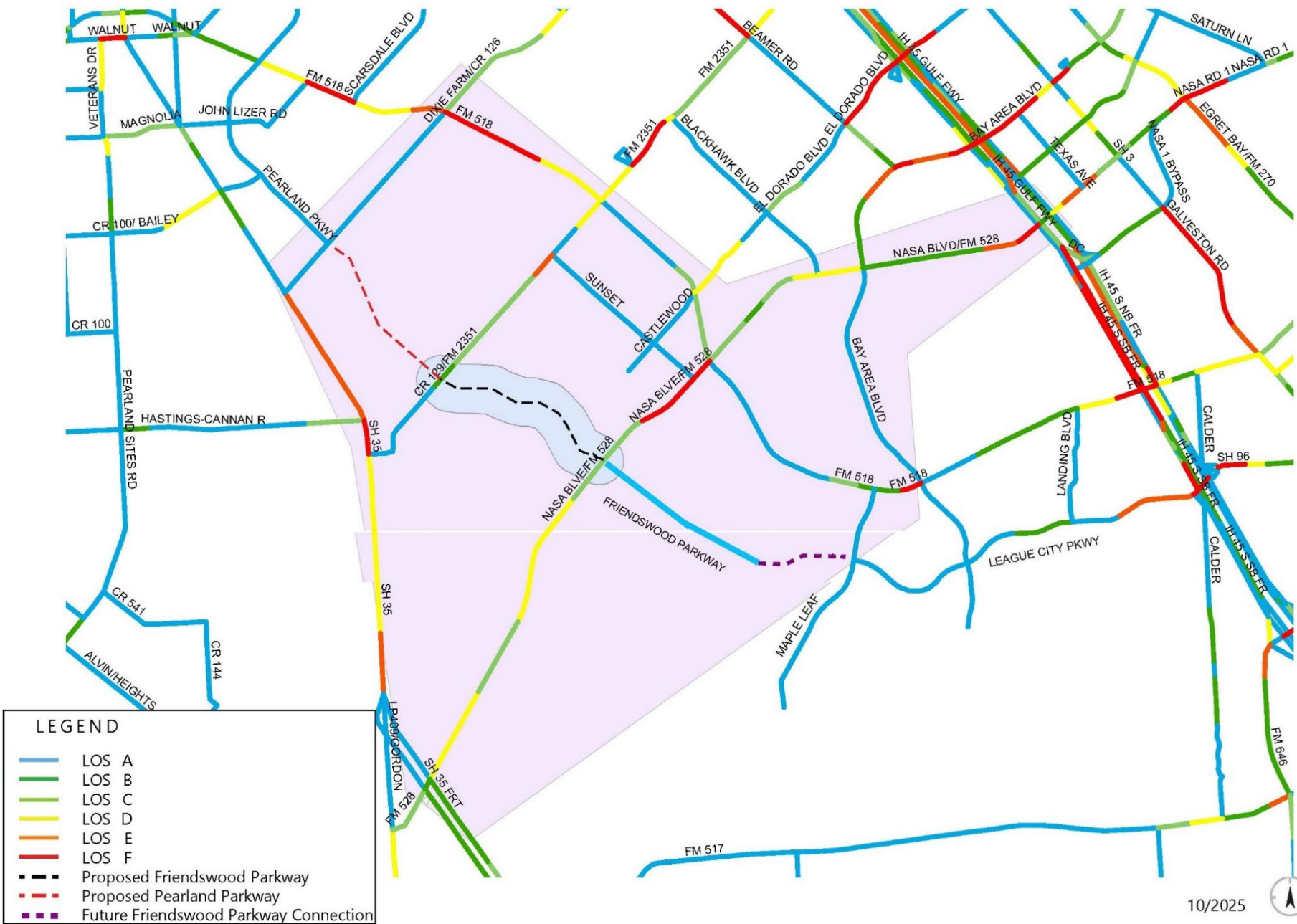
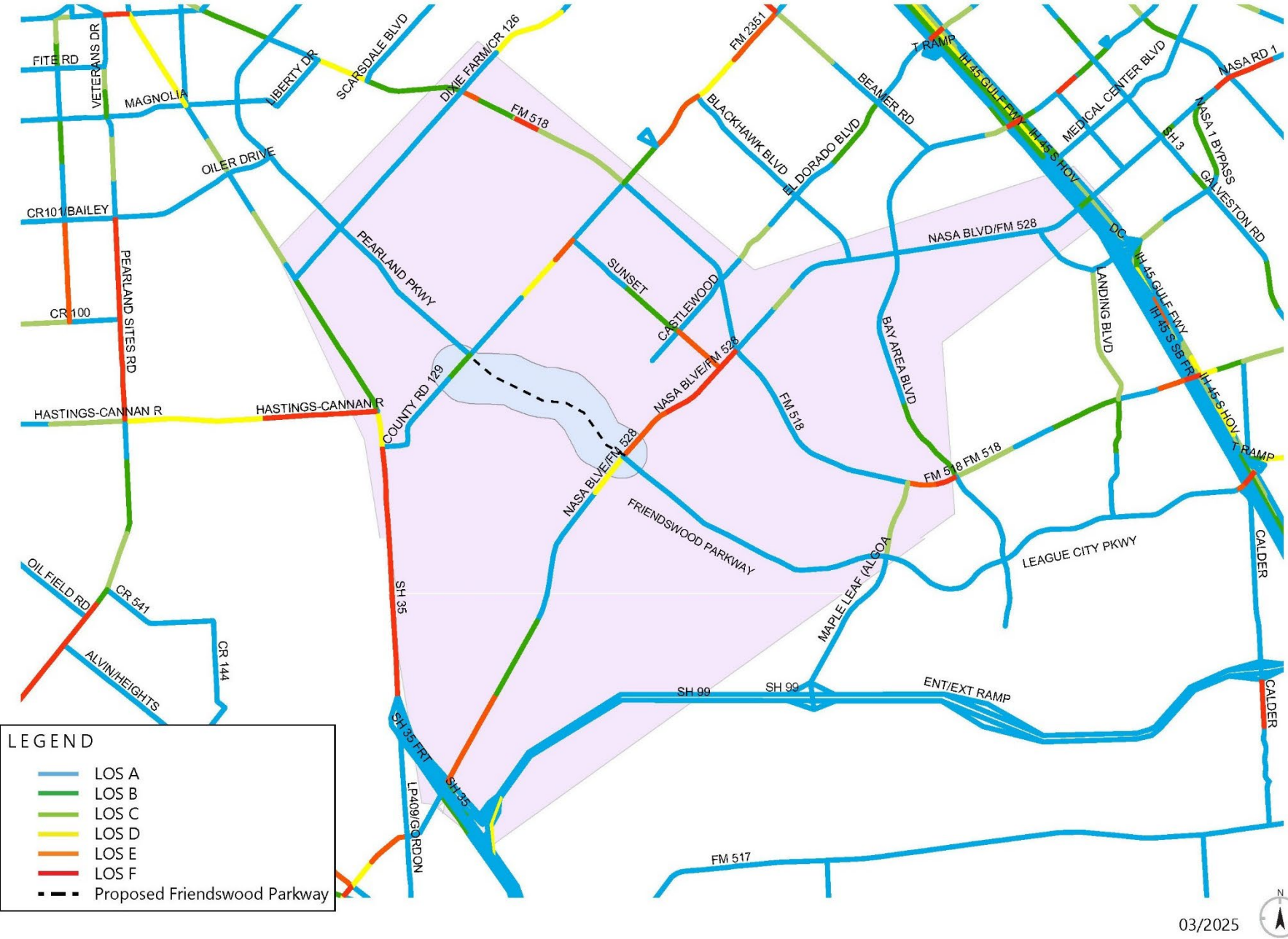


Figure 7: Level of Service in AM, Year 2045 (without Friendswood Parkway)



LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F
- Proposed Friendswood Parkway

