Appendix

A

Fact Book

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Overview

The Fact Book provides maps, data, and photos that detail the current demographics and transportation characteristics in and around the Study Area that will inform recommendations in the Phase II Mobility Plan. This document will be an Appendix included in the Final Report of the Old Sixth Ward/TIRZ 13 Phase II Mobility Plan.

In addition to the existing demographic and transportation-related characteristics, an existing sidewalk and ramp assessment was performed that illustrates general sidewalk and walkabililty conditions in the Study Area. This inventory of sidewalk conditions will help inform recommendations that support a network of safe, walkable corridors and neighborhoods.

Old Sixth Ward TIRZ 13 Phase II Study Area

The City of Houston's Old Sixth Ward Tax Increment Reinvestment Zone 13 (TIRZ 13) was established in 1998 and contains the boundaries of the City's Old Sixth Ward. TIRZ 13 works to improve the neighborhood through the financing of public improvement projects and helps ensure that community input guides investment decisions.

In 2021, TIRZ 13 completed a Phase I Mobility Plan that identified mobility and safety projects specifically within the TIRZ 13 boundary. Realizing the potential of extending the Study Area beyond the TIRZ boundaries, TIRZ 13 and the Houston-Galveston Area Council partnered to develop a "Phase II Mobility Plan". The Phase II effort expands upon the original boundaries into the City of Houston's First Ward community and will identify projects that support safe options for people to walk, roll, bike, take transit, and/or drive.

Figure A.1 shows the Phase II Study Area and the previous Study Area from Phase I. The Phase II Study Area includes:

- The area north of Phase I, bounded by IH-10 to the north, IH-45 to the east, the railroad north of Center Street to the south, and just east of Studemont Street to the west.
- The Spring Street/MKT Hike and Bike Trail between Studemont Street and IH-10.

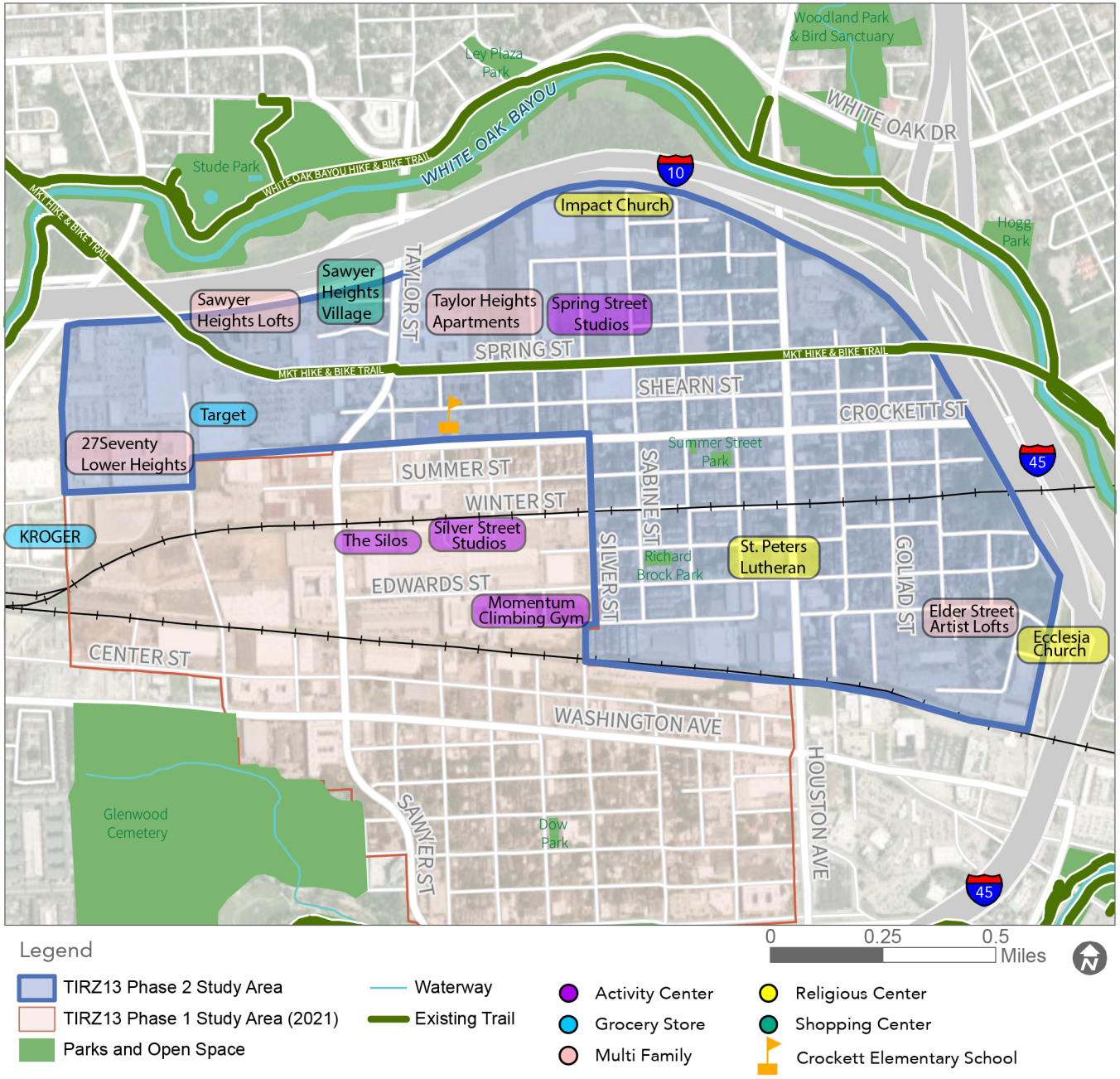


Figure A.1. Old Sixth Ward Mobility Plan Phase II Study Area
Source: City of Houston

Local Context

Nearby TIRZs

In addition to TIRZ 13, there are three adjacent TIRZs near the Phase II Study Area. The TIRZs shown in Figure A.2 fund capital and mobility improvements within their boundaries, which can complement capital investments by TIRZ 13, extending into this Study Area. The adjacent TIRZs are included on the map and listed with key geographic features below:

TIRZ 5 (Memorial Heights Redevelopment Authority):

- Washington Avenue west of Washington Cemetery
- Studemont Street
- Heights-MKT Hike & Bike Trail, a shared-use path connecting to the Heights and Downtown

TIRZ 21 (Hardy/Near Northside):

- Quitman Street east of IH-45
- MKT Trail and White Oak Bayou Greenway east of IH-45

TIRZ 3 (Market Square):

- Buffalo Bayou Park
- Memorial Drive
- Washington Avenue east of Houston Avenue
- Houston Avenue south of the Union Pacific passenger rail line

The Study Area is located within Harris County Precinct 1 and adjacent to Precinct 2. TIRZs and Harris County Precincts, along with other local government entities can partner to implement projects serving regional mobility needs.

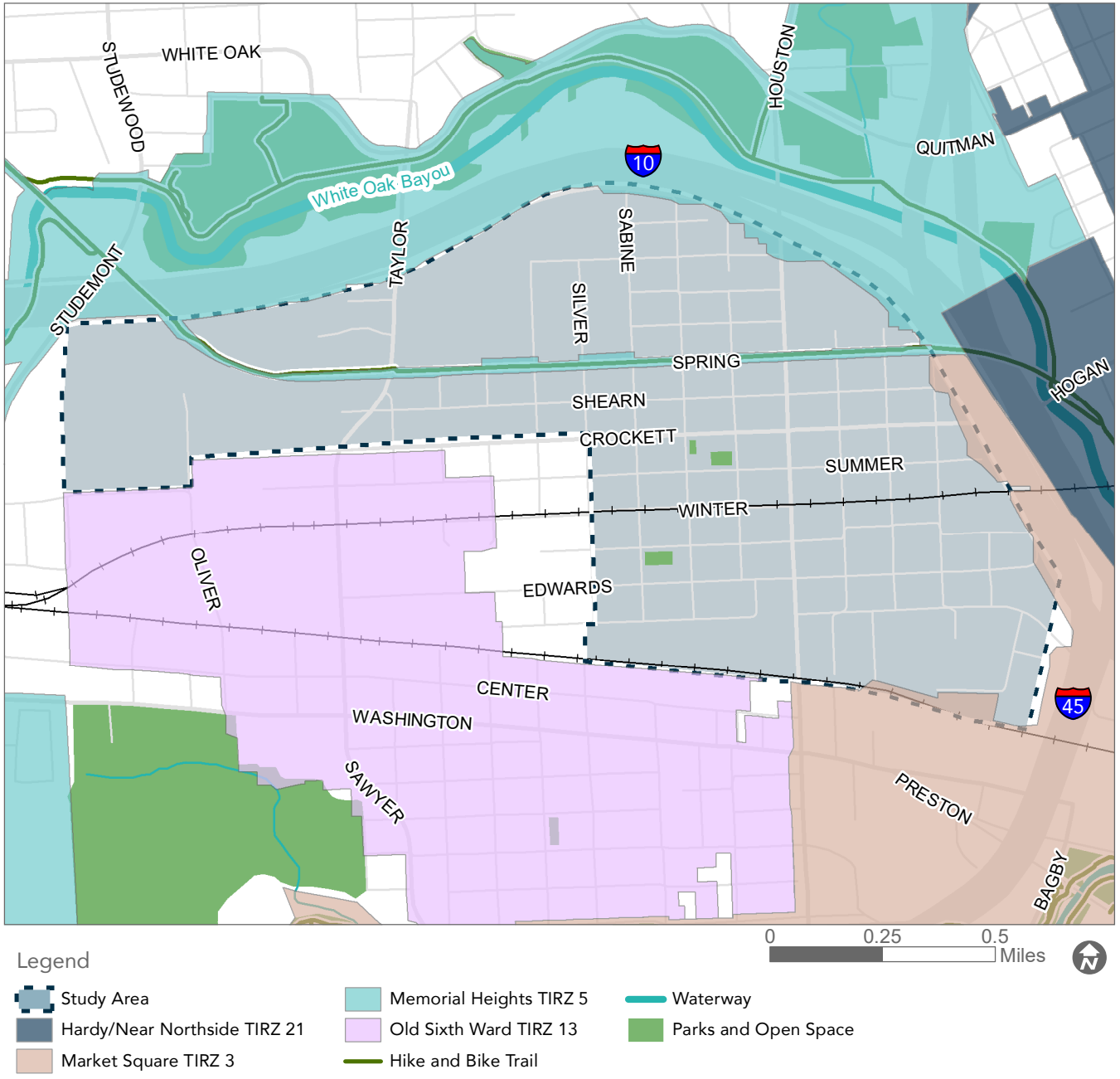


Figure A.2. Surrounding TIRZs
Source: City of Houston, Harris County

Local Agency Plans, Projects, and Future Projects

Figures A.3 and A.4 on the following pages illustrate existing and programmed mobility-related projects led by partnering organizations and entities both in and around the Study Area. These projects provide future multimodal connections that will enable safer, more efficient mobility connections to surrounding neighborhoods. Although this list of projects support and intersect the Study Area, there are still multimodal network gaps in the core of the Study Area, connecting the area west of Studemont Street, and connecting south of IH-10. This list of current and future projects provides opportunities to assess where gaps exist in the Study Area's mobility network and how this plan can address these.

The following list of projects was collected through a review of existing plans and studies completed by local agencies and capital project lists. The list was also created in coordination with a steering committee supporting this mobility effort, comprised of agency representatives from TxDOT, City of Houston, Harris County, H-GAC, TIRZ 13, and METRO. The timing of the projects listed is acknowledged as either a "future" project or an "existing project" based on knowledge of project timing at the time this report was written.

North Houston Highway Improvement Project (TxDOT) (Future)

- Letter A on Figure A.3: Reconstruction of IH-45 North, between downtown Houston and Beltway 8 (CSJ ID 0500-03-599)(MPOID 16328); (CSJ ID 0500-03-560)(MPOID 16332)

IH-10 White Oak Bayou Resiliency Project (TxDOT) - includes Sabine Street/White Oak Bayou Trail Connection (Future)

- Letter B on Figure A.3: Reconstruction of existing main lanes from IH-45 to Heights Boulevard and reconstruction of existing HOV lanes from IH-45 to Studemont Street to raise the roadway above the floodplain and construct a new shared-use path along White Oak Bayou (CSJ ID 0271-07-326)(MPOID 18709)
- Reconfiguration of the roadway to construct elevated managed lanes down the center of the freeway from Voss Road to Downtown (CSJ ID 0271-07-327)

Quitman Street (Greater Northside Management District) (Current)

- Number 1 on Figure A.3: Bicycle and pedestrian improvements from Houston Avenue to Elysian Street, including new six-foot sidewalks, pedestrian lighting, ramps and crosswalks, and landscaping

Silver Street (TIRZ 13) (Current)

- Number 2 on Figure A.3: Traffic signal installation and crosswalk and pedestrian ramp improvements at the intersection of Washington Avenue and Silver Street
- Crosswalk and pedestrian ramp improvements at Silver Street and Memorial Way

Sawyer Street (TIRZ 13) (Future)

- Number 3 on Figure A.3: Ten-foot wide multi-use concrete sidewalk with new signing and striping
- 14-inch bike lane curbs, raised crosswalks, and wheelchair ramp improvements

Edwards Street (TIRZ 13) (Future)

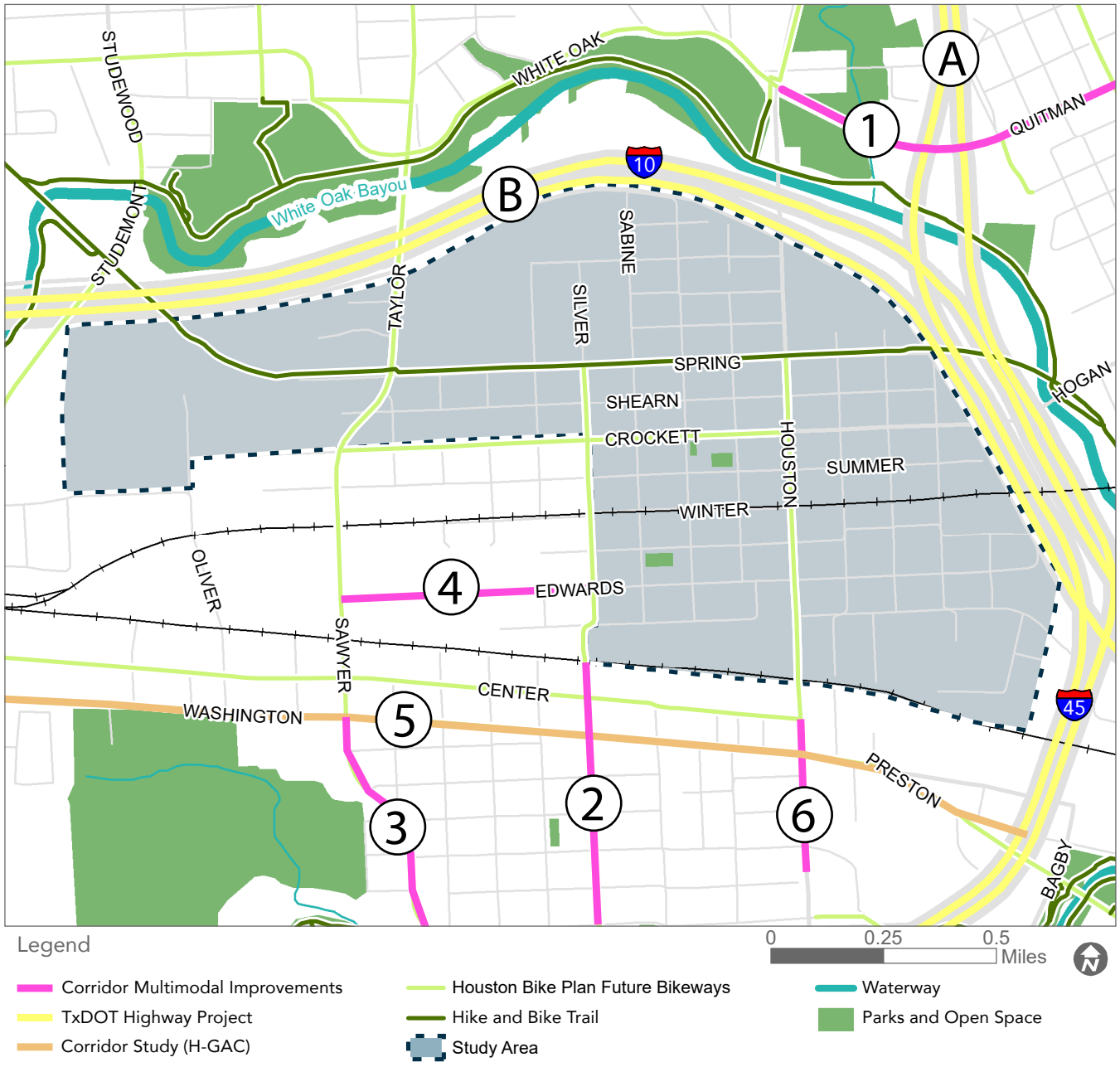
- Number 4 on Figure A.3: 14-inch bike lane curbs, raised crosswalks, and wheelchair ramp improvements with new signing and striping

Washington Avenue (H-GAC) (Current)

- Number 5 on Figure A.3: The Washington Avenue Corridor Study began in late Fall 2023 and will continue into and wrap up in 2025

Houston Avenue Multimodal Improvements (Current)

- Number 6 on Figure A.3: Ongoing construction project from Washington Avenue to Lubbock Street



A North Houston Highway Improvement Project

B TxDOT Sabine Street/White Oak Bayou Trail Connection

1 Quitman Street Multimodal Project

2 Silver Street Traffic Signal and Pedestrian Improvements

3 Sawyer Street Bike and Pedestrian Improvements (potential future)

4 Edwards Street Bike and Pedestrian Improvements (potential future)

5 Washington Avenue Corridor Study

6 Houston Avenue Multimodal Improvements

Figure A.3. Existing and Future Area Plans and Projects
Source: TxDOT, TIRZ 13, Greater Northside Management District, H-GAC, City of Houston

City of Houston Bike Plan (Current and Future)