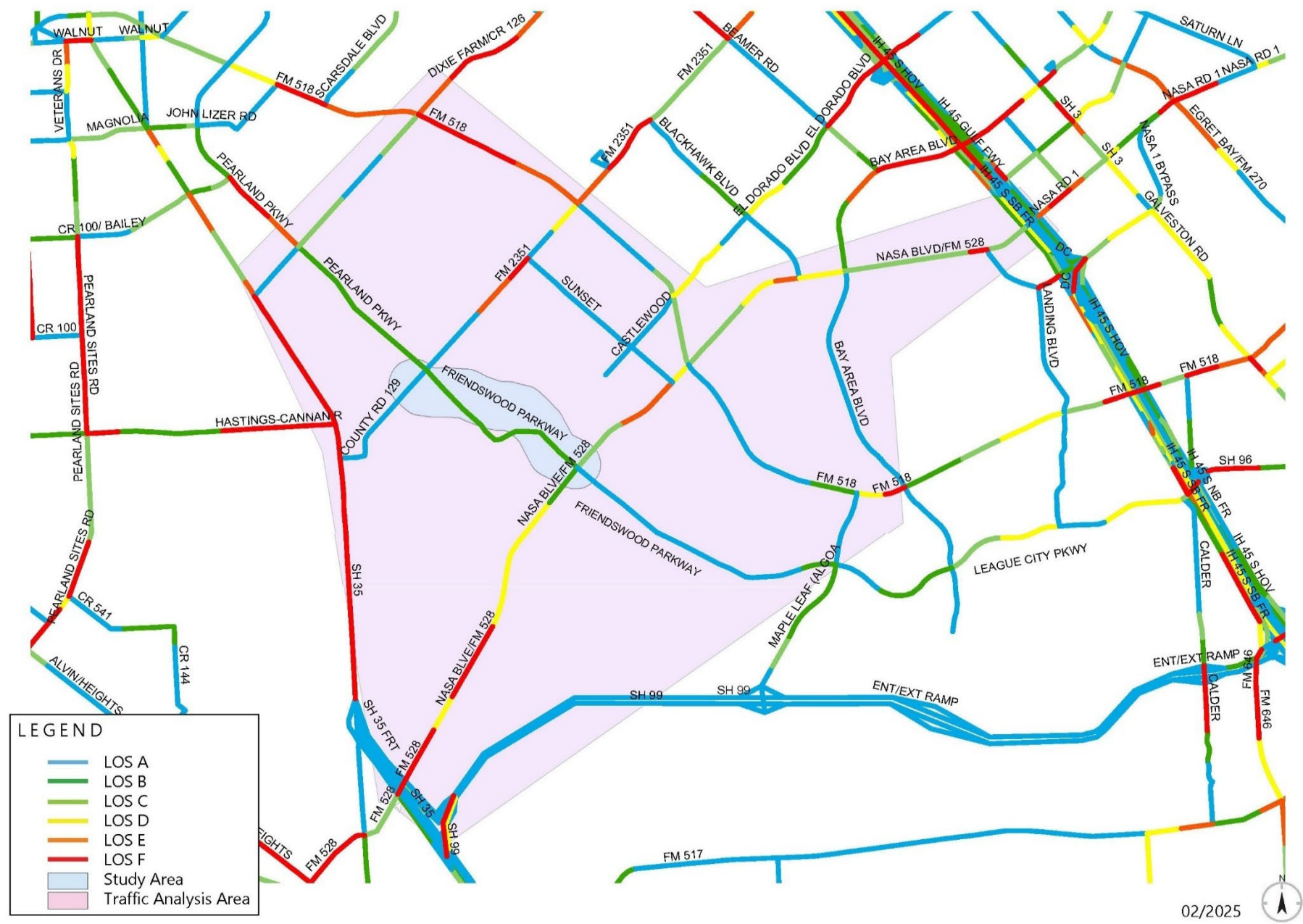
03/2025

LEGEND

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F
- Study Area
- Traffic Analysis Area

02/2025

Figure 10: Level of Service in PM, Year 2045 (with Friendswood Parkway)



2023 Existing Intersection LOS and Delay Summary

The existing intersection traffic operations analysis indicates that most of the 15 study intersections in Friendswood experience significant congestion during peak hours. Nearly all intersections operate at poor LOS, with delays ranging from just over 57 seconds per vehicle at LOS E to more than 230 seconds at LOS F. The most severe congestion occurs at key intersections along FM 518, FM 528, and FM 2351, where delays frequently exceed 100 seconds per vehicle. Only a small number of intersections operate at LOS E rather than LOS F, reflecting widespread peak-hour delay and reduced efficiency.

These findings underscore the need for capacity and operational improvements to address existing congestion and accommodate future growth. LOS results were developed using Highway Capacity Manual (HCM) 7th Edition and HCM 2022 methodologies and are summarized in color-coded maps (green for LOS A-D and red for LOS E-F). Under 2023 existing conditions, nine intersections are projected to operate at unacceptable LOS, as shown in **Figure 11**.

2045 Without the Proposed Friendswood Parkway Corridor

A substantial number of study intersections are projected to operate at unacceptable levels of service during both the AM and PM peak hours, with widespread LOS E and F conditions along key east-west and north-south corridors. Congestion is most pronounced along FM 518, FM 528, FM 2351, and connecting routes, where increasing regional growth and limited network redundancy result in excessive delays and reduced intersection performance. While a few local intersections continue to operate at acceptable LOS, they do so largely because they serve lower traffic volumes and do not meaningfully offset congestion on the regional system. See **Figure 12**.

2045 With the Proposed Friendswood Parkway Corridor

The proposed Friendswood Parkway Corridor provides substantial operational benefits across the study area. Several intersections experience significant improvements, with delays reduced by more than 150 seconds per vehicle at some locations. Sixteen intersections are projected to operate at unacceptable conditions. A few intersections improve to LOS E, reflecting meaningful congestion relief as traffic is redistributed from heavily traveled corridors to a more balanced and resilient network, particularly where the new corridor helps divert traffic from heavily traveled roads. While continued regional growth will require additional long term improvements at selected locations, the Parkway establishes a critical east-west mobility spine that significantly enhances overall system performance. By diverting traffic from overburdened facilities and improving connectivity between FM 2351 and FM 528, the corridor strengthens network redundancy, improves travel time and positions the corridor for future intersection upgrades. See **Figure 13**.

2045 Traffic Mitigation With the Proposed Friendswood Parkway Corridor plus Mitigation (Target Improvements)

Key intersections along the corridor, particularly northbound and southbound traffic at FM 528 and FM 2351, under its current lane configuration, are projected to experience unacceptable LOS under future traffic scenarios, even with the planned corridor in place. To address these challenges, targeted roadway improvements - such as added turn lanes, through/right-turn lanes, and optimized signal timings - are recommended to enhance intersection efficiency and reduce delay. These improvements would bring these intersection operations to an acceptable LOS. See **Figure 14**.

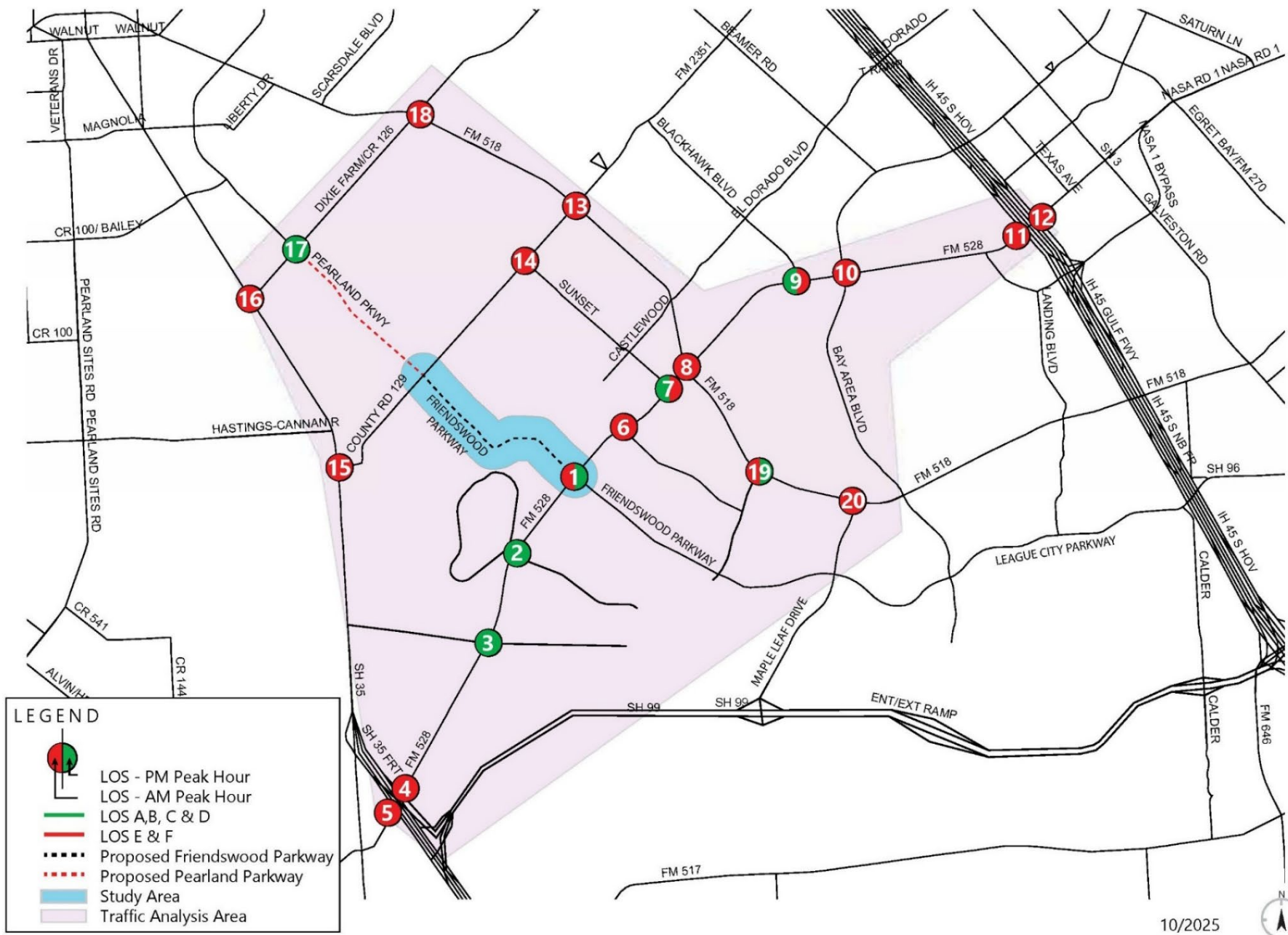
LEGEND

- LOS - PM Peak Hour
- LOS - AM Peak Hour
- LOS A, B, C & D
- LOS E & F
- Proposed Friendswood Parkway
- Proposed Pearland Parkway
- Study Area
- Traffic Analysis Area
- Future Friendswood Parkway Connection

*Future Friendswood Parkway Connection was not completed at time of analysis

10/2025

Figure 12: Year 2045 Intersection Level of Service - Without Friendswood Parkway

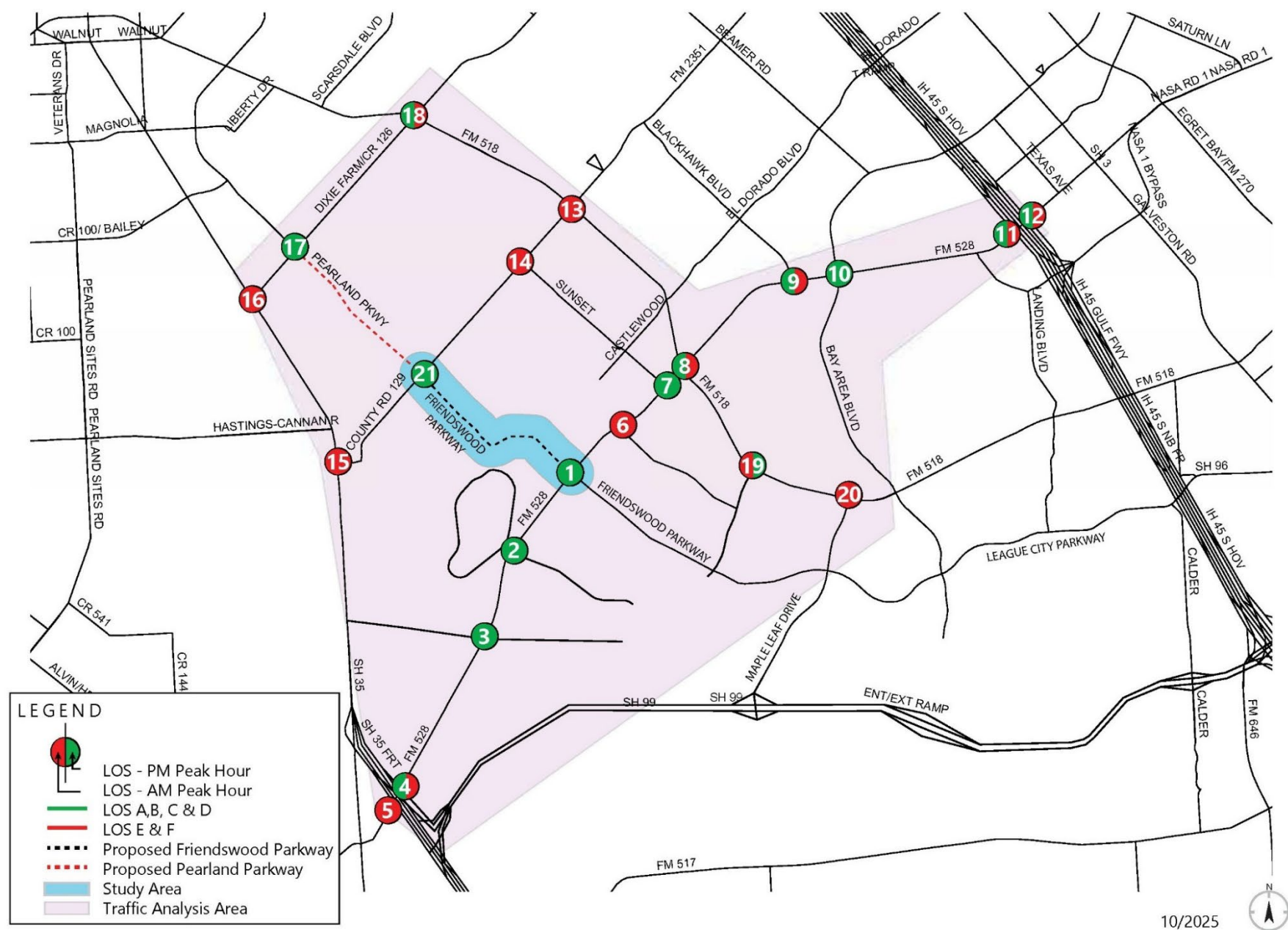


LEGEND

- LOS - PM Peak Hour
- LOS - AM Peak Hour
- LOS A, B, C & D
- LOS E & F
- Proposed Friendswood Parkway
- Proposed Pearland Parkway
- Study Area
- Traffic Analysis Area

10/2025

Figure 14: Year 2045 Intersection Level of Service - With Friendswood Parkway Plus Mitigation



10/2025



Public Engagement



Public Engagement

ENGAGEMENT PROCESS

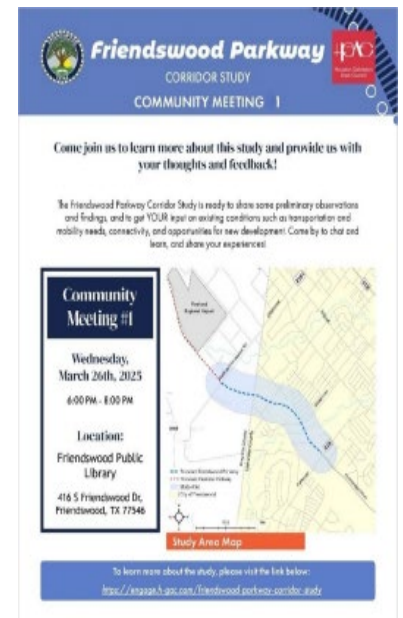
A robust public engagement process help guide the Study, structured around three distinct levels of participation designed to capture input from a broad cross-section of stakeholders. The Steering Committee brought together non-elected state and local governmental and non-governmental representatives from the City of Friendswood, City of Pearland, Brazoria and Galveston Counties, H-GAC, and TxDOT — providing regional coordination and institutional perspective throughout the planning process. This group was expected to carry that collaborative foundation forward into plan implementation. The Focus Group engaged community members in a more intimate setting, offering a dedicated space for resident voices outside of the formal governmental structure. The Community Wide Meeting opened the process to the general public, providing an opportunity for broader input on corridor priorities and concerns. Together, these three levels of engagement ensured that the study's vision, goals, and evaluation criteria reflected both technical expertise and the lived experience of the people who use the corridor every day.

Public engagement extended well beyond in-person meetings through a dedicated project website hosted on the H-GAC Engage platform. The site served as a central hub for project information, key milestones, study materials, and ongoing communication with the public. Residents were able to submit feedback directly online and use an interactive geolocated comment tool to flag concerns and opportunities at specific locations within the study area — giving the project team a clearer picture of place-based issues that might not surface in a meeting room setting.

Over the course of the study, the website attracted approximately 2,500 total visits from nearly 1,900 unique visitors, reflecting broad community awareness and sustained interest in the corridor's future. Traffic was driven primarily through direct access and search engines, suggesting that residents were actively seeking out project information rather than stumbling across it. Engagement peaks in the site analytics aligned closely with major project milestones — including the Community Wide Meeting and the release of preliminary findings — confirming that outreach efforts successfully drew participants back to the platform at critical moments.