- Multiple proposed and programmed dedicated on-street and shared on-street bike lanes on major streets in the Study Area

METRORapid Inner Katy Corridor Project (Future)

- A new METRORapid line with stations at Studemont Street and IH-10, Franklin Street and Bagby Street
- Exclusive lanes for Regional Express buses using IH-10 West and Hwy 290 NW

METRO BOOST (Future)

- Upgrades to two Study Area bus routes, including Route 44 Acres Homes and Route 85 Antoine/ Washington

METRORail (Future)

- Extensions of the Green and Purple lines to the City of Houston Municipal Courthouse, located just southeast of the Study Area

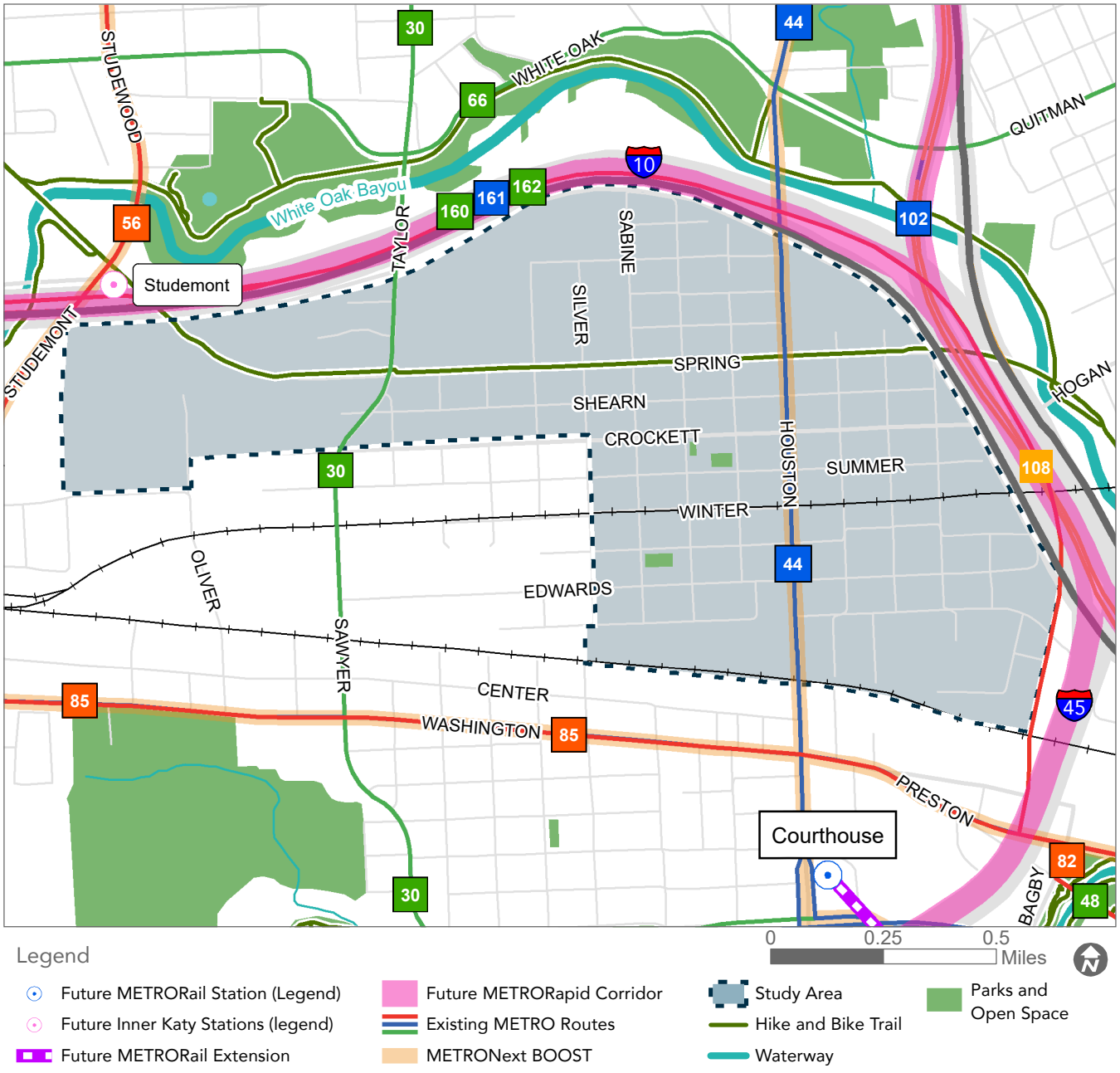


Figure A.4. Future METRO Projects
Source: METRO

Historic First Ward

Within the Phase II Mobility Plan boundaries is Houston's historic First Ward neighborhood. This neighborhood is bounded by Washington Avenue to the south, IH-10 to the north, IH-45 to the east and Sawyer Street to the west. The First Ward was founded in the 1800s and served as a major artery for the shipment of goods in the city. This fostered a warehouse district where goods were distributed for sale in mercantile establishments in town or for shipment down the bayou. The neighborhood soon became known as a typical working-man's community, where First Ward residences became a popular choice for those engaged in commerce or employed in service-oriented jobs.

The railroad lines that traverse across the neighborhood serve as a reminder of the neighborhood's history; many residents worked for the railroad industry in its prime. Rail lines like the Houston and Texas Central Line and the Southern Pacific gave rise to railroad shops and a grand railroad depot built on Washington Avenue in 1887.[1]

In addition to the railroads, the existing Queen Anne cottages and Craftsmen bungalows built between 1890 and 1930 serve as reminders of the First Ward's Historic District image.

Today, a blossoming arts scene gives the neighborhood an artistic and creative identity. Historic homes are mixed with newer developments like townhomes and many of the warehouses once part of the First Ward's warehouse district have been adaptively reused into studios and businesses for local artists. In 2014, the City of Houston designated a portion of the neighborhood referred to as the "High First Ward" as a Historic District, as seen in the images to the right.[2]

Restored Historic Home in High First Ward Designation

Source: Houston Public Media

High First Ward Historic District Map

1 First Ward Civic Council

2 City of Houston Historic Preservation Manual

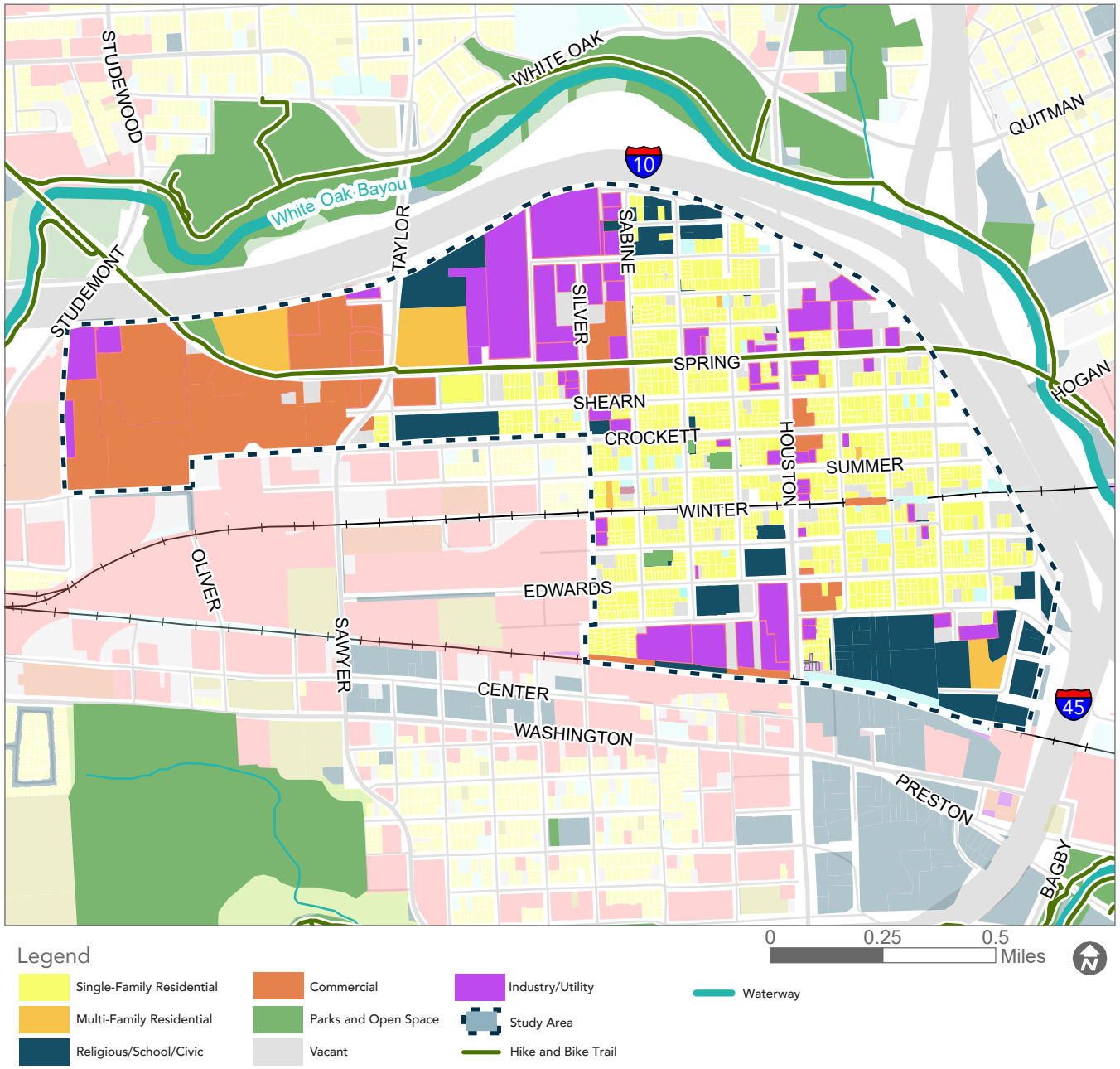


Figure A.5. Land Use
Source: Harris County Appraisal District 2022

Land Use

The Study Area contains a mixture of land uses and development types. Figure A.5 presents the Study Area and vicinity land uses predominately including:

- Single-family residential and multi-family residential, concentrated in the core of the Study Area and towards the northwest along the Spring Street Trail
- Commercial and retail along the east side of Taylor Street
- Light industrial and warehouses on the western and northern ends of the Study Area and along corridors like Houston Avenue
- Religious, school, and civic uses throughout the Study Area, including pockets on the north end and on the southeast section
- Vacant property sprinkled throughout the neighborhood, particularly parcels within areas of single family residential, though the percentage of vacant parcels is less than five percent

The mix of old and new structures can be seen throughout the Study Area. The photos on the following page illustrate the variety of housing types as well as historic buildings that have been converted from their original use to something different today.

New Townhome Residential

Historic Single-Family Residential

New Single-Family Residential

Repurposed Commercial: Spring Street Studios

Repurposed Historic Multi-Family: Elder Street Artist Lofts

Commercial

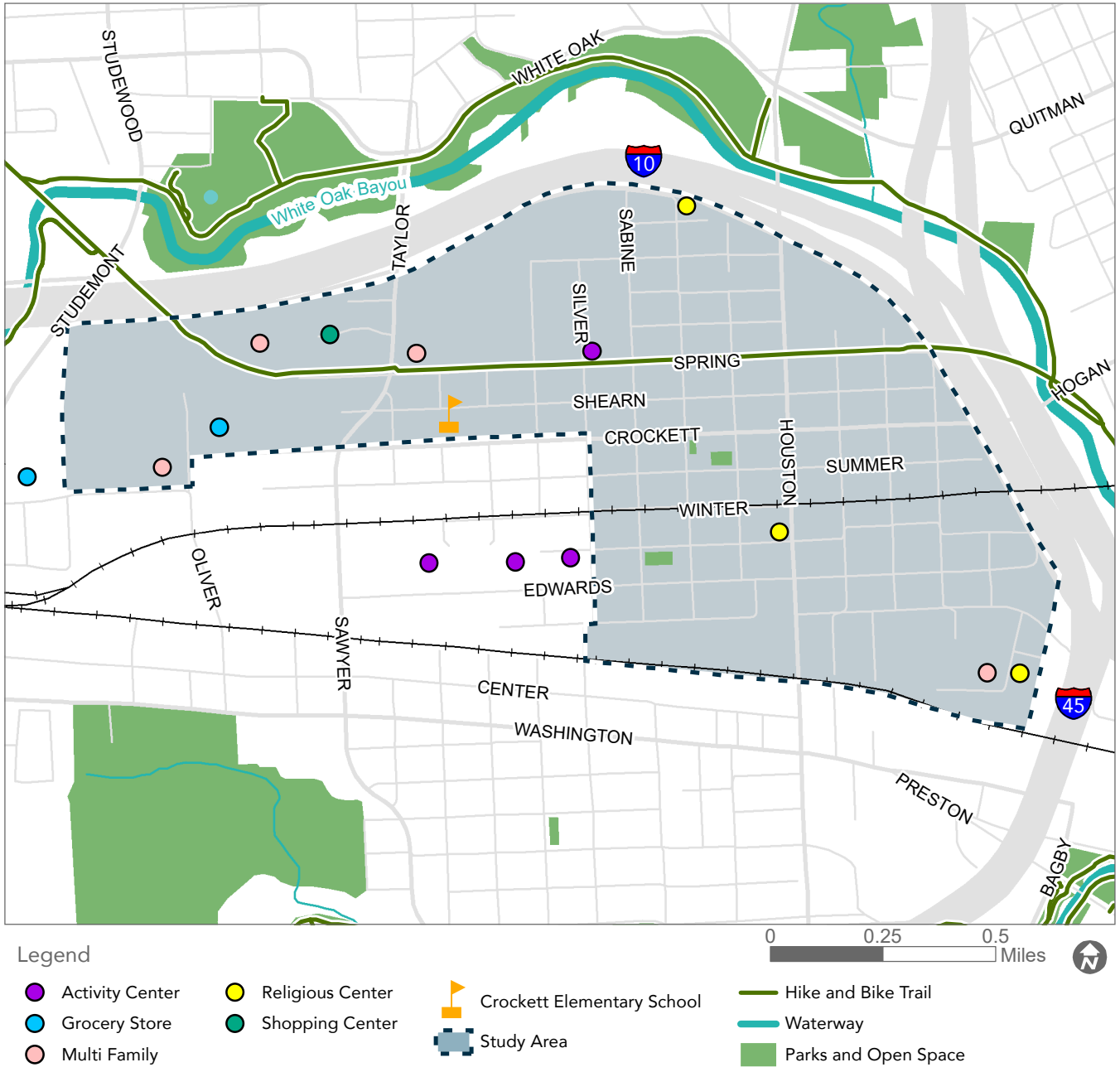


Figure A.6. Local Destinations

Local Destinations

As Figure A.6 illustrates, there are a diverse mix of destinations in and around the Study Area that are near the area's single-family and multi-family residences, providing locals and visitors alike with a wide range of options. The Study Area includes Crockett Elementary School, small pocket parks, shopping and grocery centers, a variety of restaurants and breweries, and community gathering places like Momentum Climbing Gym and Sawyer Yards.

The photos on the following page illustrate a few of these local destinations within the Study Area.

Crockett Elementary School

Randall P. Jones Park

Spring Street Trail

Momentum Climbing Gym

Sawyer Yards

Sawyer Heights Village Shopping Center

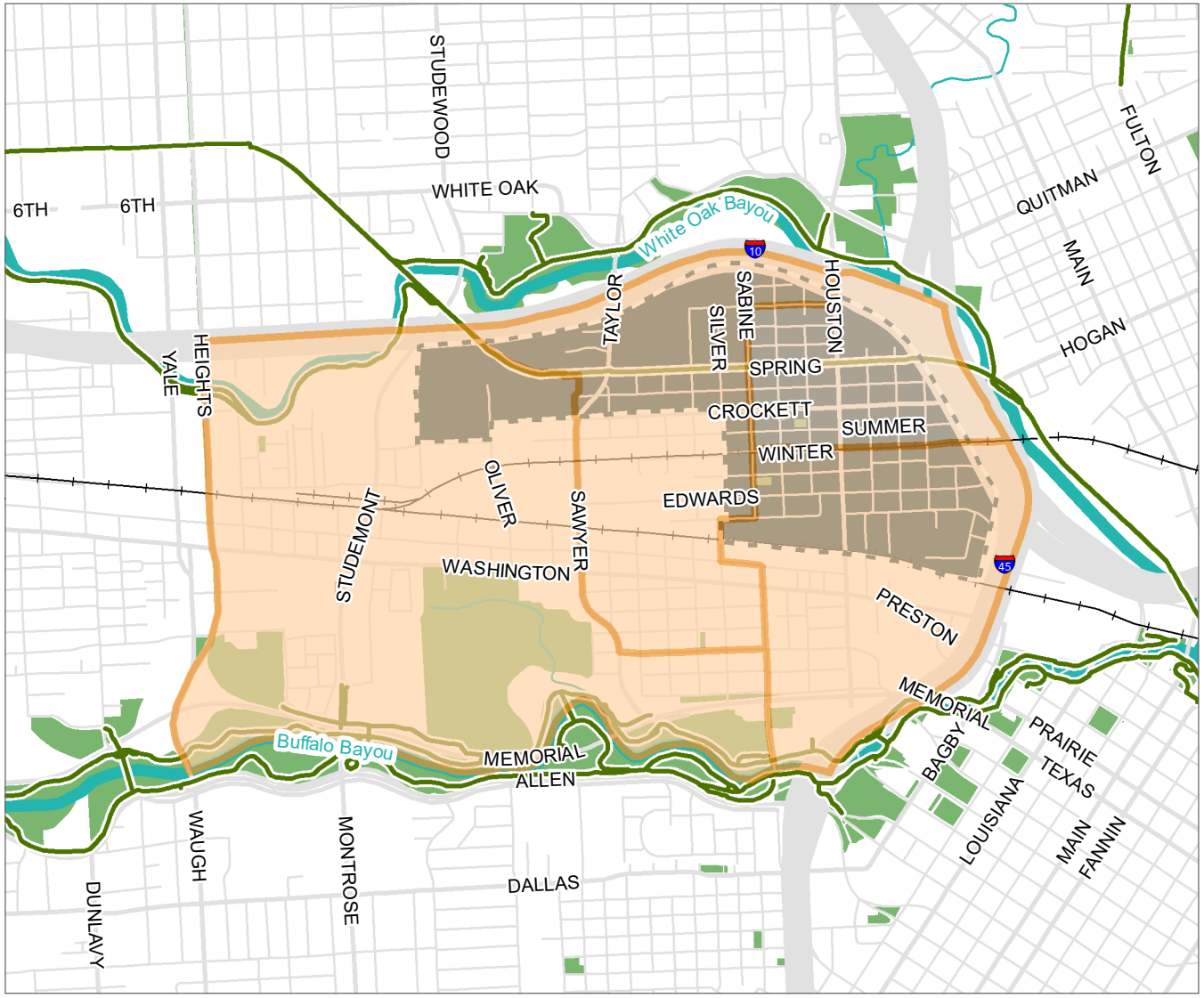


Figure A.7. Study Area Census Area
Source: US Census, City of Houston

Study Area Census Block Groups

The Study Area is made up of four census block groups shown in Figure A.7. These census block groups intersect or lie directly adjacent to the Study Area and comprise the area bound by IH-10, IH-45, Buffalo Bayou, and Heights Boulevard/ Waugh Drive. Unless otherwise indicated, demographic maps and figures include residents and workers within the Study Area Census area shown here.