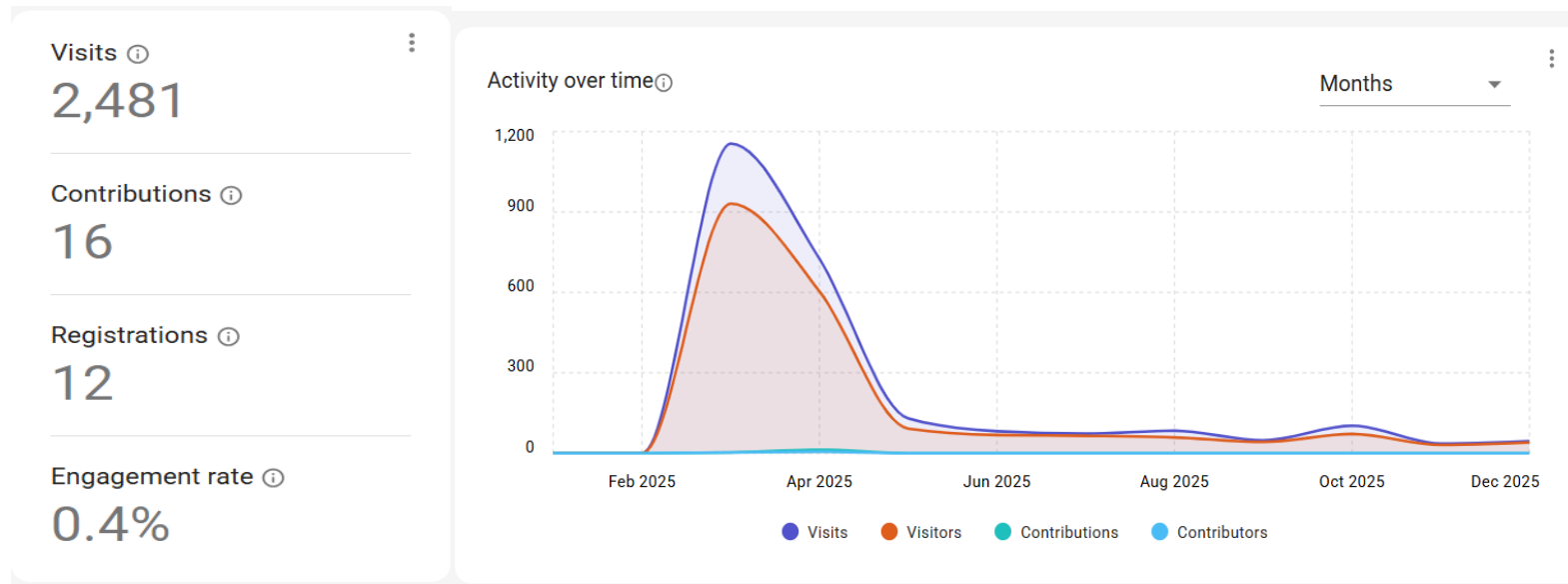
Public Engagement Meetings

Steering Committee Meeting 1	12/18/2024
Focus Group Meeting	3/12/2025
Community Wide Meeting	3/31/2025
Steering Committee Meeting 2	10/7/2025



Project Website

The digital strategy meaningfully complemented in-person participation, helping ensure that a wide cross-section of the community remained informed and engaged from study initiation through the development of final recommendations. As part of the digital strategy, a project website was developed and hosted on the H-GAC Engage platform to support transparent communication and public participation throughout the planning process. The website provided residents with up-to-date project information, key milestones, and engagement materials, and allowed users to submit feedback directly online. In addition, the platform enabled geolocated comments, allowing participants to identify and comment on issues at specific locations within the study area, helping the project team better understand place-based concerns and opportunities.





Alternative Analysis



Alternative Analysis

The alternative analysis evaluated potential alignments and roadway cross section options for the Friendswood Parkway Corridor, ultimately leading to the selection of a preferred alternative. The preferred alternative is the alignment and roadway cross section design chosen as the best option for the study, based on public feedback, city guidance, and data, and the agreed upon goals and vision of the project, and more specifically to improve safety, mobility, and connectivity while supporting future growth.

All alternative alignments met city standards and design guidelines and were consistent with the 2018 City of Friendswood Major Thoroughfare Plan and the 2045 H-GAC Regional Transportation Plan. Alternatives alignments 1, 2 and 3, all begin at FM 2351/Brazoria County Road 129 on the west side of the corridor, however their terminus points were different along FM 2351/Brazoria County Road 129. See **Figure 15** for more information. The east terminus for all three alignments were at FM 528 and directly aligning with existing Friendswood Parkway. **Figure 16** shows the variation of ROW width segments along the corridor.

Figure 15: Alternative Alignments

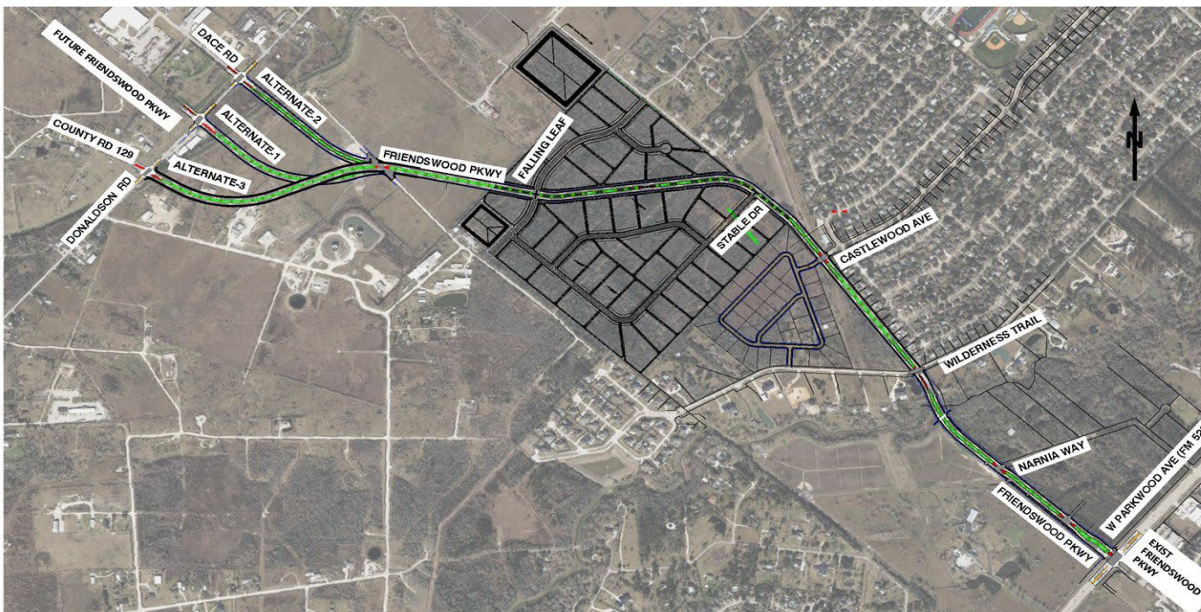
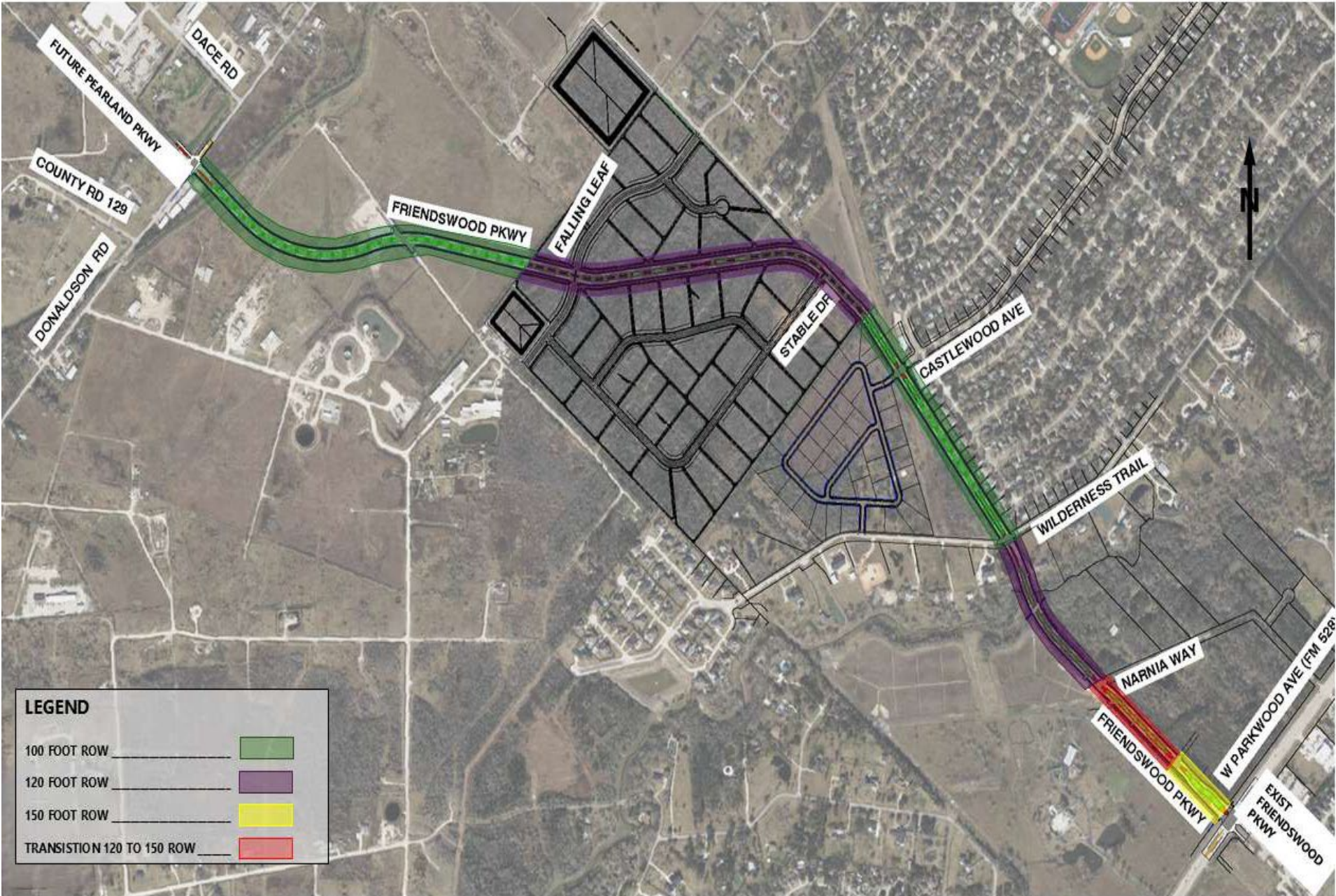


Figure 16: Friendswood Parkway Right of Way Width Segments



Alternative Cross Sections A - C

Alternative Cross Section A is composed of two 12-foot through lanes in each direction and a 28-foot landscaped median with five-foot sidewalks on each side of the roadway. Right of Way widths vary depending on roadway segment as per **Figure 16**. See **Figures 17, 18, and 19** for more information.

Figure 17: Alternative Cross Section A 100' Right of Way

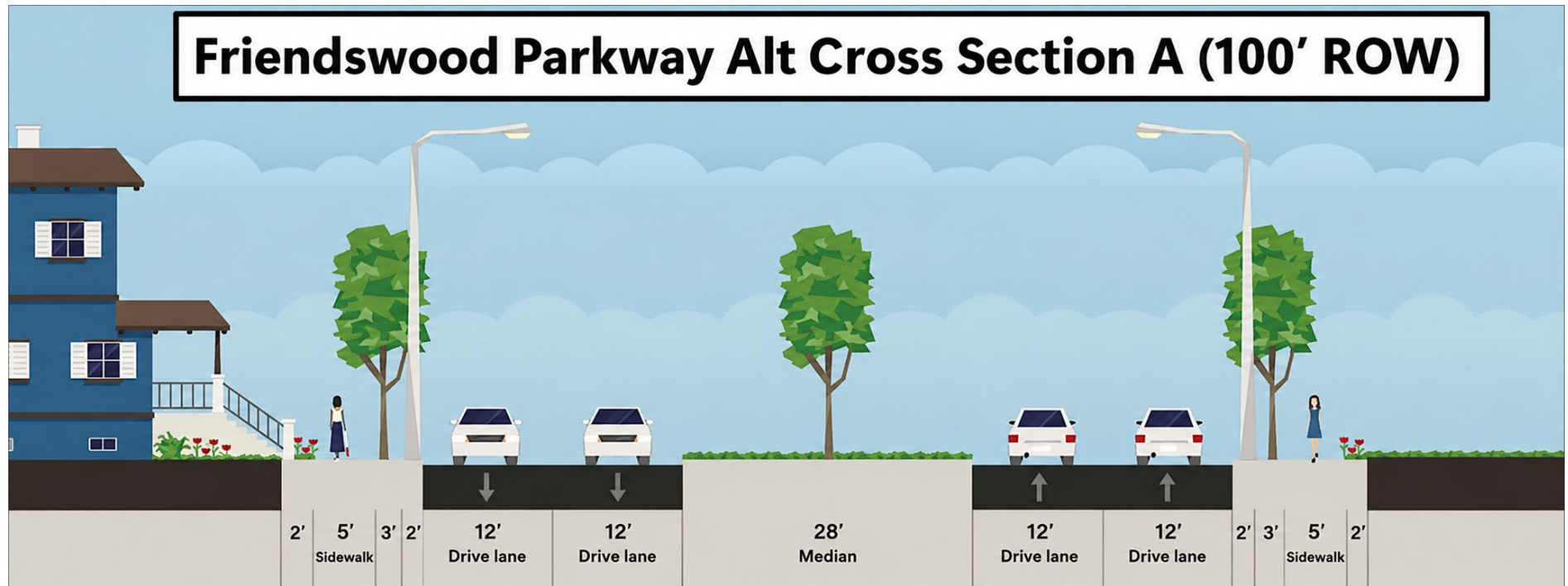


Figure 18: Alternative Cross Section A 120' Right of Way

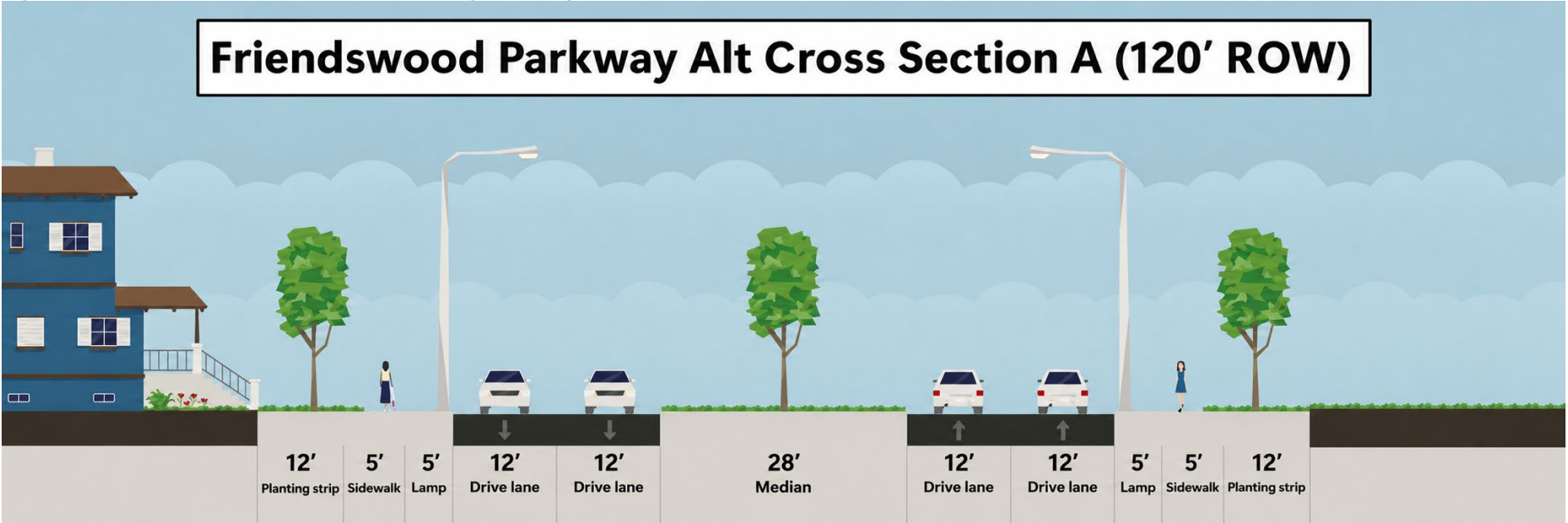
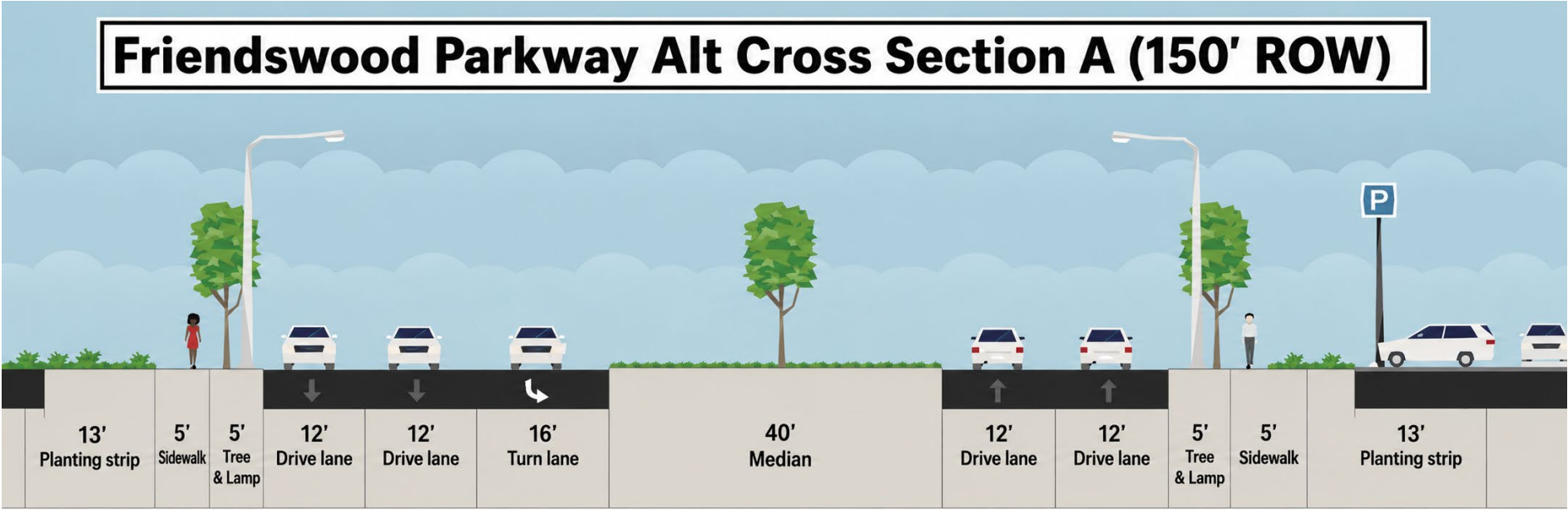


Figure 19: Alternative Cross Section A 150' Right of Way



Alternative Cross Section B is composed of two 12-foot through lanes in each direction and a 28-foot landscaped median with five-foot sidewalks on the north side of the roadway, and a 10-foot multi-use path on the south side of the roadway. Right of Way widths vary depending on roadway segment as per **Figure 16**. See **Figures 20, 21** and **22** for more information.