Area Residents

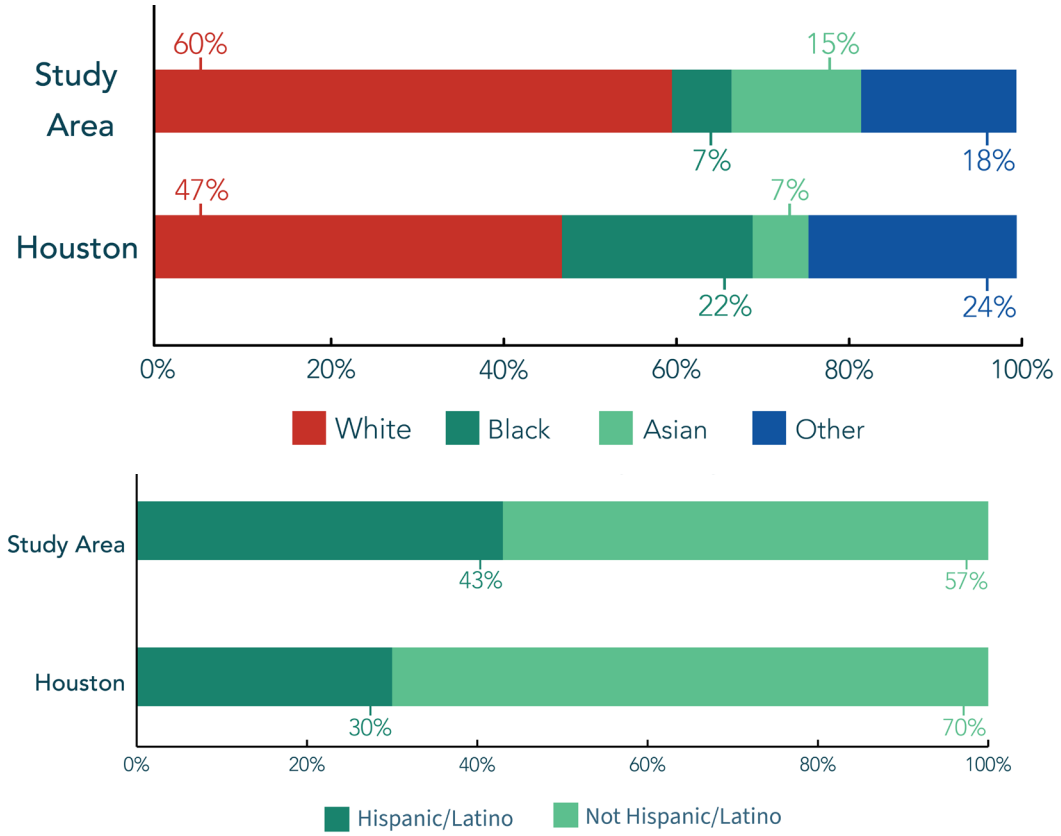
A snapshot of the residents and households that make up the Study Area is presented in Figure A.8 and Figure A.9 based on the Census Area shown in Figure A.7. The Study Area Census area is home to approximately 5,900 residents in 3,100 households. Over half (54 percent) of households are renters. The area has a smaller household size and lower poverty rate than the City or the County.

The neighborhood is racially and ethnically diverse, with a higher percentage of Hispanic/Latino residents compared to the City of Houston but significantly fewer Black residents. The majority of residents (60 percent) are white.

Figure A.8. Census Area Demographics

	Study Area Census Data	Houston	Harris County
Population	5,991	2,293,200	4,698,000
Households	3,140	878,900	1,658,500
Average Household Size	1.87	2.4	2.7
Renter-Occupied Households	54%	58%	45%
Unemployment Rate	5.4%	6.5%	6.5%
Households in Poverty	6%	17%	14%

Figure A.9. Race & Ethnicity of Residents



Source: US Census American Community Survey 2021

Figure A.10. Resident Population by Age

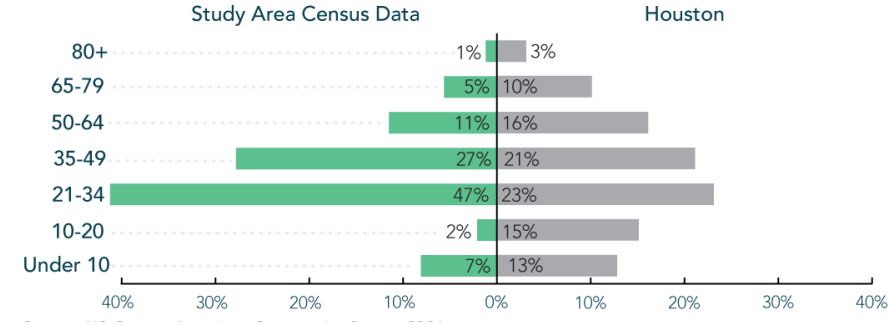


Figure A.11. Resident Educational Attainment

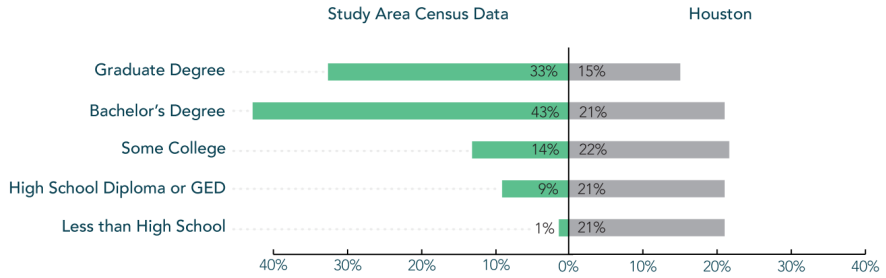


Figure A.12. Percent of Households by Income

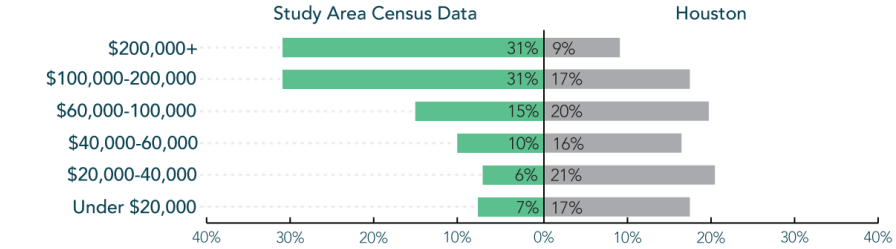
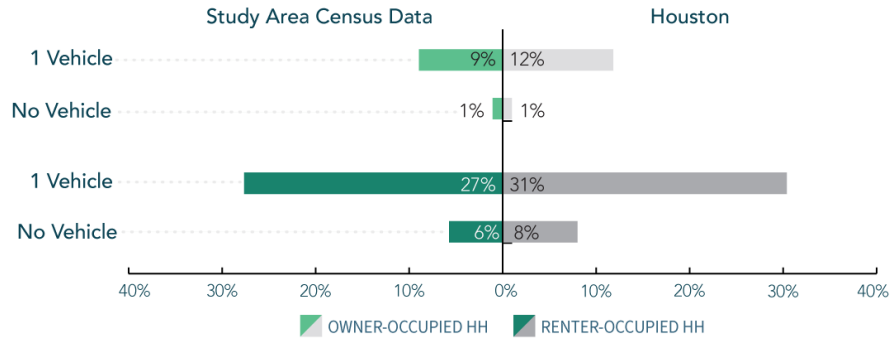


Figure A.13. Resident Vehicle Availability



Source: US Census American Community Survey 2021

Area Residents

Young, Highly Educated, High Earning

Study Area residents are young, well-educated, and have high household incomes. Nearly half (47 percent) of the population are ages 21-34, compared to 23 percent of residents citywide. Data shows that young residents often choose to live close to areas with many destinations that are walkable, bikeable, and within reach of transit. This is a promising characteristic for Study Area residents as it shows a potential openness to try other modes of transportation other than driving alone.

Compared to the share of City of Houston's population, Study Area residents hold more than double the amount of Bachelor's and Graduate degrees. Over three fourths (76 percent) of Study Area residents over age 25 have a Bachelor's or Graduate degree. Over half (62 percent) of households make over $100,000 annually, once again, more than double the share (26 percent) of households that earn six figures citywide.

High Vehicle Availability

Although the Study Area houses many young residents who are renters, which nationally have lower rates of car ownership, Figure A.13 shows that the majority of households in the area own or have access to a car. Only one percent of owner-occupied households and only six percent of renter-occupied households in the Study Area live without a car. Ninety-nine percent of owner-occupied households and eighty-nine percent of renter households own or have access to one or more vehicles. This signifies that despite living close to a multitude of neighborhood destinations, residents may still hold perceptions that access to a car is essential or that they do not have accessible or safe alternative mobility options.

Area Workers

Retail Services, Professional & Technical Jobs

As shown in Figure A.14, the top employment sectors within the Study Area belong to retail and professional, scientific, and technical services. While Study Area residents earn higher incomes than the citywide population of Houston, over half (53 percent) of Study Area workers make less than $40,000 annually, compared to less than half (46 percent) citywide.

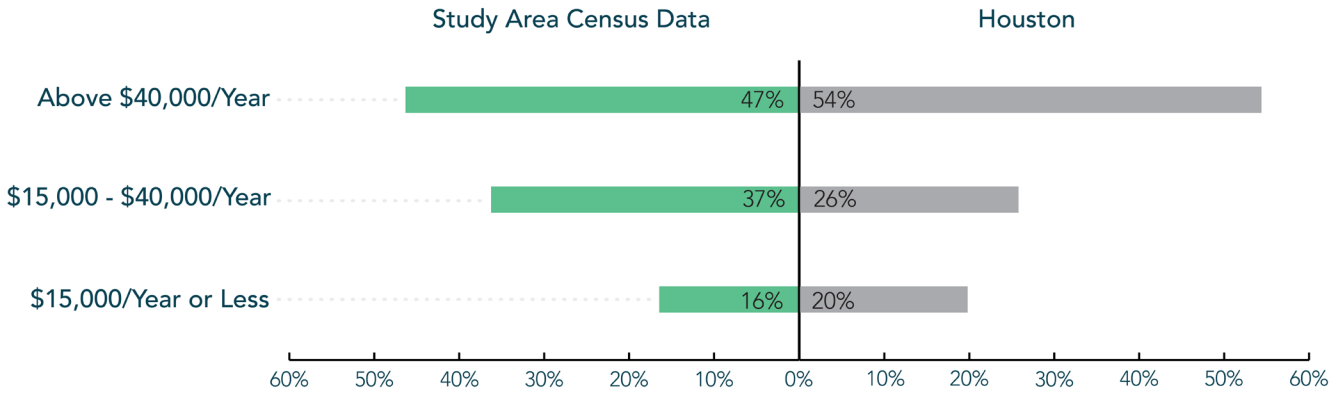
This fact highlights that Study Area workers may not have the resources that afford them easy access to a vehicle. Workers may depend even more on transportation like transit, walking, and biking to commute to and from their jobs.

Furthermore, service-oriented jobs often operate in the early morning hours and late at night. It is important that safe and convenient transportation options exist for these types of workers who may be traveling during off-peak hours or at nighttime.

Figure A.14. Worker Top Employment Sectors

Sector	Study Area		City of Houston	
	Jobs	Percent	Jobs	Percent
Retail Trade	651	26%	175,717	10%
Professional, Scientific, & Technical Services	493	20%	175,171	10%
Manufacturing	333	13%	101,709	6%
Construction	209	8%	100,332	6%
Other Services (excluding Public Administration)	196	8%	47,357	3%
Wholesale Trade	181	7%	105,008	6%
Accommodation & Food Services	185	7%	148,576	8%
Other	276	11%	942,189	51%
Total	2,524	100%	1,796,050	100%

Figure A.15. Worker Income



Sources: US Census LEHD Origin-Destination Employment Statistics (LODES) 2021; US Census American Community Survey 2021

Figure A.16. Population of Workers by Age

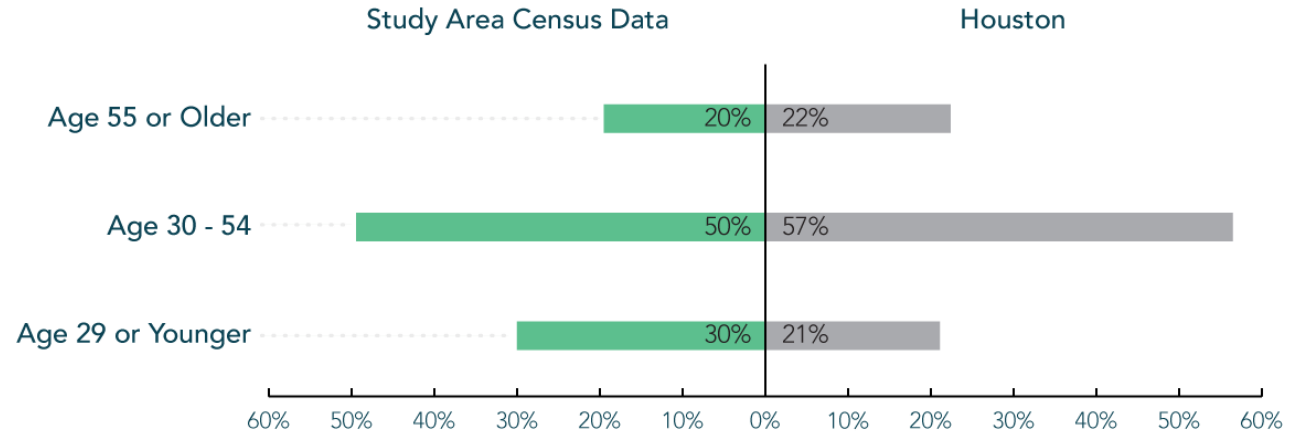
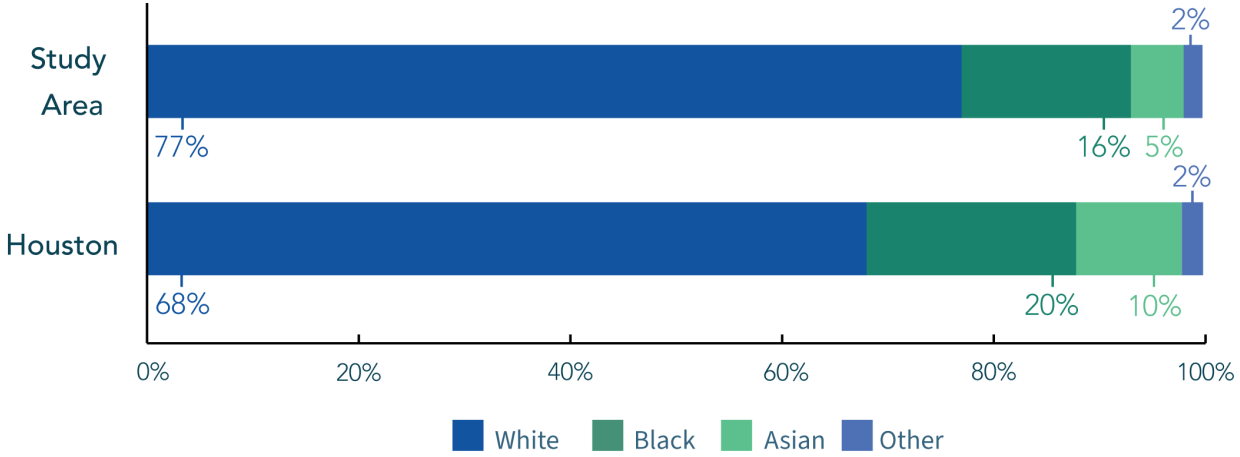


Figure A.17. Race & Ethnicity of Workers



Area Workers

Young Workforce

Compared to the citywide workforce population, workers in the Study Area are young, with 30 percent under 30 years of age, versus 21 percent citywide. The overwhelming majority of workers in the Study Area are White (77 percent) with less workers of color on average than the workforce citywide.

As the new generations of young people are increasingly choosing transportation options outside of a car, it is important that a strong network of multimodal options exists to get young people to and from jobs inside the Study Area and around the city.

Source: US Census LEHD Origin-Destination Employment Statistics (LODES) 2021; US Census American Community Survey 2021

Where Residents Work

Study Area residents primarily work in Houston's largest job centers – Downtown, Texas Medical Center, Uptown, and Greenway Plaza – all of which are located within six miles of the Study Area. Downtown has the highest concentration of Study Area residents that work in the area, followed by the Texas Medical Center, Uptown, and Greenway Plaza.

Smaller concentrations of residents also work in nearby areas such as the University of Houston and Bellaire and areas that are further reaching such as Memorial City/City Center and Westchase.

The Study Area's location, bounded by IH-10, IH-45, and major local corridors like Washington Avenue and Studemont Street, provides multiple commute mode options to many of these work areas. Downtown and the Heights are easily accessible on bikes via the MKT and Spring Street Trail. Those who wish to travel on transit have a one seat ride to Downtown on the 44 Acres Home and 85 Antoine/Washington. To reach the TMC, residents can ride the 56 Airline/ Montrose. Other major employment centers require a transfer, but reaching these destinations via transit is feasible, though not as efficient as areas closer to the Study Area.

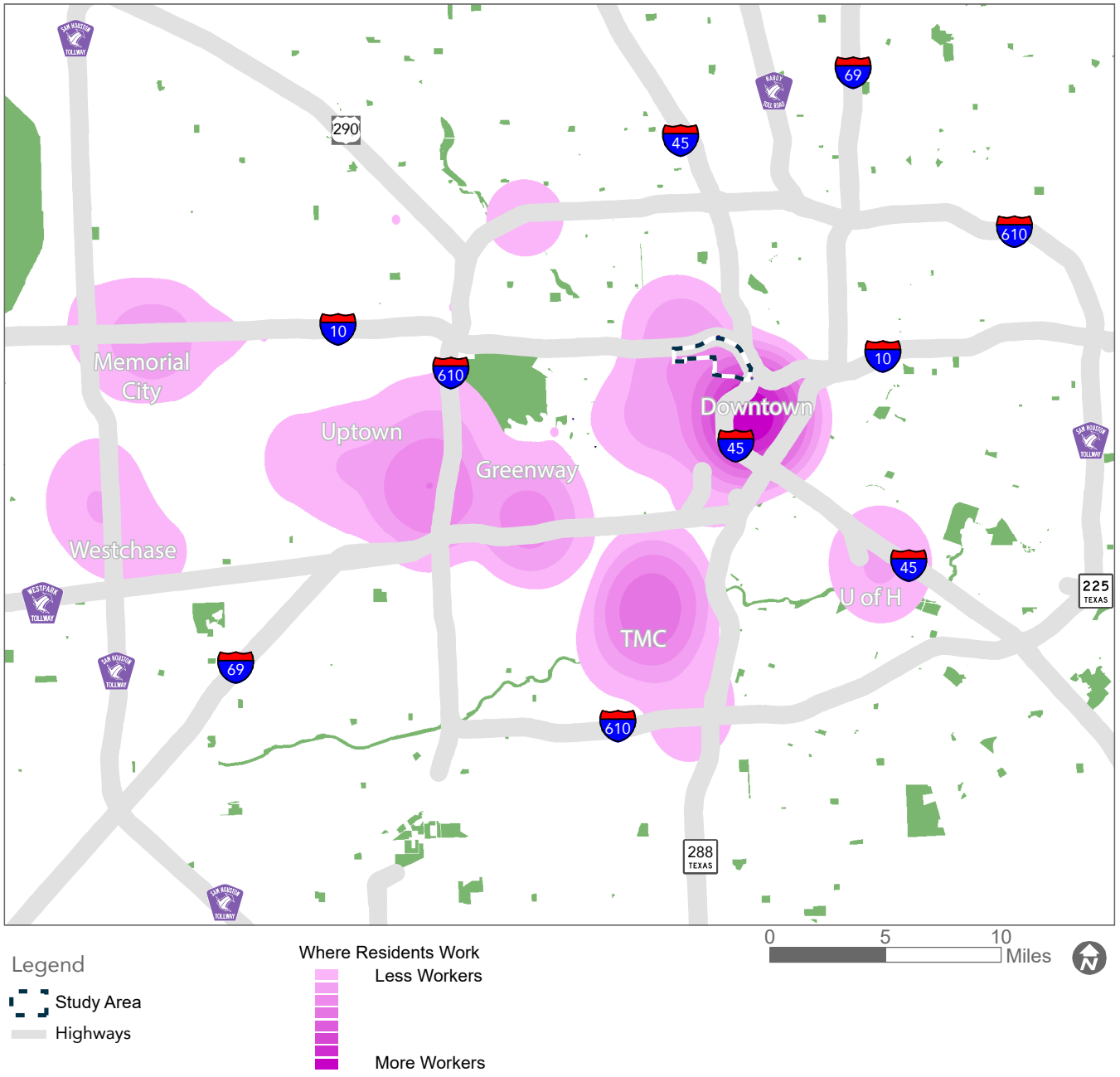


Figure A.18. Where Study Area Residents Work
Source: US Census LEHD Origin-Destination Employment Statistics (LODES) 2021

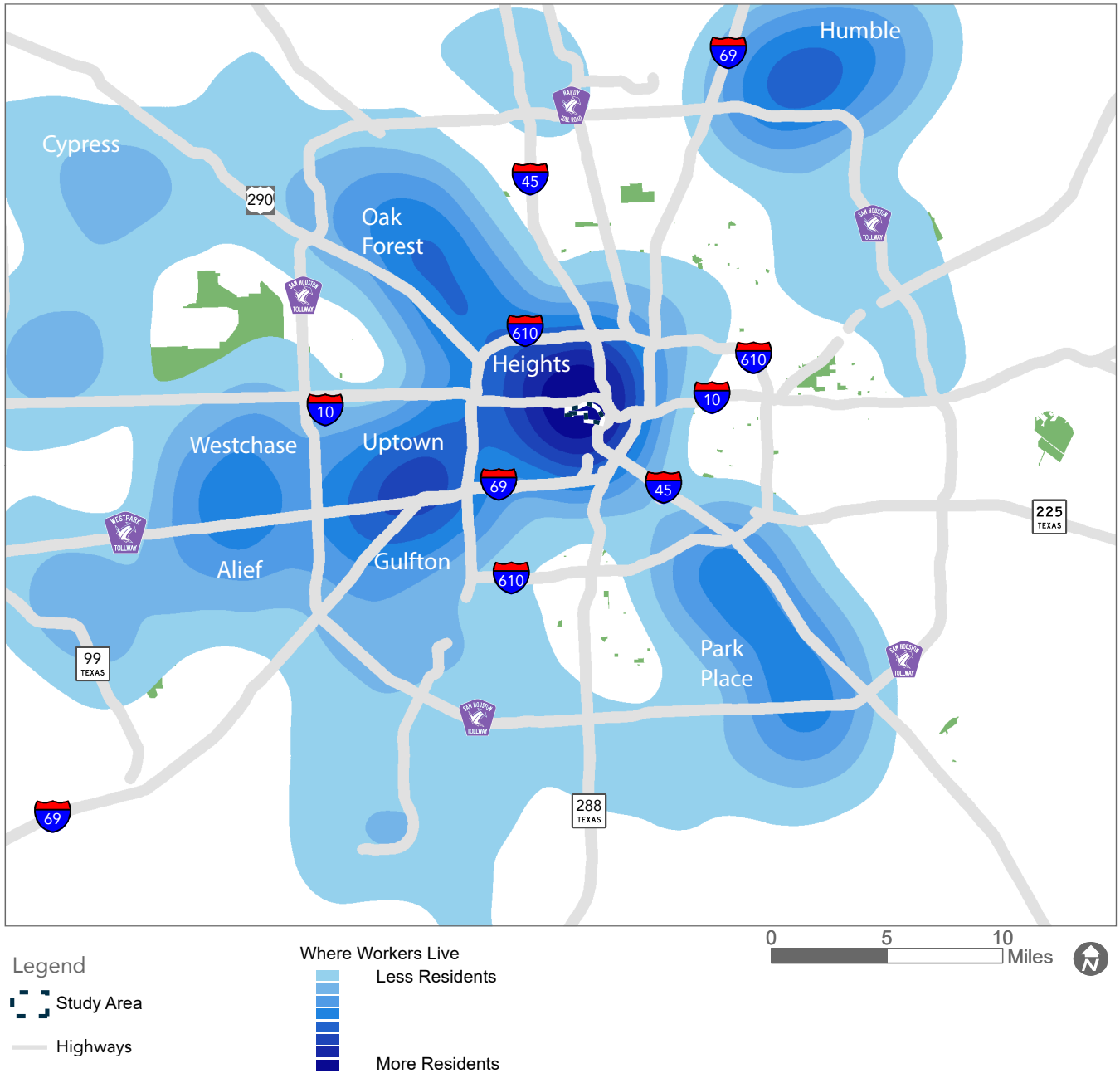


Figure A.19. Where Study Area Workers Live
Source: US Census LEHD Origin-Destination Employment Statistics (LODES) 2021

Where Workers Live

While there is a very heavy concentration of people working in the Study Area also living in or around the Study Area, workers are also coming from areas across Houston.

Workers coming from neighborhoods close to the Study Area include the Heights, Near Northside, Downtown, Uptown, Midtown, Montrose, Rice Military, and Bellaire. Workers with longer commutes include those residing in areas like Oak Forest, located northwest of IH-610 North and parts of Gulfton, located southwest of US-59 and IH-610 West. Some workers are living in areas even further from the Study Area, including Southeast Houston, near Gulfgate and Park Place and in areas around Alief, located west of Beltway 8 around the Westpark Tollway and Humble, located north of Beltway 8 and east of IH-69.

Commute Characteristics

As Figure A.20 illustrates, the majority of residents in the Study Area drive alone to work (64 percent), though less than the citywide share (74 percent). Almost one-third of residents in the Study Area (27 percent) work from home compared to eight percent citywide. This may explain the smaller percentage of people that carpool to work (five percent compared to 10 percent citywide). It is useful to note here that this data is from the year 2021 during the pandemic, which also may explain the higher work from home percentages, though the city's numbers still remain much lower in comparison during this time.

Of note in Figure A.20 is that zero percent of residents in the Study Area take transit to work despite the several transit routes that traverse through the Study Area. It's worth exploring the reasons behind this and how transit can become a more attractive option for area residents to get to work.

Study Area residents tend to live closer to work and have shorter commutes than Houstonians generally. Almost two thirds (64 percent) of area residents have a commute less than 30 minutes in each direction, and 12 percent have a commute of 10 minutes or less, pointing back to the higher percentage of residents that work from home.

Figure A.20. Work Commute by Mode

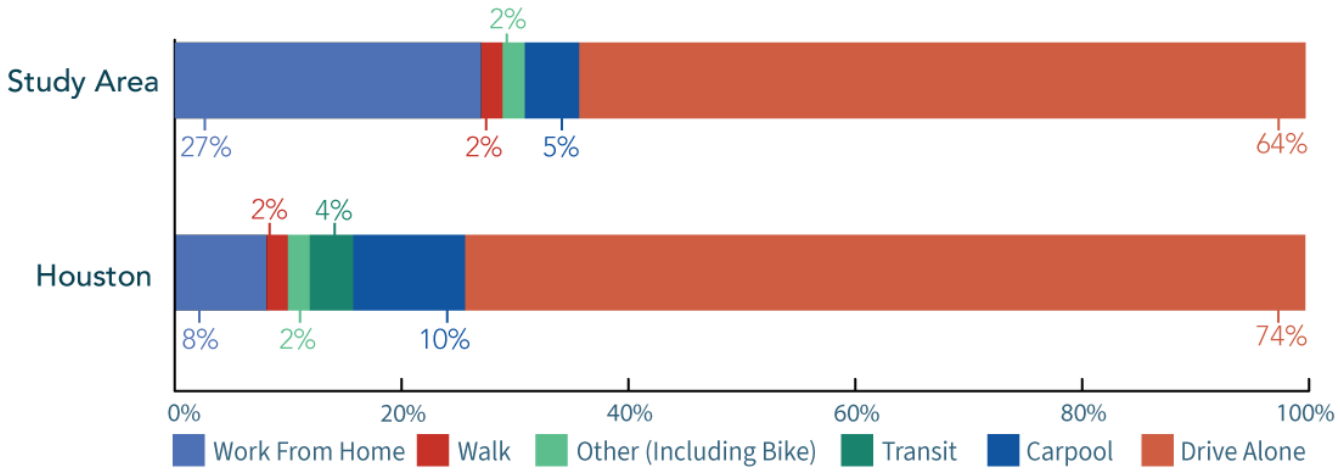
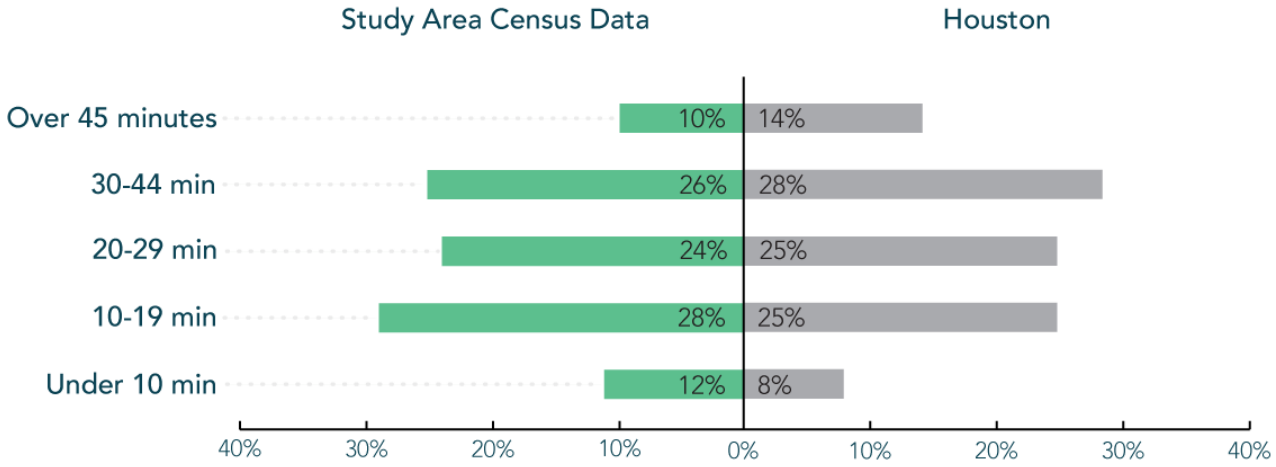


Figure A.21. Commute Time to Work



Source: US Census American Community Survey 2021

Figure A.22. Trip Types

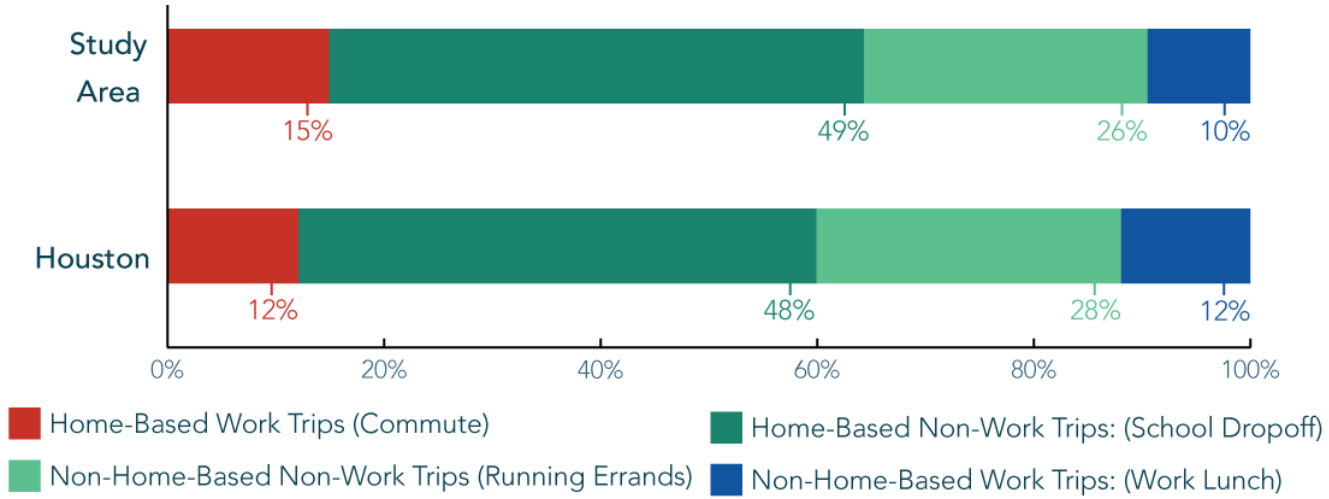
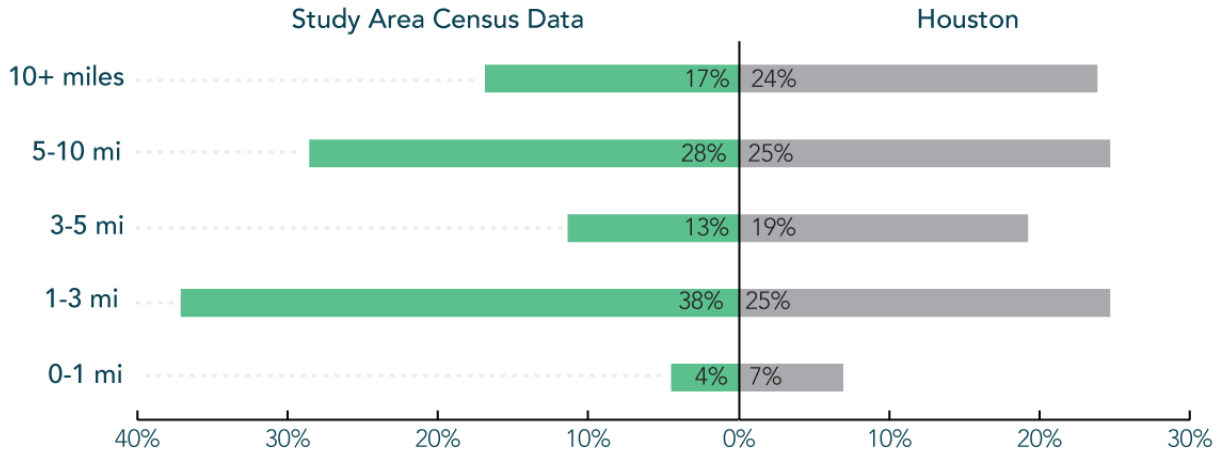


Figure A.23. Average Trip Distance for All Trip Types



Source: H-GAC Travel Demand Model Trip Distance Outputs, 2019

Trip Characteristics

While Figure A.20 describes work commute trips, it does not show the mode share of other trips, which may be better represented by walking, biking, and transit. As indicated in Figure A.22, commutes between home and work make up only a small share of trips (15 percent). Home-based non-work trips, like traveling between one's home and a school, a grocery store, or a park – make up about half (49 percent) of trips originating in and near the Study Area.