Figure 20: Alternative Cross Section B 100’ Right of Way

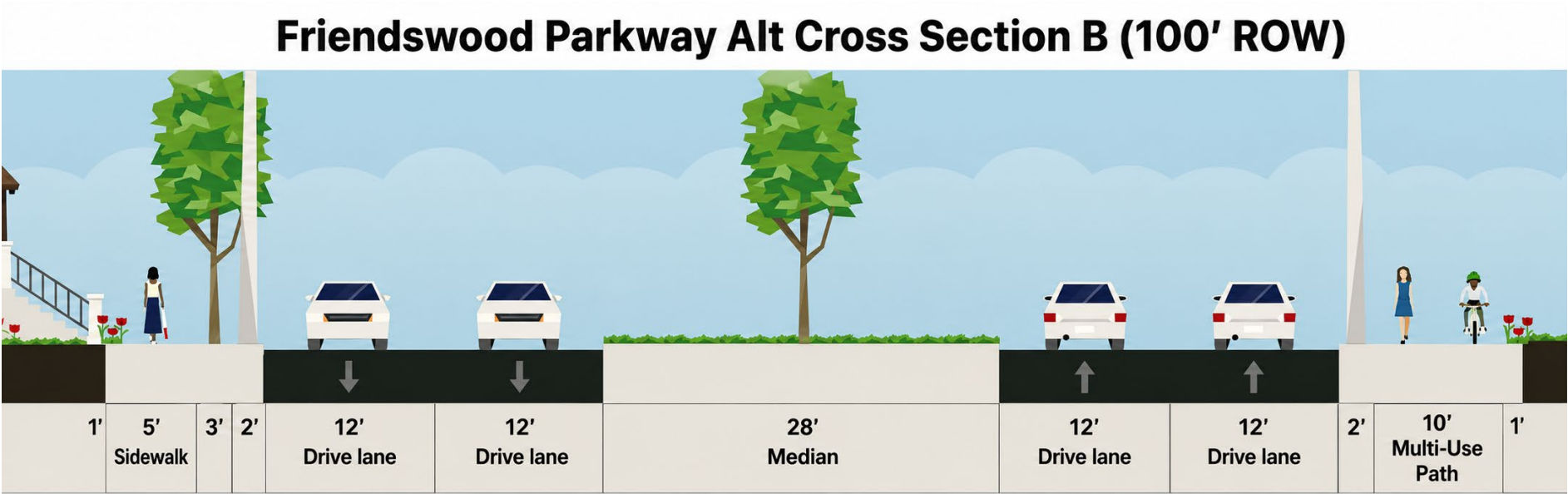


Figure 21: Alternative Cross Section B 120' Right of Way

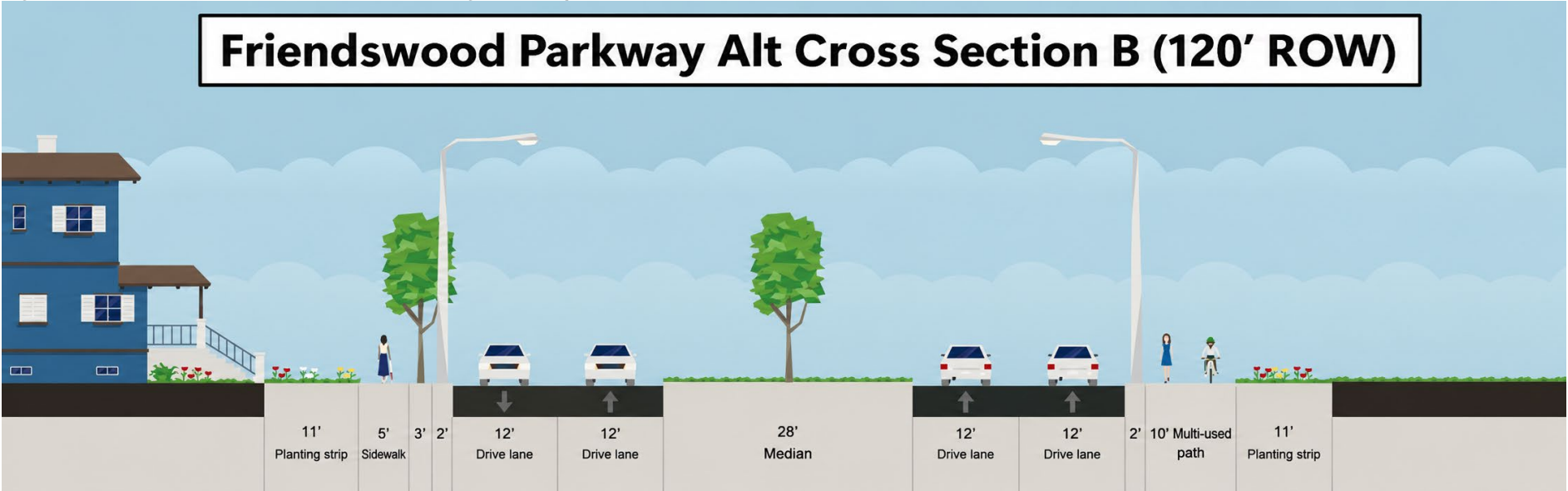
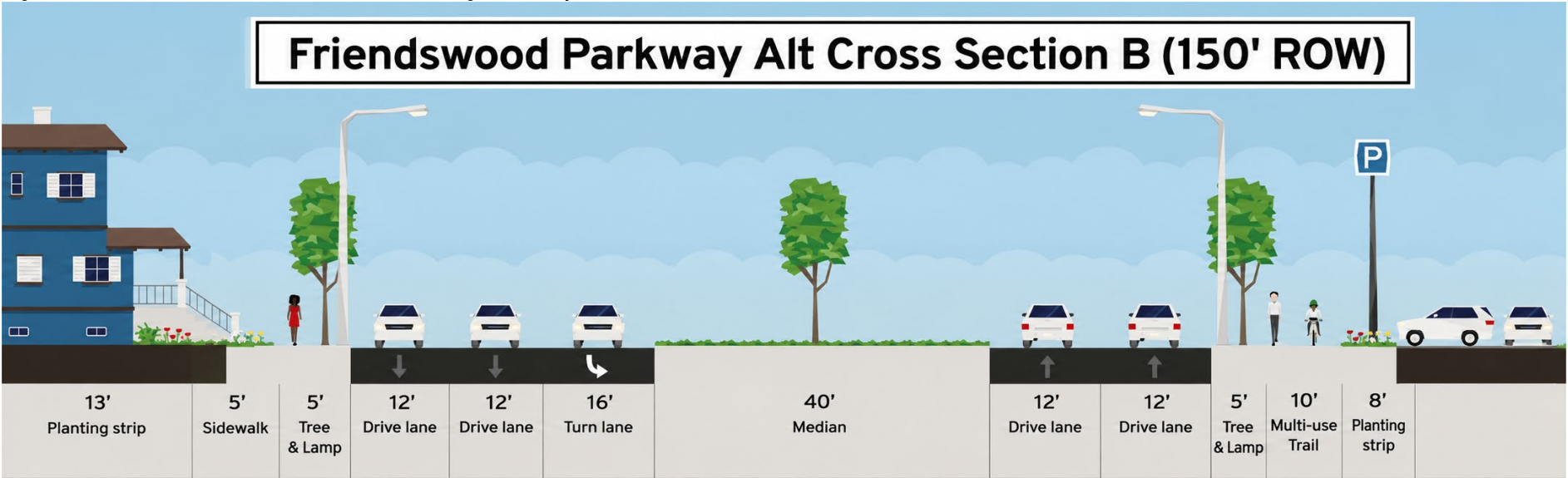


Figure 22: Alternative Cross Section B 150' Right of Way



Alternative Cross Section C is composed of one 14-foot through lane in each direction, with a seven-foot protected bike lane in each direction, and a 28-foot landscaped median with five-foot sidewalks on each side of the roadway. Right of Way widths vary depending on roadway segment as per **Figure 16**. See **Figures 23, 24** and **25** for more information.