This plan will develop project recommendations for expanding access to safe, multimodal trip options, especially for short local trips. As Figure A.23 demonstrates, 42 percent of trips originating in the Study Area are under three miles, a distance many people are willing to walk or bike if safe travel options exist.

Access to Destinations

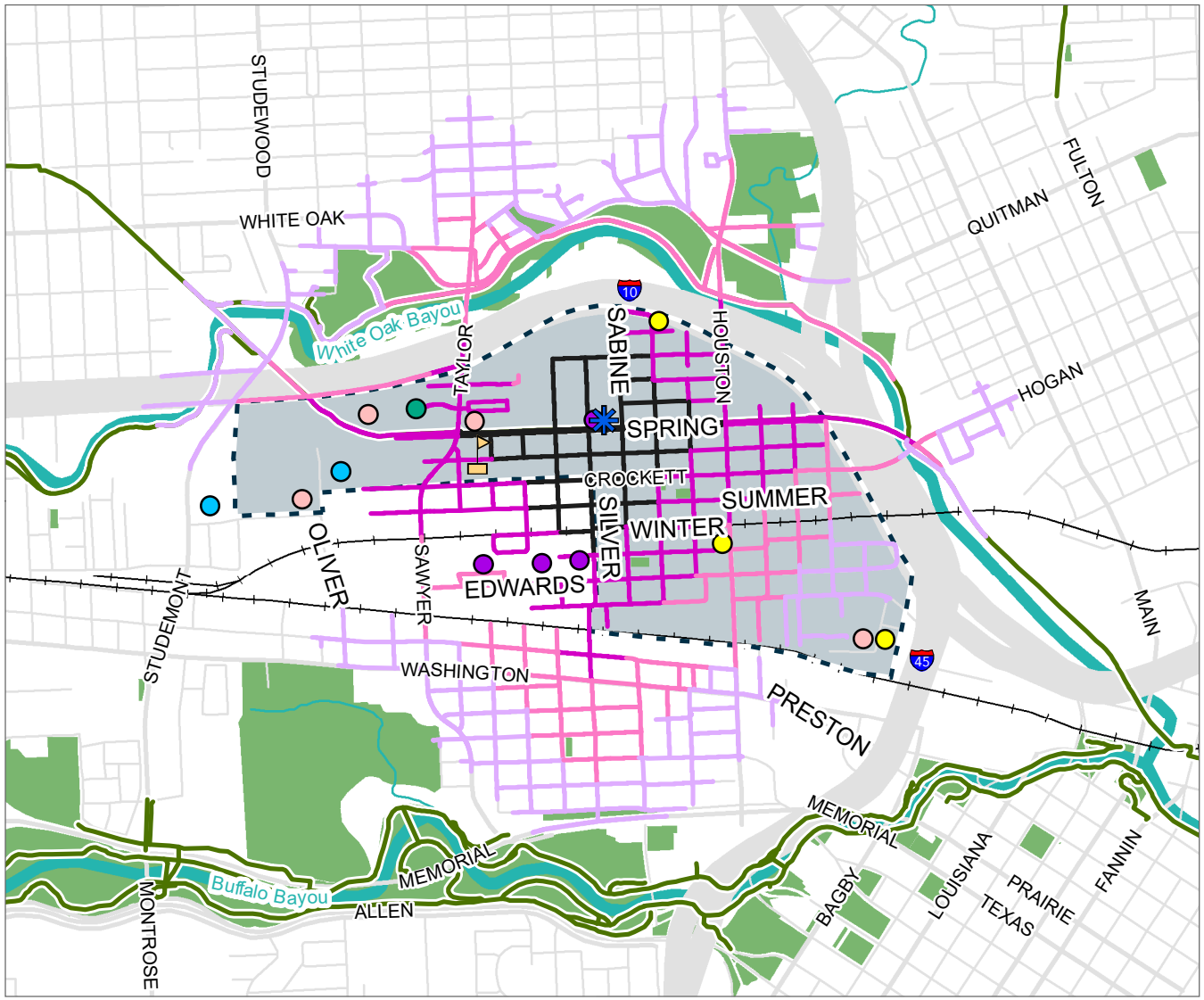
Figure A.25 shows the areas within a 20-minute walk from the core of the Study Area. Distances originate from the blue star on the map. As noted in Figure A.24, 20 minutes corresponds to about a mile walk or about a four-mile bike ride for a casual bike rider. The majority of destinations in the Study Area are located within a quarter or half-mile walking distance and all neighborhood destinations are located within a mile walking distance.

The cluster of diverse destinations within short distances encourages more trips to be taken by transit, walking, and biking, rather than driving alone. This highlights an opportunity to make streets and mobility options more accessible and safe for residents, workers, and visitors getting around the Study Area.

Figure A.24. Walking & Biking Travel Times

Travel Time	Walking Distance	Biking Distance
5 Minutes	0.25 Miles	1 Mile
10 Minutes	0.5 Miles	2 Miles
15 Minutes	0.75 Miles	3 Miles
20 Minutes	1 Mile	4 Miles

Figure A.25. Study Area Walking Distance



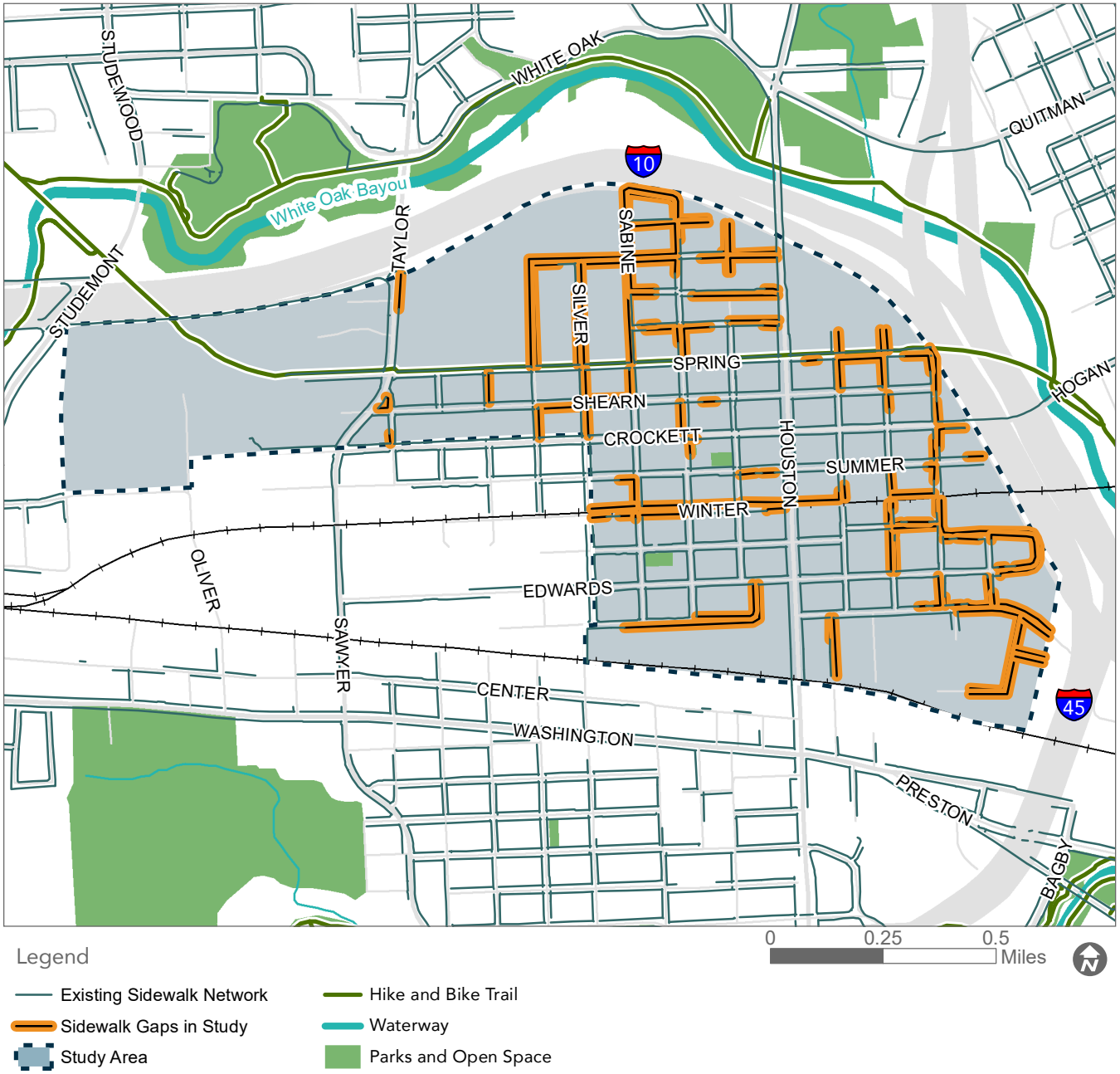


Figure A.26. Study Area Sidewalk Gaps
Source: H-GAC 2019

Walkability

Despite the relatively short walking distance to destinations within the Study Area, Figure A.26 shows the gaps in the sidewalk network highlighted in orange. Gaps are large toward the north of the Study Area and along the eastern border. These gaps contribute to a disconnected sidewalk network that can make walking unsafe and challenging.

Despite the gaps noted here, the Study Area's historic street grid provides the foundation for a walkable and connected network. Small blocks, designed to be easily navigable by foot, are beneficial for accessing neighborhood destinations when paired with safe and accessible sidewalks and curb ramps. The last pages of this Fact Book present a detailed assessment of gaps in the sidewalk and ramp network. These details will help determine a plan for addressing the barriers to walkability and connectivity.

Bikeways

In addition to the Study Area's sidewalk network, this Mobility Plan also considers the existing, proposed, and programmed bikeways throughout and adjacent to the Study Area as part of the effort to create a connected mobility network. Programmed Projects are those in the pipeline with dedicated funding. Vision Projects are more long-term, capital-intensive projects that would require street reconstruction to implement.

Existing:

- Houston Avenue north of Spring Street
- Spring Street Trail

Vision: North/South

- Studemont Street
- Taylor Street
- Silver Street
- Houston Avenue

Programmed: East/West

- Edwards Street
- Quitman Street
- Hogan Street Bridge

Vision: East/West

- Crockett Street
- Center Street
- Washington Avenue

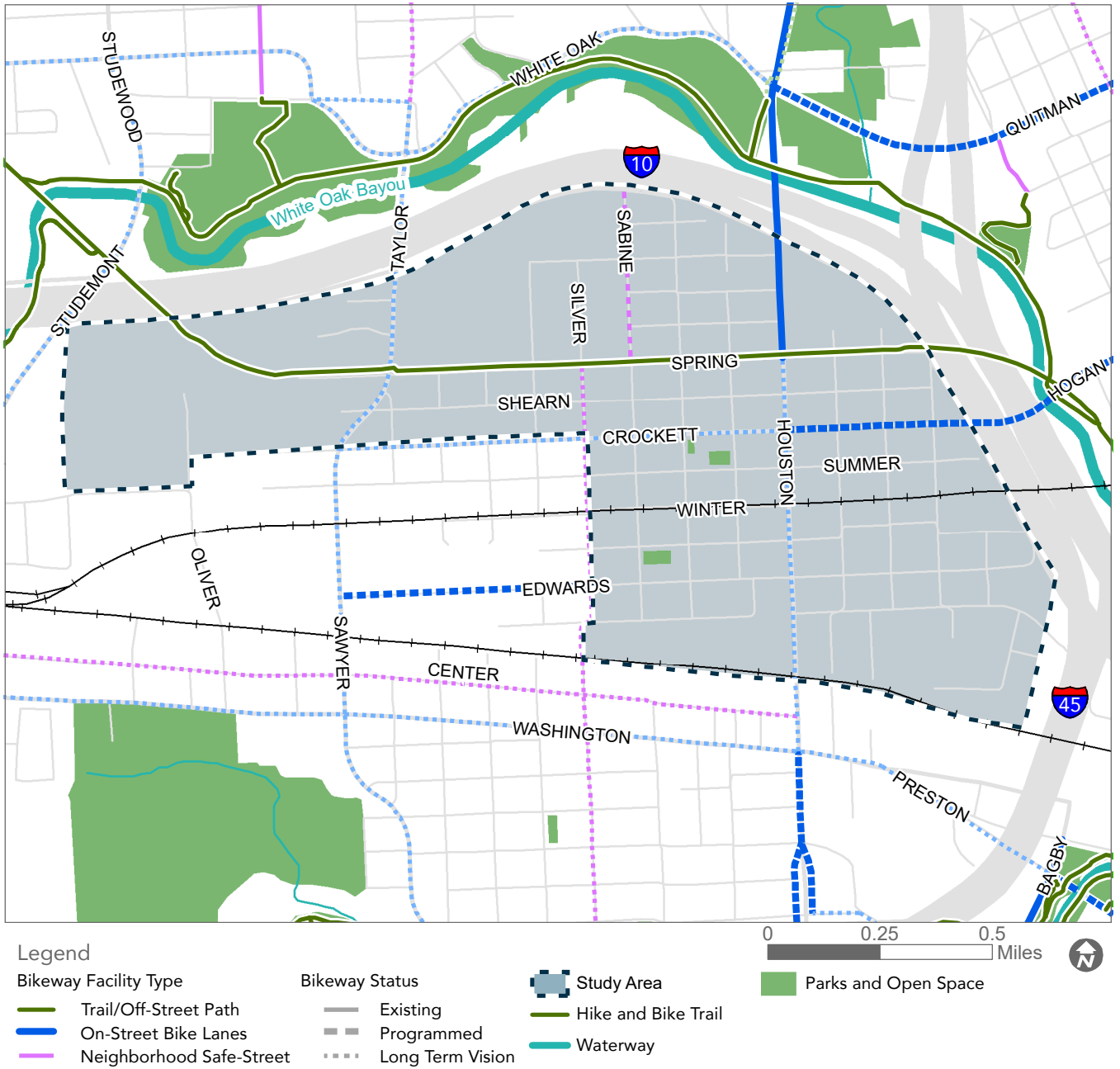


Figure A.27. Bikeways
Source: City of Houston Bike Plan

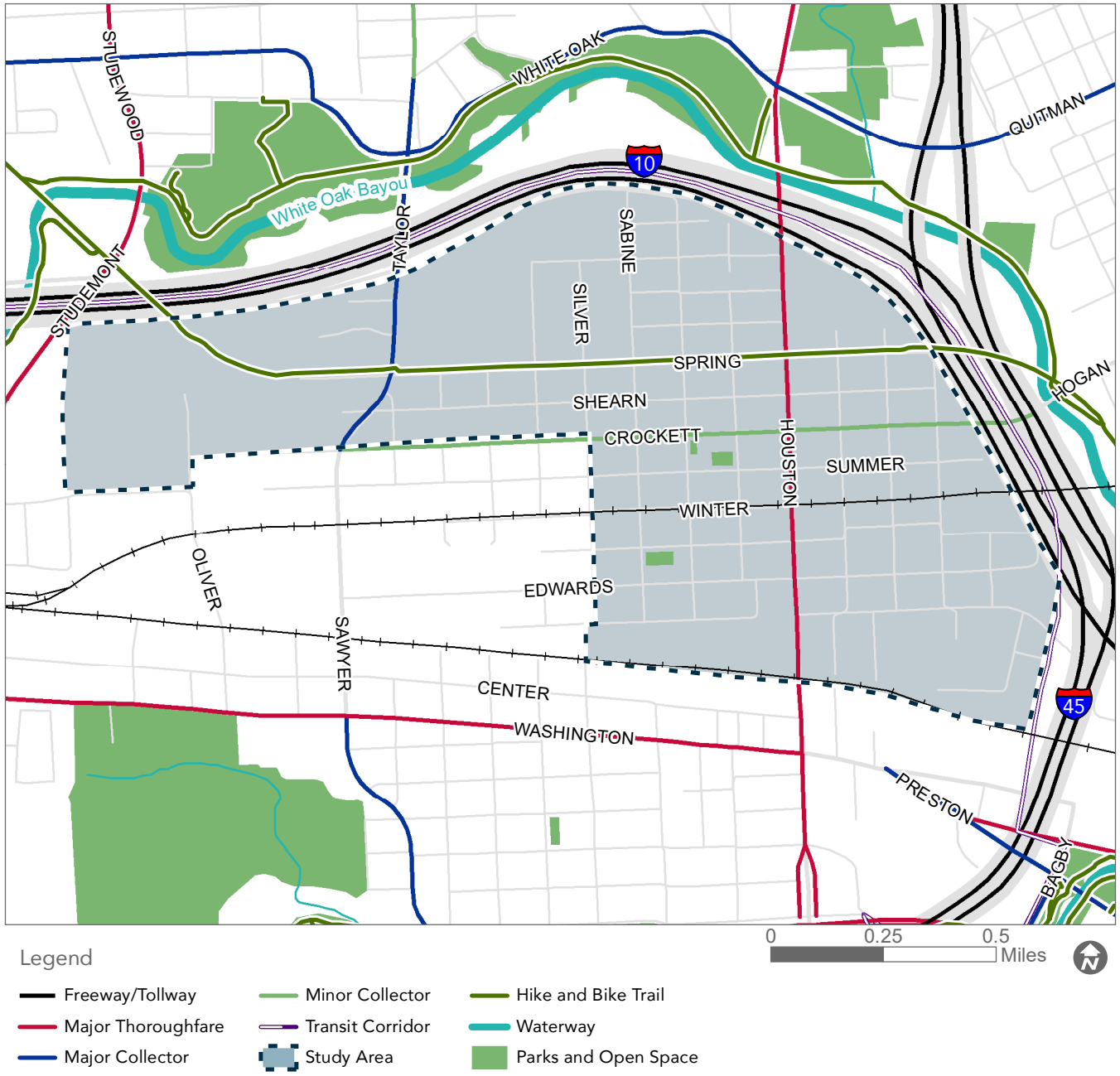


Figure A.28. Major Thoroughfare Plan Street Classification
Source: City of Houston Major Thoroughfare & Freeway Plan

Street Network

Figure A.28 shows the City of Houston's Major Thoroughfare Plan, which classifies corridors according to their role in the street network. Houston Avenue, Studemont Street, and Washington Avenue are major thoroughfares that connect the Study Area to the rest of the region. They are also streets with clusters of commercial activity, which draws people walking, biking, taking transit, and driving along these corridors to access various destinations. Collectors, like Sawyer Street and Crockett Street, make key local connections within the Study Area and to nearby neighborhoods. Transit Corridors represent where major transit projects, like the Inner Katy METRO Rapid line, will be.