Figure 23: Alternative Cross Section C 100' Right of Way

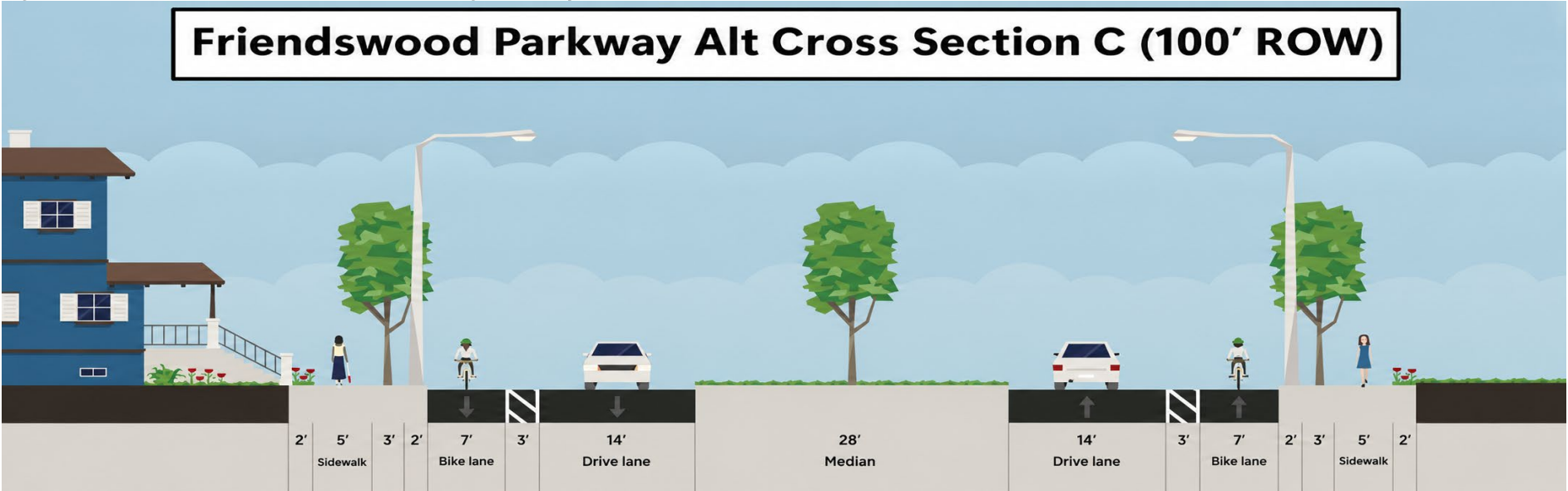


Figure 24: Alternative Cross Section C 120' Right of Way

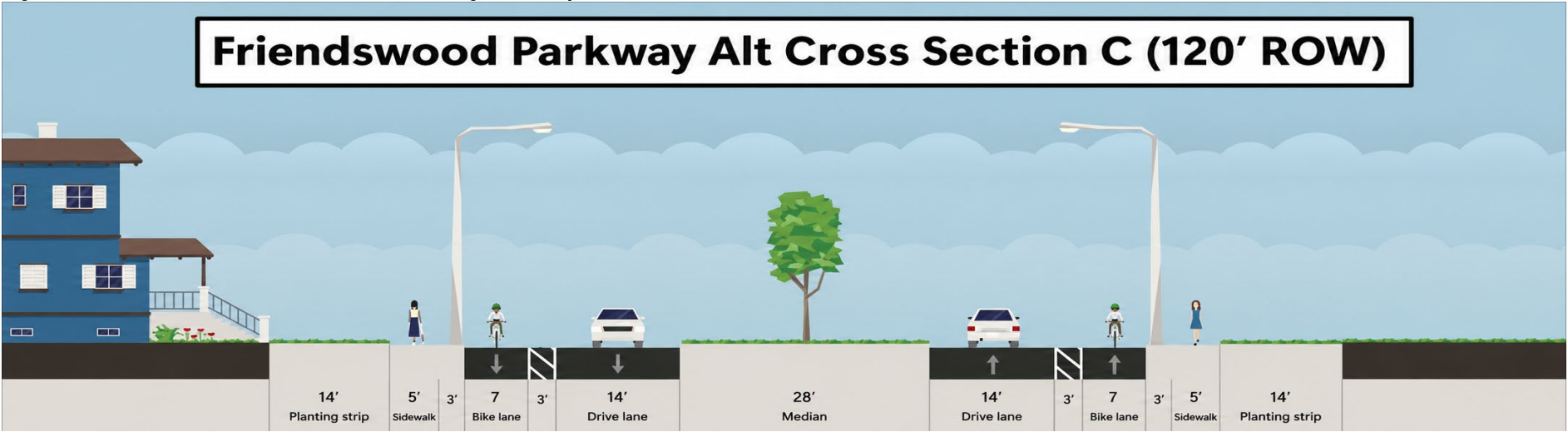
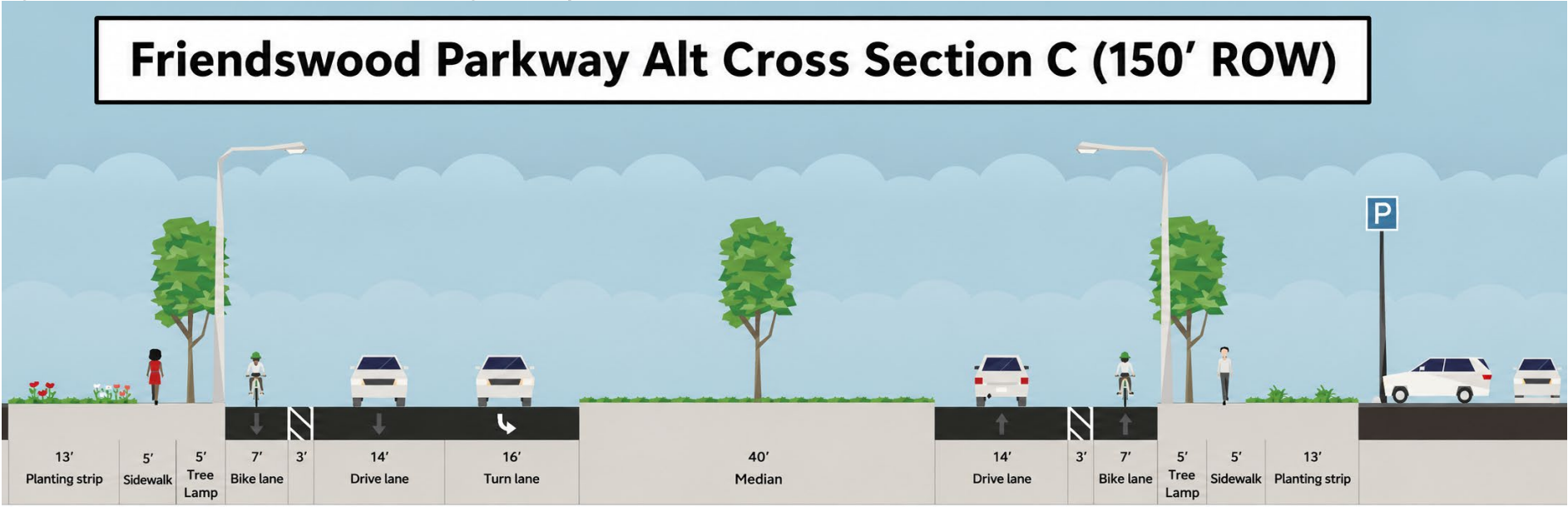


Figure 25: Alternative Cross Section C 150' Right of Way



Methodology

Three different cross sections were developed and evaluated. All three traveled through different right of way requirements 100 feet, 120 feet and 150 feet, based on the City of Friendswood Design Guidelines and feedback from City of Friendswood staff. The alternatives analysis developed two evaluation matrices to assess each alignment option and cross-section alternative against the project's vision and goals. The evaluation criteria included connectivity, multimodal accommodation, provision of alternative routes, congestion relief, and evacuation functionality. The project vision and goals were developed and refined in collaboration with the steering committee, focus groups, and the broader public.

Using these criteria and matrices, the analysis identified a preferred alternative (Alternative Cross Section B). Each alternative was evaluated using a simple effectiveness scale: Positive (+, green) for meeting the criterion, Neutral (0, yellow) for having no measurable effect, and Negative (–, red) for not meeting the criterion. This approach provided a clear, visual framework for comparing alternatives and supported the transparent selection of the preferred option. See Matrix Below.