Though local streets connect the Study Area to destinations and surrounding neighborhoods, some are cut off by barriers like the railroads and bayous. The section of the Study Area east of Houston Avenue presents connectivity challenges because of the railroad on Winter Street and the highways to the east. Local streets with obstacles in the grid network can result in mobility issues.

Connectivity & Barriers

The Study Area is situated among many popular neighborhoods, destinations, and activity centers. However, multiple barriers within the Study Area present mobility challenges for those traveling in, around, or through the neighborhood. As seen in Figure A.29, the area contains two sets of railroad tracks with multiple at-grade crossings, and is bounded by the White Oak Bayou and two highways (IH-10W and IH-45N). The arrows show locations of the best routes to help cross these barriers. There is no clear direct access to the west of the Study Area for vehicles. The next page provides photos of some of these challenging barriers that lead to mobility and connectivity issues.

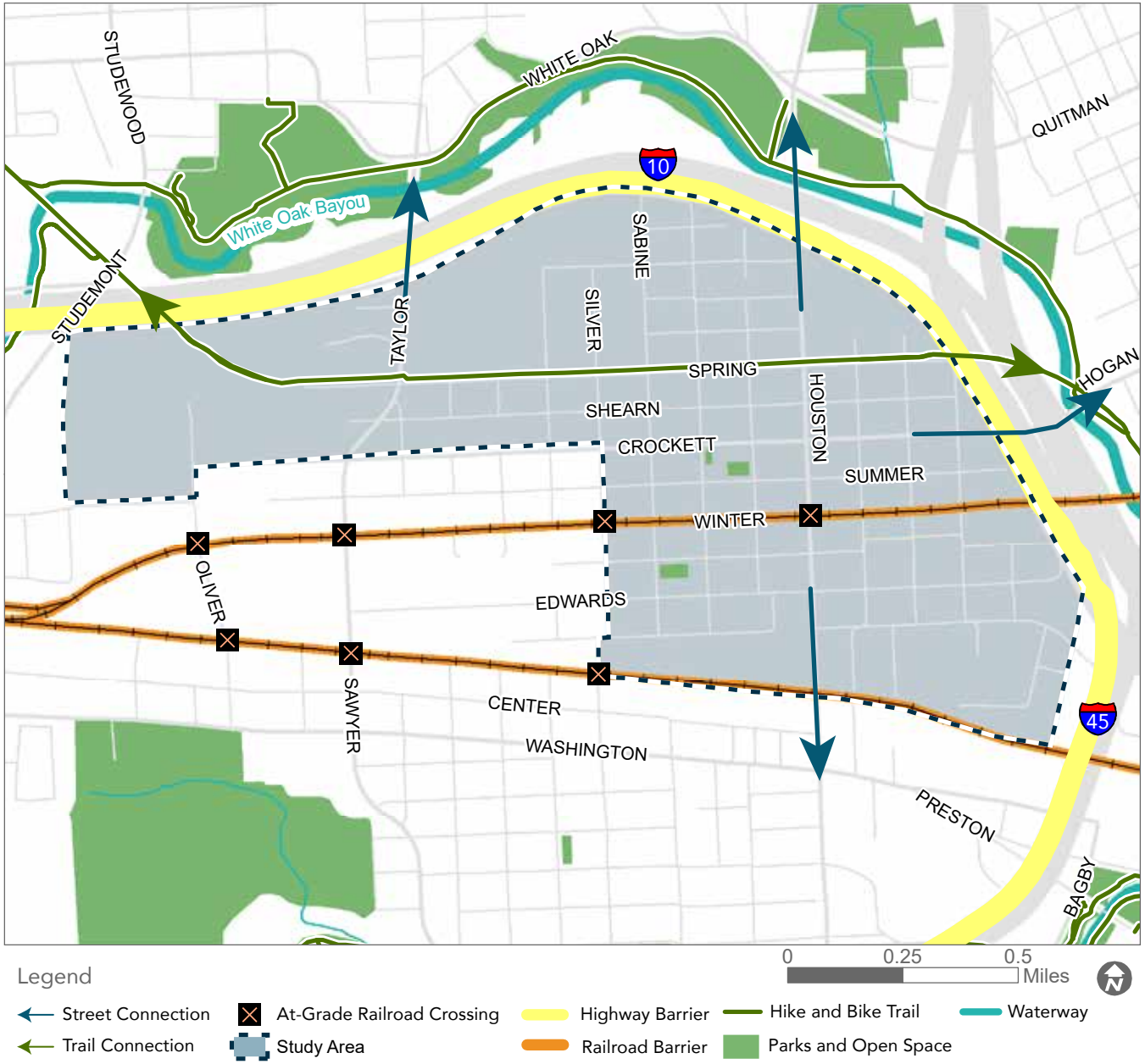


Figure A.29. Connectivity & Barriers

IH-45 Bordering Eastern Edge

No Through-Way - Amtrak Station on the Southeast

Winter & Bingham Street Railroad

Trails Must Cross Over or Under the Freeways

Winter & Johnson Street Railroad

Winter & Silver Street Railroad

Traffic Volumes & Speeds

Figure A.30 illustrates the average daily traffic volumes on major streets and corridors within the Study Area and their corresponding 85th percentile speeds. The 85th percentile speed is generally considered the speed at which most drivers feel safe and comfortable during normal conditions. While 85 percent of drivers travel at or below this speed, the remaining 15 percent travel faster.

The highest traffic volumes occur on Washington Avenue, west of downtown, where 85th percentile speeds also reach over 40 miles per hour, despite posted speed limits of 30 miles per hour. Other streets within or adjacent to the Study Area with higher traffic volumes are Houston Avenue and Sawyer Avenue, particularly south of Crockett Street. Although these streets do have higher traffic counts, they still are operating with excess capacity. Meanwhile, while Crockett Street has relatively low traffic volumes, speeds reach close to 40 mph, despite the presence of an elementary school and a posted speed limit of 30 miles per hour.

Speed and traffic volume both affect how people experience and perceive the street and spaces around them. Higher vehicle travel speeds on neighborhood streets can make walking or biking feel uncomfortable or unsafe. This data is important to inform corridor recommendations and improvements throughout the Study Area.

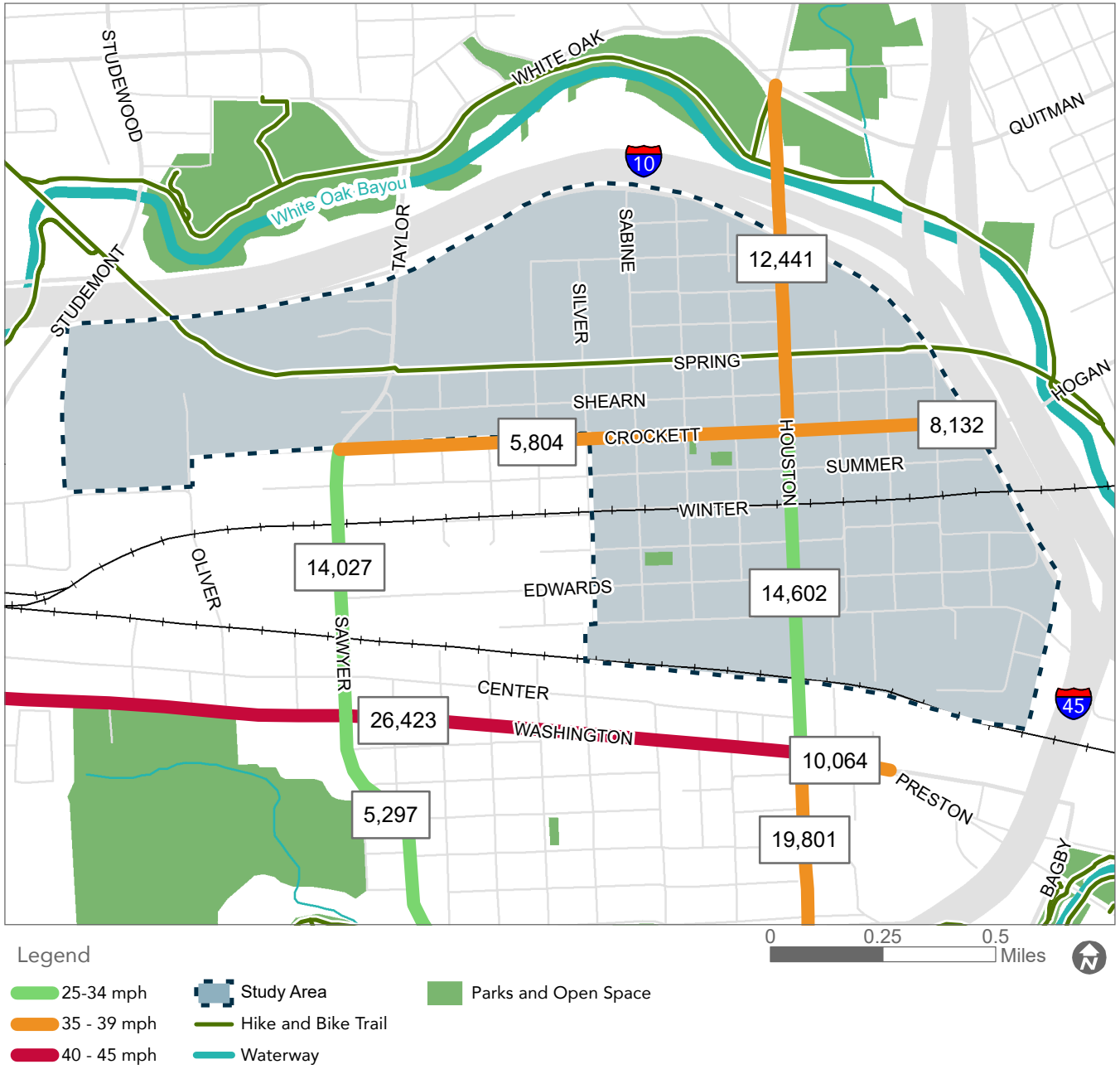


Figure A.30. Average Daily Traffic Volumes & 85th Percentile Speeds
Source: City of Houston, 2022

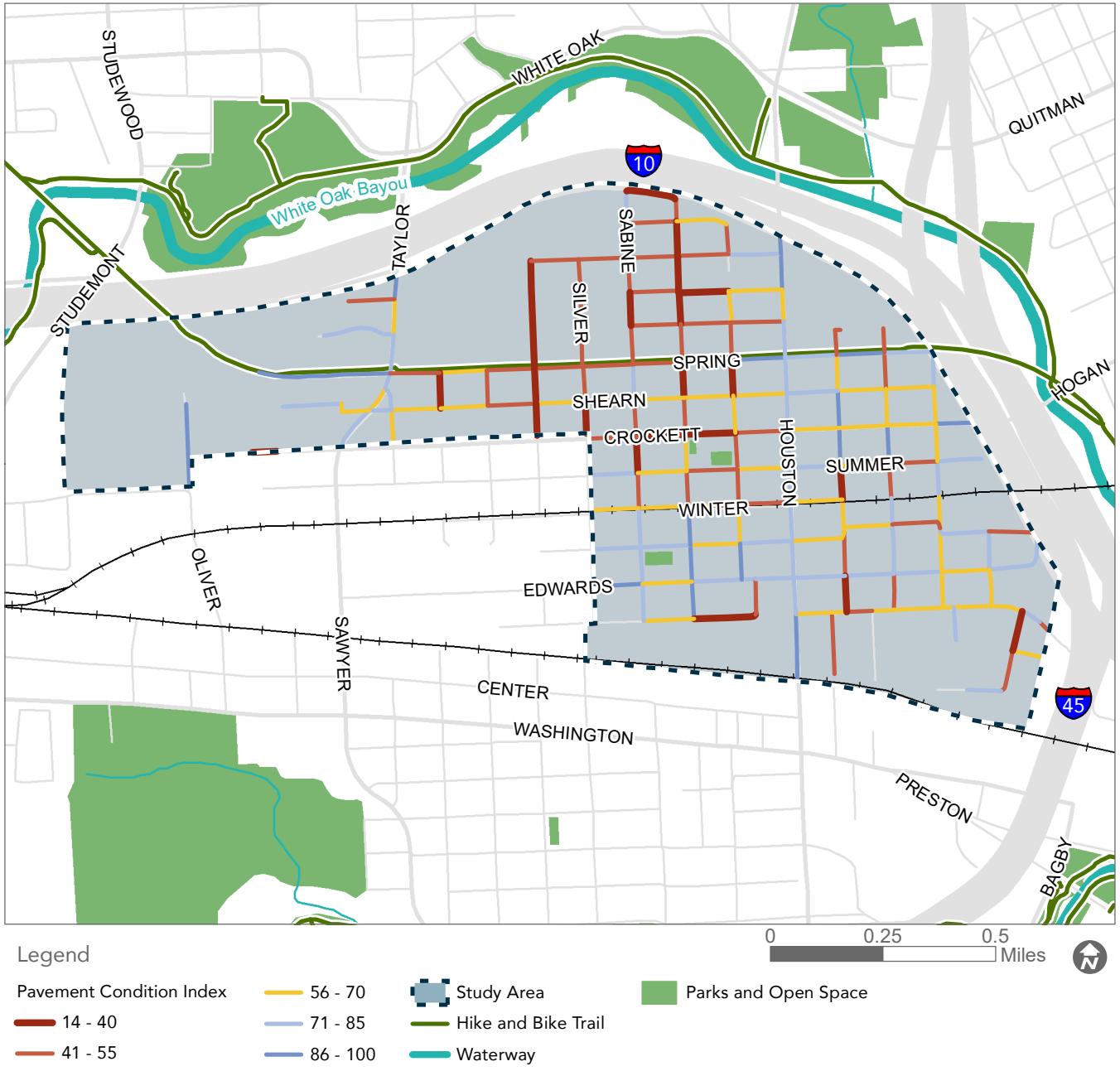


Figure A.31. Pavement Condition Index
Source: City of Houston, 2019

Roadway Pavement Condition

Figure A.31 shows the pavement condition of streets within the Study Area. Pavement condition is defined by the City of Houston GIMS through a pavement condition index (PCI) ranging from 0 (very poor) to 100 (good). Higher quality pavement is shown in shades of blue and worse quality in shades of orange and red. Many of the streets within the Study Area are in poor pavement condition, particularly in the northern section, including White, Silver, Sabine, and Colorado streets.

The condition of a roadway can create hazardous and uncomfortable conditions for those trying to access homes, businesses, and other destinations within the Study Area. This information is particularly important for developing plan recommendations and priorities as areas that are in particularly poor condition may require roadway reconstructions, which can allow for increased multimodal accommodations. Areas with relatively good pavement condition may be more appropriate for retrofit solutions.

Transit Network

There are several local bus routes located in or around the Study Area. Figure A.32 shows these local routes along with the frequency of each route and ridership for each stop. These routes include:

- The 85 Antoine/Washington – frequent service on Washington Avenue, connecting Downtown to Northwest Transit Center, the METRORapid Silver Line in Uptown, and then continues north to Greenspoint Transit Center
- The 44 Acres Homes – connects Houston Avenue to Downtown to the south and travels north through the Heights
- The 30 Clinton/Ella – runs along Sawyer Street and Memorial Drive, connecting to both the Heights and Downtown
- The 56 Airline/Montrose – frequent north/south service on Studemont Street

Much of the Study Area is within half a mile of frequent transit on Washington Avenue and Studemont Street, where ridership at major intersections like Washington Avenue and Sawyer Street is high. Other areas in the core of the Study Area, such as Houston Avenue and Taylor Street are within a quarter mile of less frequent transit.

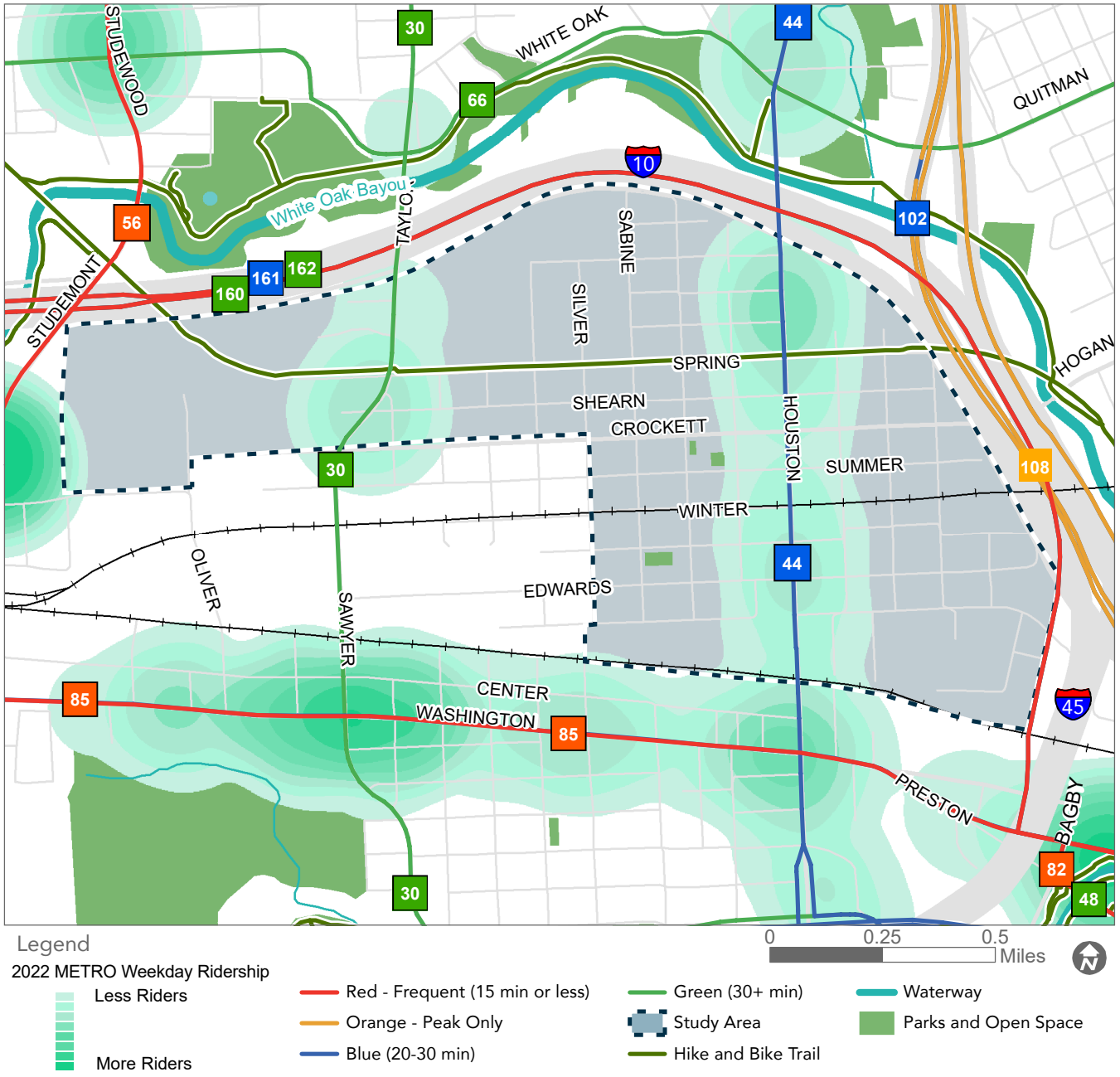


Figure A.32. Transit Service & Ridership
Source: METRO

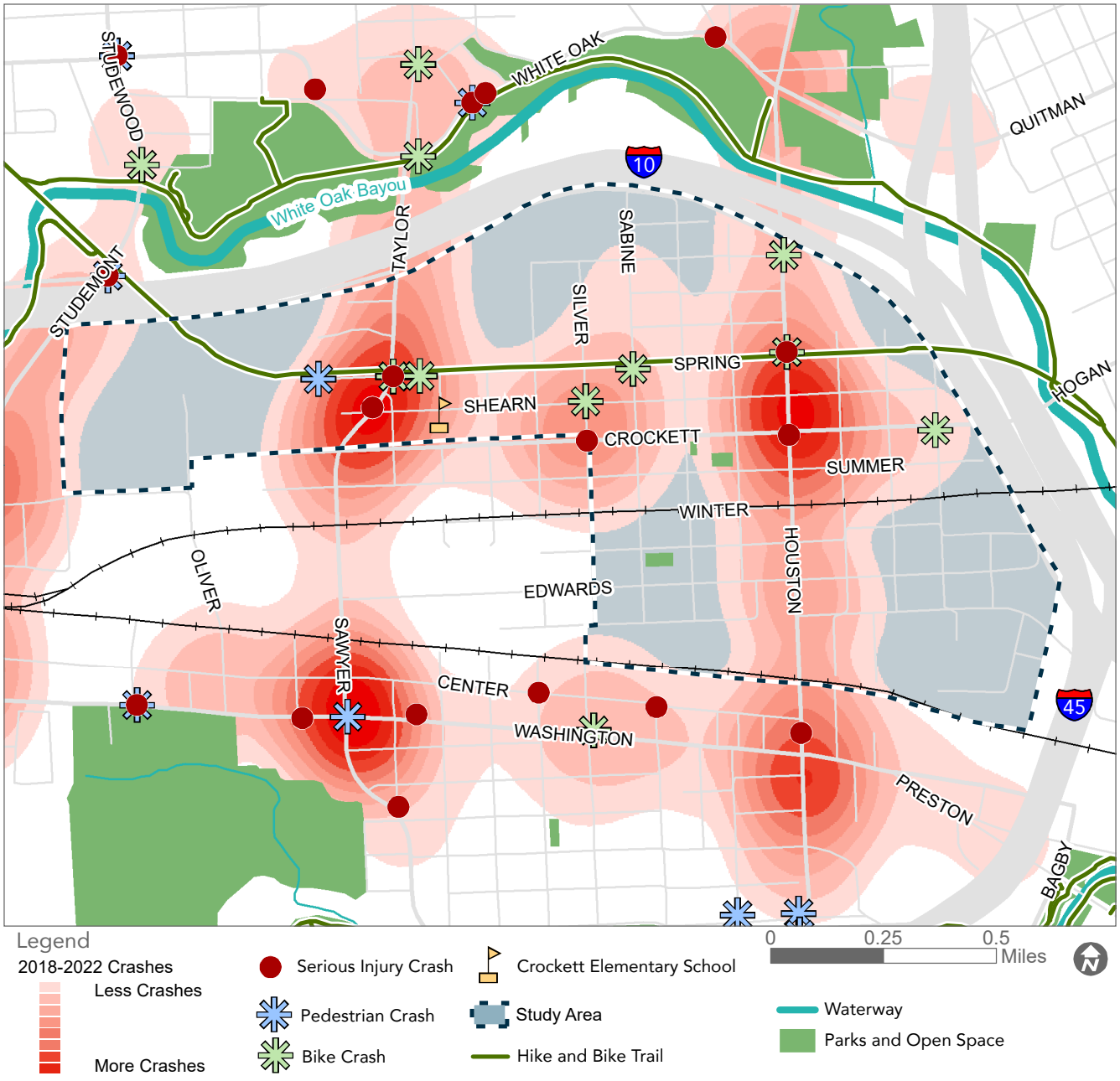


Figure A.33. Crash Density
Source: TxDOT CRIS

Crash Density

Figure A.33 visualizes the areas with high crash rates within the Study Area between 2018 and 2022. Corridors and streets with higher average daily traffic volumes and higher observed speeds also have more crashes compared to the rest of the Study Area, such as Crockett Street, Houston Avenue, Sawyer Street, and Washington Avenue.

Many pedestrian and bike-related crashes are clustered around parts of the Spring Street Trail, where the trail intersects with the street. Within the 5-year period, there were seven crashes involving bike riders and one crash involving a pedestrian within the Study Area. The areas within or around the Study Area with the heaviest crash densities are:

- Taylor Street & Shearn Street
- Taylor Street & Spring Street
- Crockett Street & Silver Street
- Crockett Street & Houston Avenue
- Houston Avenue & Washington Avenue
- Washington Avenue & Sawyer Street

High Injury Network

The High Injury Network shows where the majority of traffic deaths and serious injuries are occurring on Houston's streets. Figure A.34 highlights the streets designated as part of the High Injury Network in the Study Area. Of particular note is the area surrounding Crockett Elementary, where young children and their parents frequently traverse during school pick-up and drop-off. An additional area of concern is the red star located at Houston Avenue and Winter Street, where a bike rider was hit and killed by a driver resulting in a fatal bike crash December of 2023.

The High Injury Network in the Study Area includes:

- Shearn Street adjacent to Crockett Elementary
- Sawyer Street
- Houston Avenue
- Center Street
- Washington Avenue

The crash density and high injury network data pinpoints intersections and streets of concern within the Study Area. This data can also be leveraged to prioritize project recommendations for streets that need safety interventions to address and prevent serious injuries and fatalities.

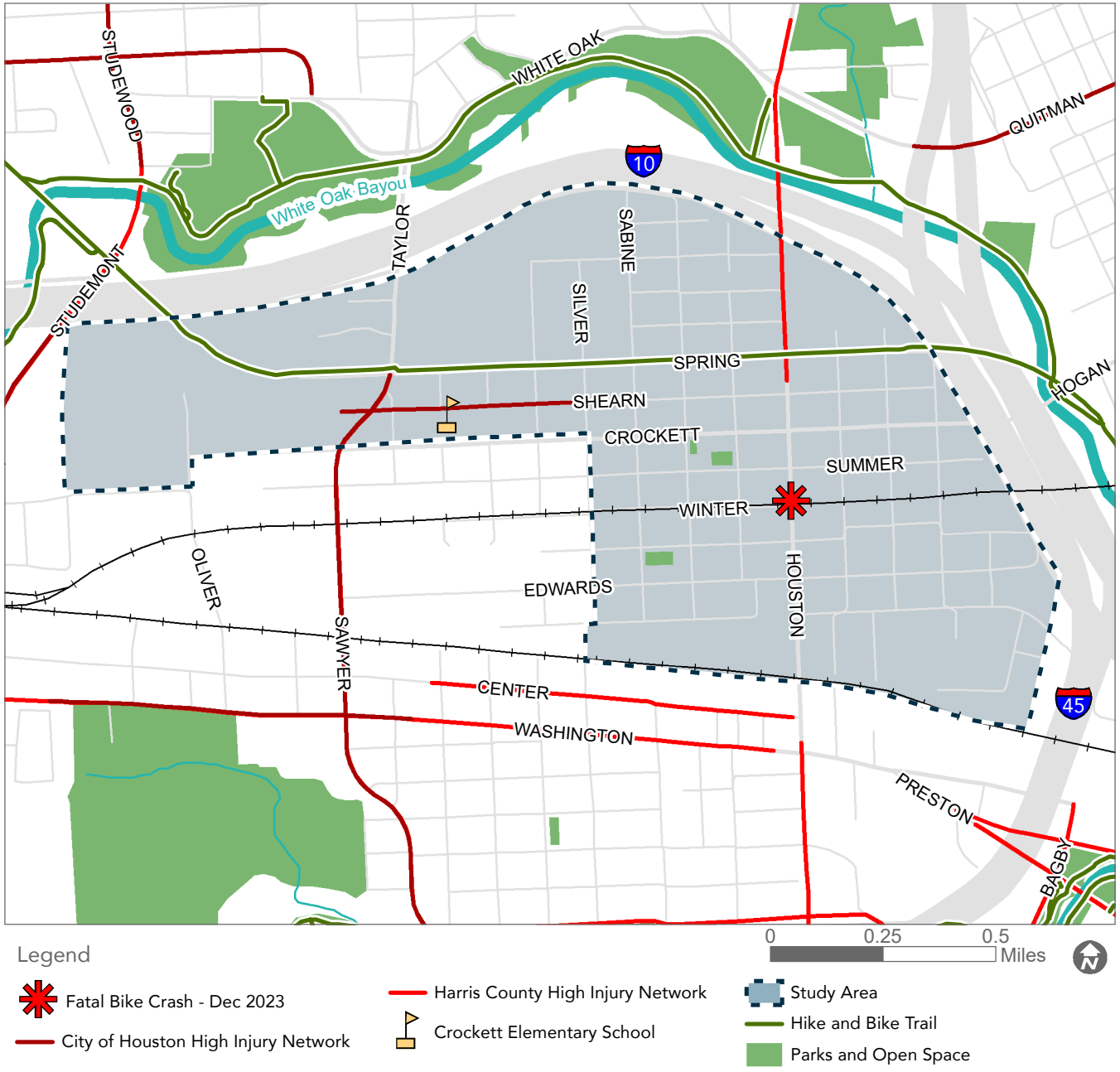


Figure A.34. High Injury Network
Source: City of Houston

Key Corridors

Figure A.35 details the characteristics of key Study Area corridors.

These corridors are important destinations for those moving around the area as well as accessing the major freeways nearby.

This Mobility Plan will take these corridors and their characteristics into account when proposing corridor improvement projects and recommendations.

Figure A.35. Key Corridor Characteristics

	Houston Avenue	Crockett Street	Sawyer/ Taylor Street	Shearn Street	Spring Street
Corridor Classification	Major Thoroughfare	Minor Collector	Major Collector	Local	Local
Average Daily Traffic Volume	15,000 (South of Crockett St) 12,000 (North of Crockett St)	6,000 - 8,000	14,000	TBD	TBD
85th Percentile Speed	30-34 mph (South of Crockett St) 35-39 mph (North of Crockett St)	35-39 mph	25-34 mph	TBD	TBD
Posted Speed Limit	30 mph	30 mph	30 mph	30 mph	30 mph
Crash Locations	Houston & Weber Houston & Spring Houston & Crockett Houston & Center	Crockett & Silver Crockett & Houston	Sawyer & Shearn Sawyer & Spring	Shearn & Sawyer Shearn & Silver	Spring & Taylor Spring & Sabine Spring & Houston
Street Width	70 ft	35 ft	60 ft	20 ft	25 ft
ROW Width	100 ft	80 ft	90 ft	70 ft	70 ft
Number of Lanes	5	2	5	2	2
Transit Route	44 Acres Homes	N/A	30 Clinton/ Ella	N/A	N/A

Source: City of Houston, 2022; TxDOT CRIS; HCAD 2022; METRO

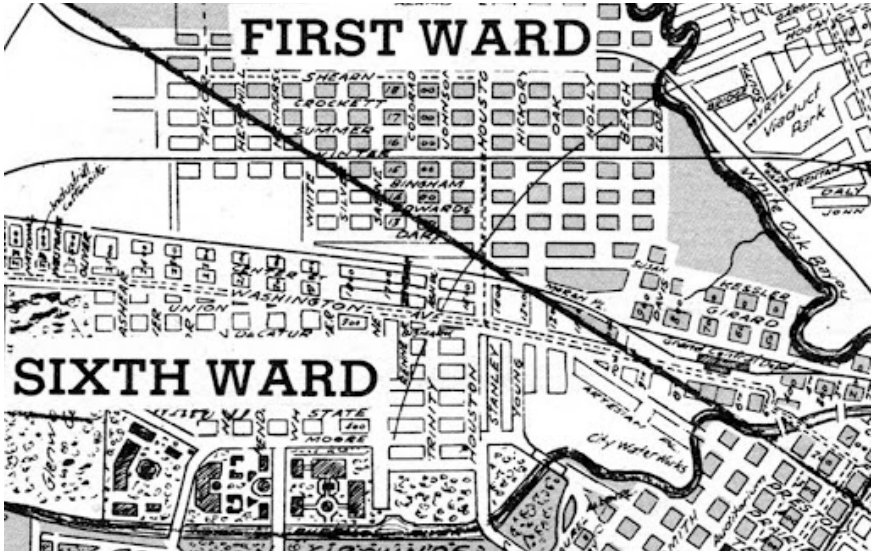
Sidewalk & Ramp Assessment

The grid-like pattern of streets in the Study Area alludes to the historic nature of the neighborhood. Built in the 1800s pre-automobile, neighborhood streets have small blocks that were easily traversable by foot.

Today, the neighborhood is a mixture of historic Queen Anne cottages and bungalows that hearken back to old times, adjacent to dense, single-family modern townhomes. This mixture of old and new is perhaps most evident in the area's walking infrastructure such as sidewalks. A treasure of history and charm, the older homes in the neighborhood are often paired with older or nonexistent sidewalks that are narrow and wrinkled by time. However, the new development next door might boast fresh new sidewalks that are wide and smooth. This inconsistency creates a sidewalk network that is not dependable and that creates many challenges and mobility issues for pedestrians.

Furthermore, a sidewalk in good condition also requires a curb ramp in good condition to accommodate the most vulnerable sidewalk users and those with mobility challenges. Curb ramps provide access between the sidewalk and roadway, often at intersections, for people using wheelchairs, strollers, walkers, crutches, or those who have mobility restrictions that make it difficult to step up and down high curbs. Curb ramps should be paired with tactile warnings to alert pedestrians to the sidewalk and street edge, providing orientation for the visually impaired.

Sidewalks are essential to completing the mobility network of a community. They connect people to a myriad of destinations, like community gathering spots and destinations like the Spring Street Trail within the Study Area, promote healthy habits, and help facilitate social interactions with neighbors and friends. Sidewalks can also provide safe connections to work or local businesses, enhancing the economic vitality of the area. Improving sidewalks throughout the Study Area will make walking a more safe, accessible, and attractive transportation option for residents, workers, and visitors alike.



Grid-like Pattern to Neighborhood Streets

Source: Houston Past Map Archive

Mixture of Old and New Development

Data Collection Process

The project team remotely walked every block within the Study Area via Google Maps Street View and Google Earth to assess condition, comfort, perceived safety, and feasibility of future sidewalk improvements. All sidewalks were assessed and categorized, giving the project team a robust data set of both quantitative data and qualitative assessments. All data was recorded in GIS mapping software and was used to develop a sidewalk network tracker tool.

Using HCAD parcel data, the team walked each street and recorded sidewalk condition for each parcel in the Study Area. For corner or full block parcels, each side of the parcel was assessed independently of the other(s). Often one segment of a parcel is vastly different than another segment due to a variety of factors including trees, drainage conditions, maintenance, and redevelopment. If the condition varied along a parcel, the parcel was scored based on the segment in poorest condition. A sidewalk is only as functional as its worst segment, especially for someone with mobility challenges.

Sidewalk condition was based on both width and state of good repair, as shown on the following page. The five condition categories are based on City of Houston (COH) standards that require sidewalks to be 5 feet and without vertical deflections more than one inch. City standards were updated in 2009 with new sidewalk standards that changed the minimum width of sidewalks from 4 feet to 5 feet. Many existing sidewalks within the Study Area were built prior to 2009 and are therefore below current standard.

While a majority of sidewalks in the area are flat and accessible, it only takes one bad parcel to make an entire block inaccessible for people with strollers, wheelchairs, or other mobility devices. Thus, sidewalk conditions in the Study Area were also summarized by block level, with each block being assigned the condition of least accessible parcel on that block. This gives a more accurate picture of the full accessibility of the walkable network within the Study Area.

Condition A: Flat and 5 feet wide or greater

These sidewalks are flat (traversable) and allow people to walk side-by-side. This should be the minimum standard for new sidewalks, with wider than 5 feet where possible.

Condition B: Flat and less than 5 feet wide

These sidewalks are flat (traversable), but built to the prior 4-feet standard. These are too narrow for people to walk or use a wheelchair side-by-side.

Condition C: Poor condition and 5 feet wide or greater

Although these sidewalks meet minimum width standards, they are in poor condition (not traversable), making it difficult for people with mobility challenges.