Alternative Analysis Matrix (Cross Sections)				Alternative Analysis Matrix (Alignments) Friendswood Parkway					
	Multimodal	Congestion Relief	Total		Connectivity	Alternative Route	Congestion Relief	Evacuation Route	Total
<i>Alt Cross Section A</i>	0	+	1+	<i>Alternative 1</i>	+	+	+	+	4+
<i>Alt Cross Section B</i>	+	+	2+	<i>Alternative 2</i>	0	+	+	0	2+
<i>Alt Cross Section C</i>	+	0	1+	<i>Alternative 3</i>	0	+	+	0	2+

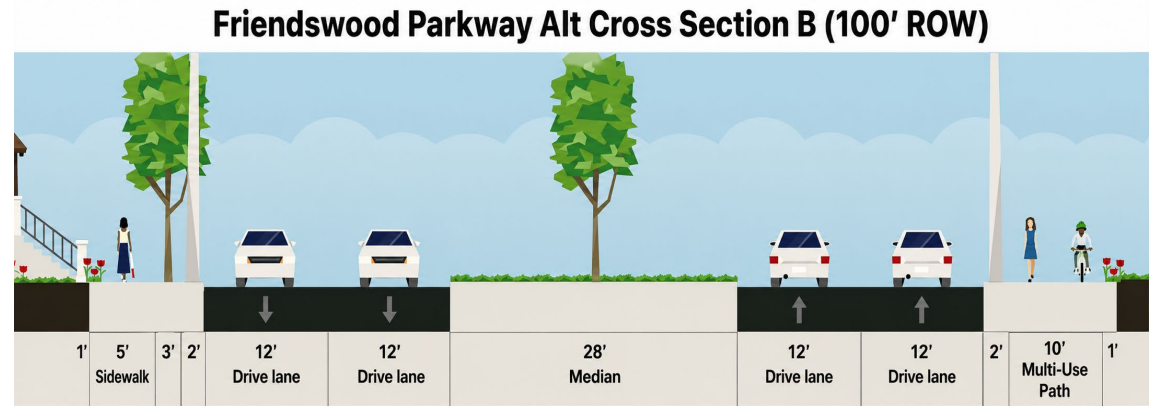
+ Positive

0 Neutral

- Negative

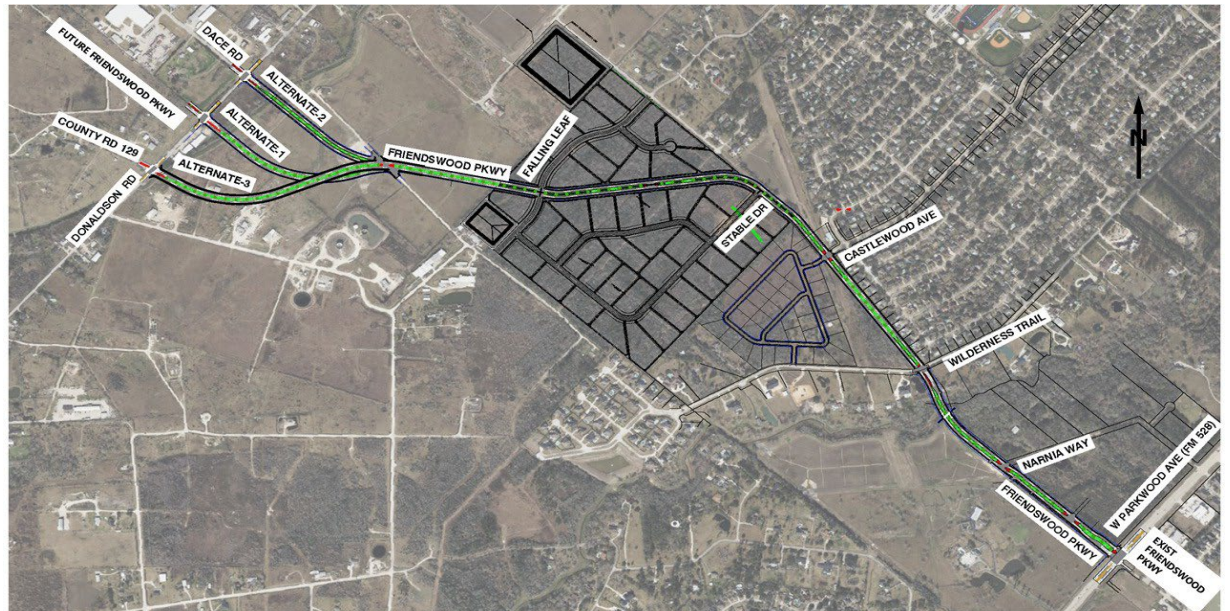
Alternative Cross Section B (Preferred Option)

Alternative Cross Section B is comprised of two 12-foot through lanes in each direction and a 28-foot landscaped median with five-foot sidewalks on north side of the roadway, and a 10-foot multi-use path on the south side of the roadway. Right of Way widths vary depending on roadway segment. For congestion relief it received a positive rating because it adds additional capacity to the transportation network with the 4 additional lanes. It received a positive rating for multi-modal because it provided for both pedestrian and cyclist infrastructure. Alternative Cross Section B is the preferred alternative and scored the highest.



Alternative Alignment 1 (Preferred Option)

Alternative Alignment 1 received a total of 4 plus/positive ratings. This alternative alignment connected to the future Pearland parkway, based on the proposed alignment identified in the Brazoria County Thoroughfare Plan. This provides connectivity between the City of Pearland, the City of Friendswood and League City. Because of this continuous corridor it can be used as a hurricane route and an alternative route to FM 518 and IH 45. Alternative Alignment 1 was the preferred alignment. It met all the criteria listed at the top of the matrix. Assuming the county and the city will purchase or have ROW dedicated along the future corridor depicted in the 2045 H-GAC Regional Transportation Plan.





Implementation & Funding



Implementation & Funding

Implementation And Funding

The Study outlines a phased implementation strategy coordinated among TxDOT, Brazoria County, Galveston County, the City of Friendswood, and private developers. Near-term segments may be delivered through ongoing development, with remaining segments constructed over the mid-term as funding becomes available. Potential funding sources include local, state, and federal programs aligned with corridor ownership and jurisdictional responsibility.

1. Implementation Partners and Corridor Assignments:

- a. **Brazoria County** - Intersection of FM 2351/Brazoria County Road 129 and portions of Friendswood Parkway up to Brazoria and Galveston County line
- b. **City of Friendswood, and Developers** - Friendswood Parkway from Brazoria and Galveston County Line to Wilderness Trail, and Intersection of FM 528
- c. **Galveston County** - Friendswood Parkway from Wilderness Trail to FM 528 to include Bridge Class Culvert Crossing at Chigger Creek

2. Implementation Time Frames - Based on Stakeholder engagement there are ongoing negotiations presently with developers to plat and construct infrastructure for private developer projects including segments of Friendswood Parkway. These segments can be constructed in the Short-Term (1-Five Years) and the rest of the corridor in the mid-term (5-10 years) depending on funding availability.

3. Possible Funding Sources - Possible funding sources were explored that included local, state, and federal funding and assigned to the different individual segments assigned to the implementation partners.



Table 5: Projects and Funding Sources

#	Corridor Segment	Timeline	Costs	Responsible Party	Funding Source
1	Intersection of FM 2351 (Brazoria County Road 129) and Friendswood Parkway	Mid-Term	~	Brazoria County and/or Developers	Local General Obligation Bonds, Public Private Partnerships, and State and or Federal Grants
2	Segment between FM 2351 (Brazoria County Road 129) and the Brazoria and Galveston County Line	Mid-Term	~	Brazoria County and/or Developers	Local General Obligation Bonds, Public Private Partnerships, and State and or Federal Grants
3	Between Brazoria and Galveston County Line to Wilderness Trail	Short-Term to Mid-Term	~	City of Friendswood and or Developers	General Obligation Bonds, Public Private Partnerships, and State and Federal Grants, TIRZ
4	Bridge Class Culvert Crossing at Chigger Creek	Short-Term to Mid-Term	~	Galveston County	General Obligation Bonds
5	Segment between Wilderness Trail and FM 528	Short-Term	~	Galveston County	General Obligation Bonds
6	Intersection FM 528	Short-Term	~	City of Friendswood and/or Developers	General Obligation Bonds, Public Private Partnerships, State and Federal Grants, TIRZ

Conclusion

The Friendswood Parkway Corridor Study demonstrates that the construction of the Parkway is essential to improving traffic flow, enhancing multimodal connectivity, and supporting long-term growth in the City of Friendswood. The traffic operations analysis confirmed that, without the parkway, intersections along FM 518, FM 528, and FM 2351 will experience severe congestion and unacceptable LOS by 2045. The addition of the Parkway delivers substantial operational improvements, relieves pressure on major corridors, and establishes a more balanced and resilient transportation network.

Implementing Alternative Alignment 1 in conjunction with Alternative Cross Section B, together with the recommended intersection improvements, provides a strategic and phased path forward. The Parkway is not merely an enhancement. It is a foundational investment in regional mobility that strengthens connectivity, improves reliability, and positions Friendswood to meet current and future transportation demands with confidence.



Appendices





APPENDIX A LITERATURE REVIEW TECHNICAL MEMORANDUM



APPENDIX B PUBLIC MEETINGS SUMMARY REPORTS



APPENDIX C

EXISTING ISSUES AND NEEDS ANALYSIS

TECHNICAL MEMORANDUM

APPENDIX D
BIKE AND WALK SHED WITH
GAPS IN SERVICE
TECHNICAL MEMORANDUM



APPENDIX E ALTERNATIVE ANALYSIS AND PREFERRED ALTERNATIVE TECHNICAL MEMORANDUM



APPENDIX F RENDERINGS



APPENDIX G

IMPLEMENTATION AND FUNDING STRATEGIES

TECHNICAL MEMORANDUM

DOWNTOWN
FRIENDSWOOD
PARKSIDE DR 100 NO
OUTLET
FRIENDSWOOD
S FRIENDSWOOD DR 100