Condition D: Poor condition and less than 5 feet wide

These sidewalks are both too narrow and in poor condition (not traversable). They present physical barriers, especially for those with mobility challenges.

Condition E: Missing, no sidewalk present

Segments with no sidewalk or only portions of a sidewalk create major barriers to connectivity.

Sidewalk Condition Assessment

The results of the parcel by parcel assessment of sidewalk condition is presented in Figure A.36 and accounts for 22 miles of sidewalks in the Study Area. A parcel refers to the portion of sidewalk between one property line and the next. Summary statistics of this data is displayed in the charts in Figure A.37 and Figure A.38.

As Figure A.37 shows, 55 percent of sidewalk parcels in the Study Area are traversable; however, 10 of the 22 miles of sidewalk in the area are not traversable. These areas, displayed in the yellow, orange, and red colors, are scattered throughout the entirety of the Study Area and represented in larger portions towards the north and southeast of the Study Area.

While the assessment shows that the majority of sidewalks within the Study Area are traversable, the map indicates sidewalk conditions can vary substantially from one parcel to the next, creating uncertain conditions for people moving about by foot throughout the area.

One's walking experience is only as comfortable as the worst segment on a given path. As the map demonstrates, most traversable block segments in green are broken up by non-traversable segments in yellow, orange, and red, indicating that there is room for improvement in creating a walkable, accessible sidewalk network.

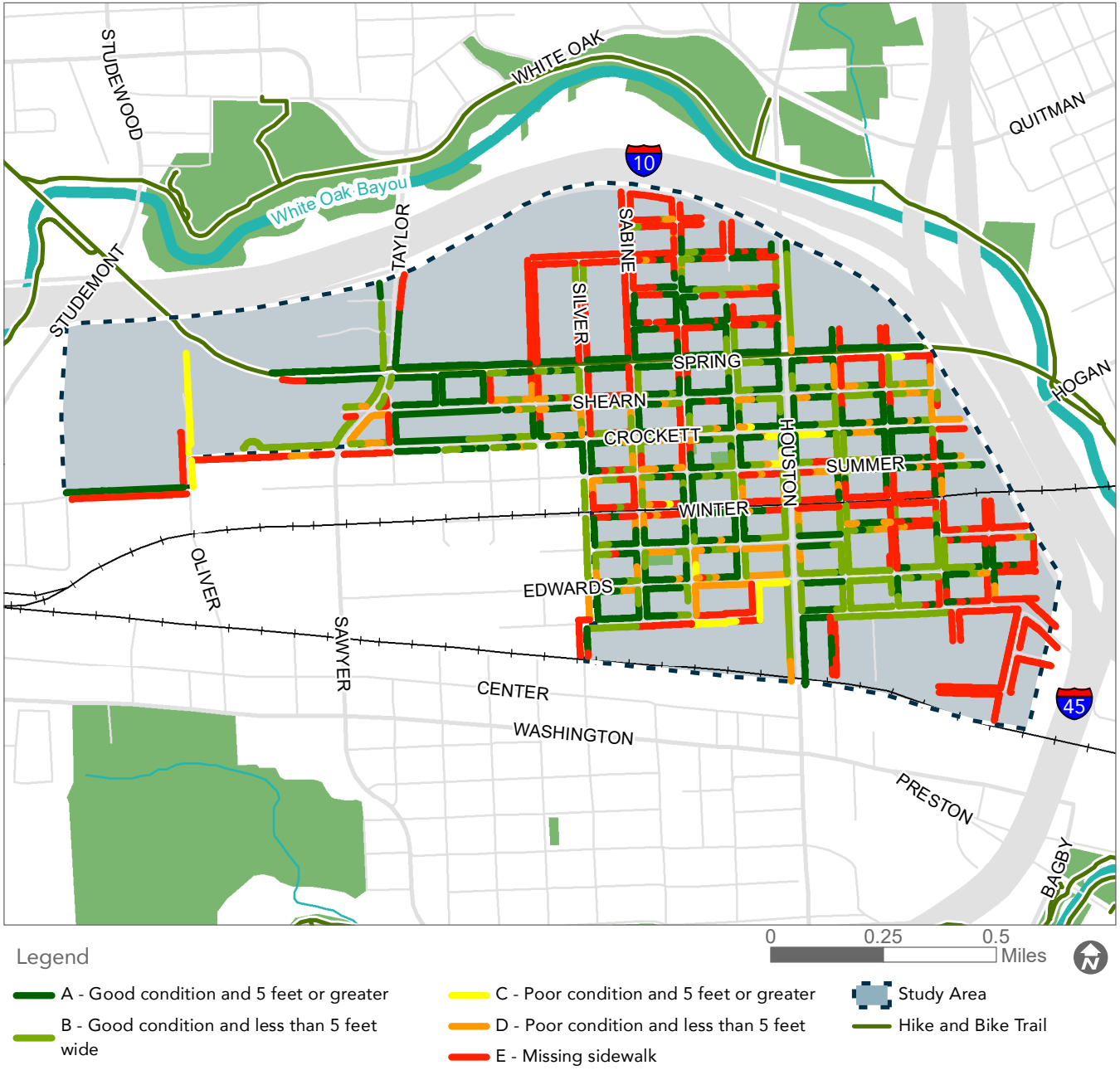
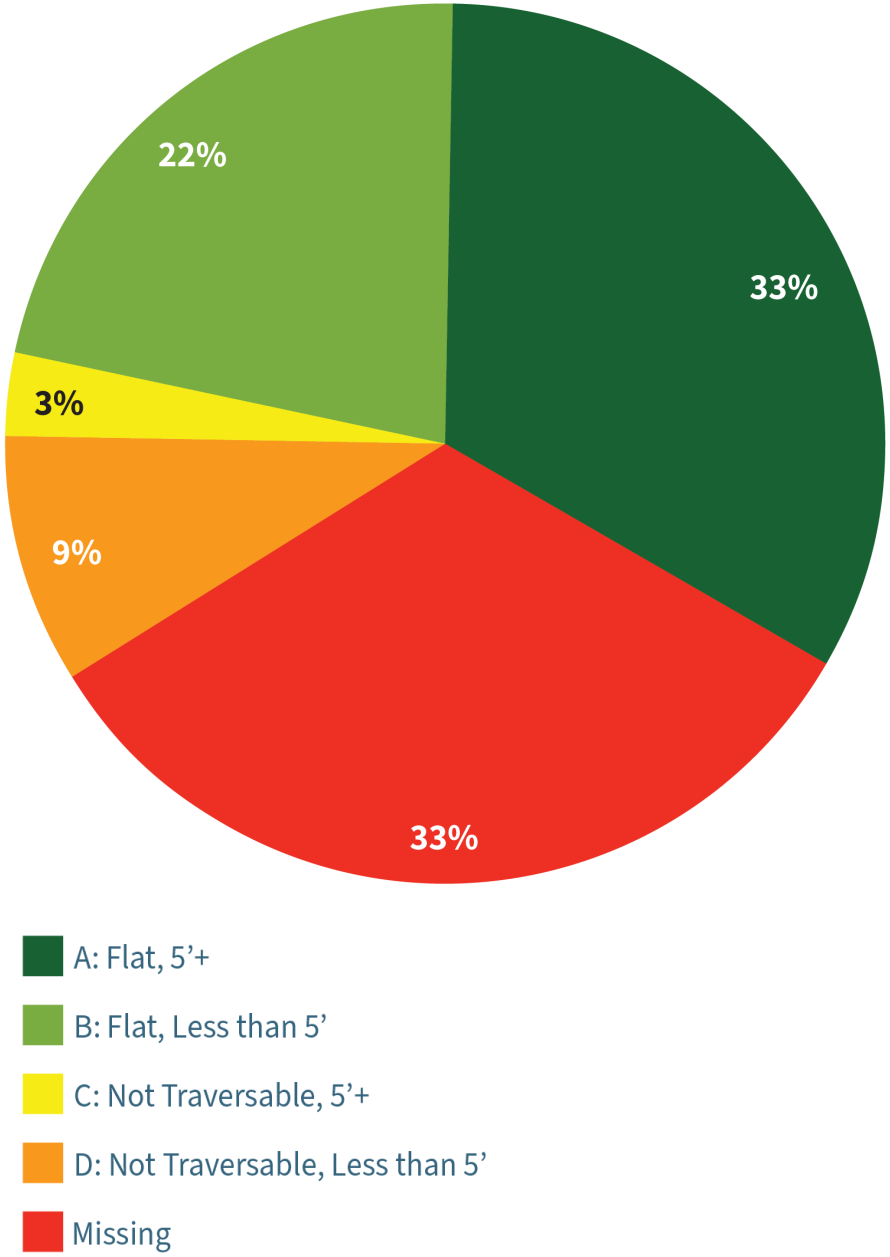


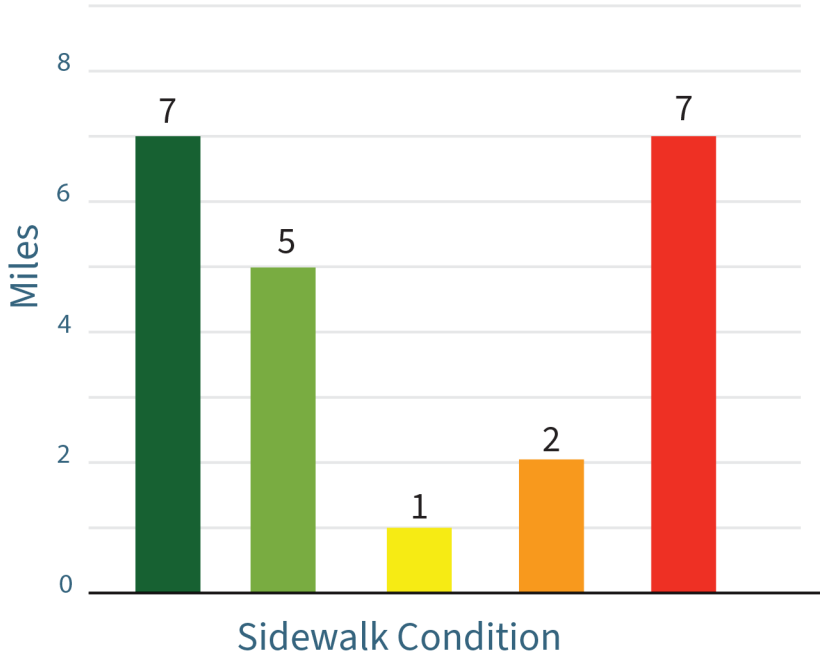
Figure A.36. Sidewalk Condition by Parcel
Source: Sidewalk Assessment March 2024, Harris County Appraisal District

Figure A.37. Sidewalk Condition by Parcel: Percent of Mileage



Source: Sidewalk Assessment March 2024, Harris County Appraisal District

Figure A.38. Sidewalk Condition by Parcel: Total Mileage



Intersection Curb Ramp Assessment Procedure

Data Collection Process: Intersections

The intersection assessment included an evaluation of curb ramp condition at all corners. Ramp type and condition were recorded and assessed based on City of Houston and Americans with Disabilities Act (ADA) curb ramp standards.

Directional vs. Diagonal Ramps

Directional ramps are ideal in most circumstances. Directional ramps direct the person walking to cross the intersection along the crosswalk, even if not marked, instead of directing them into the middle of the intersection. Directional ramps provide benefits to all people walking, but their benefit is even more impactful for people who are rolling or people who are visually impaired.

Diagonal ramps are shared by two converging sidewalks and typically require a change of direction to follow the crosswalk. At one point, these ramps were a standard. They are typically lower cost to construct than directional ramps. Ideally, diagonal ramps should only be used if constructed in areas where physical constraints make a directional ramp infeasible.

Ramp Condition

Ramps are defined by three condition categories: good, poor, and no ramp. While slopes were not calculated for each ramp, City of Houston slope standards for ramps were used as general guidelines. The focus of this assessment was determining if a ramp was traversable and its ease of use for a person walking or rolling.

To be ADA compliant, a ramp must meet slope guidelines, include a landing area of specific size, and truncated domes. For this assessment, only slope was considered for a ramp to be classified as good. Therefore, even some good ramps, as documented in this report, may not be fully compliant to ADA standards. The classifications are defined as follows.

Good Ramp: has a perceived slope that matched City of Houston standards, indicating it would be comfortable to traverse by a person rolling. City of Houston standards require truncated domes for all curb ramps.

Poor Ramp: has a slope that is not to City of Houston standard or is unsafe or inaccessible for people with mobility challenges.

No Ramp: includes corners where there is no ramp and there is no contiguous sidewalks to the curb indicating lack of connectivity from the edge of sidewalk to the curb.

Directional Good Ramp

Directional Poor Ramp

Directional Missing Ramp

Diagonal Good Ramp

Diagonal Poor Ramp

Newly Built to ADA Standards

Ramps Condition

The map in Figure A.40 shows the condition of ramps at each corner of Study Area intersections. Traversable crossings require accessible ramps in good condition at each end of a crosswalk, and few crossings within the Study Area meet that standard.

The assessment of intersections within the Study Area indicates that the vast majority of ramps (85 percent) are in poor condition or missing. Furthermore, as Figure A.41 shows, only eleven crossings at intersections within the Study Area out of the 98 total intersections are accessible, meaning only 11 intersections have a ramp in good condition for those with mobility challenges to cross safely.

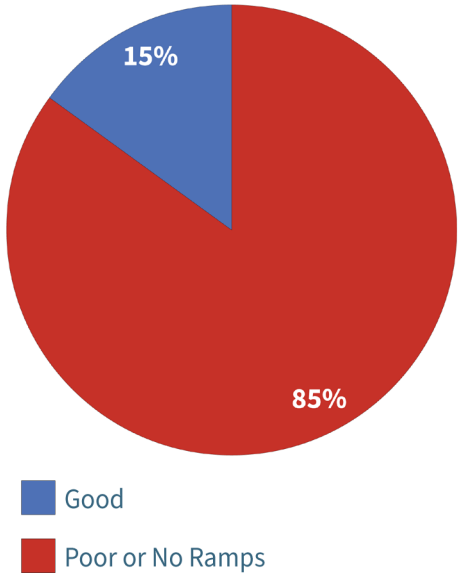


Figure A.39. Percent of Ramps in Good Condition Versus Poor or Missing

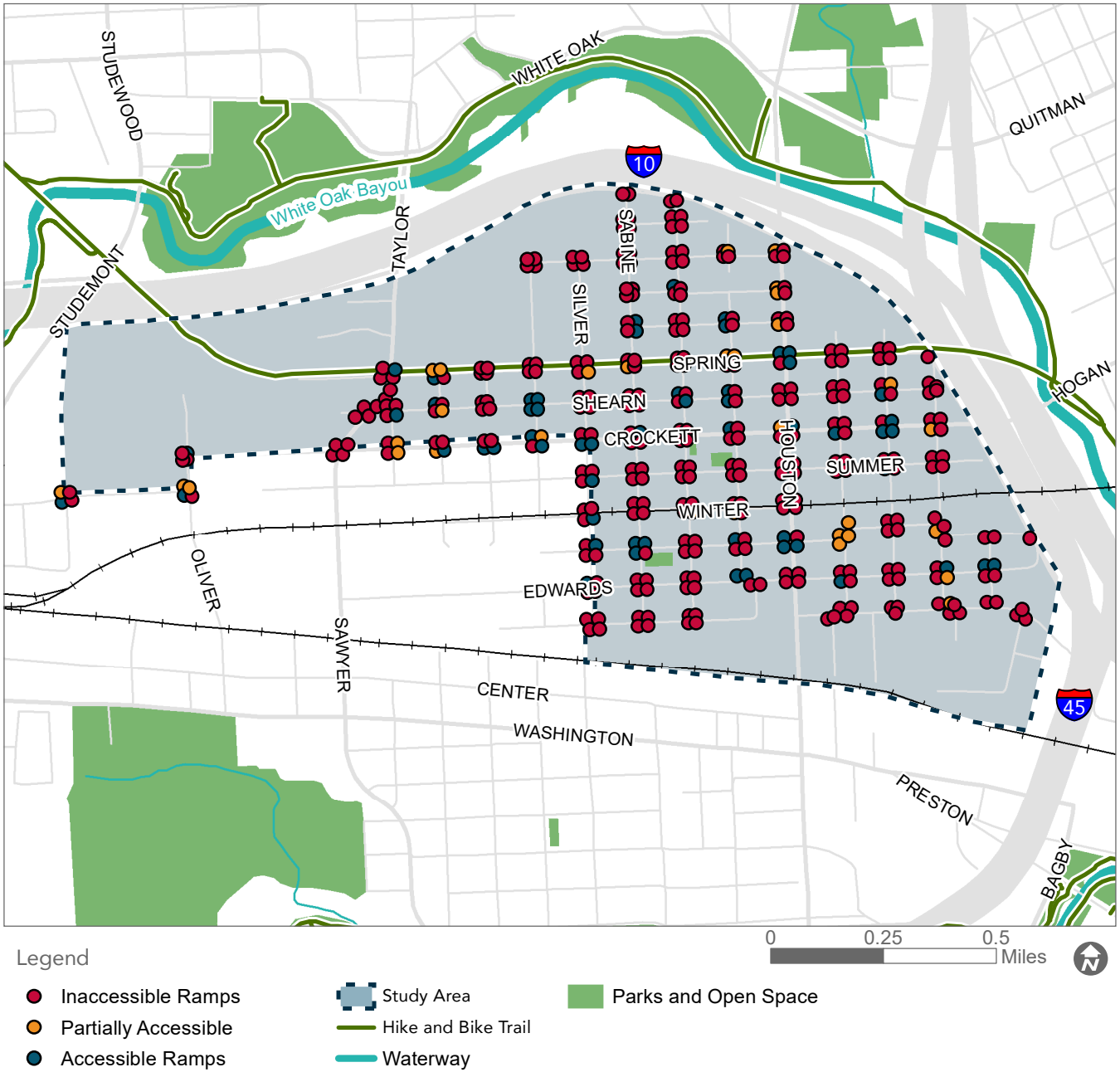


Figure A.40. Ramp Condition
Source: Sidewalk Assessment March 2024, Google Maps

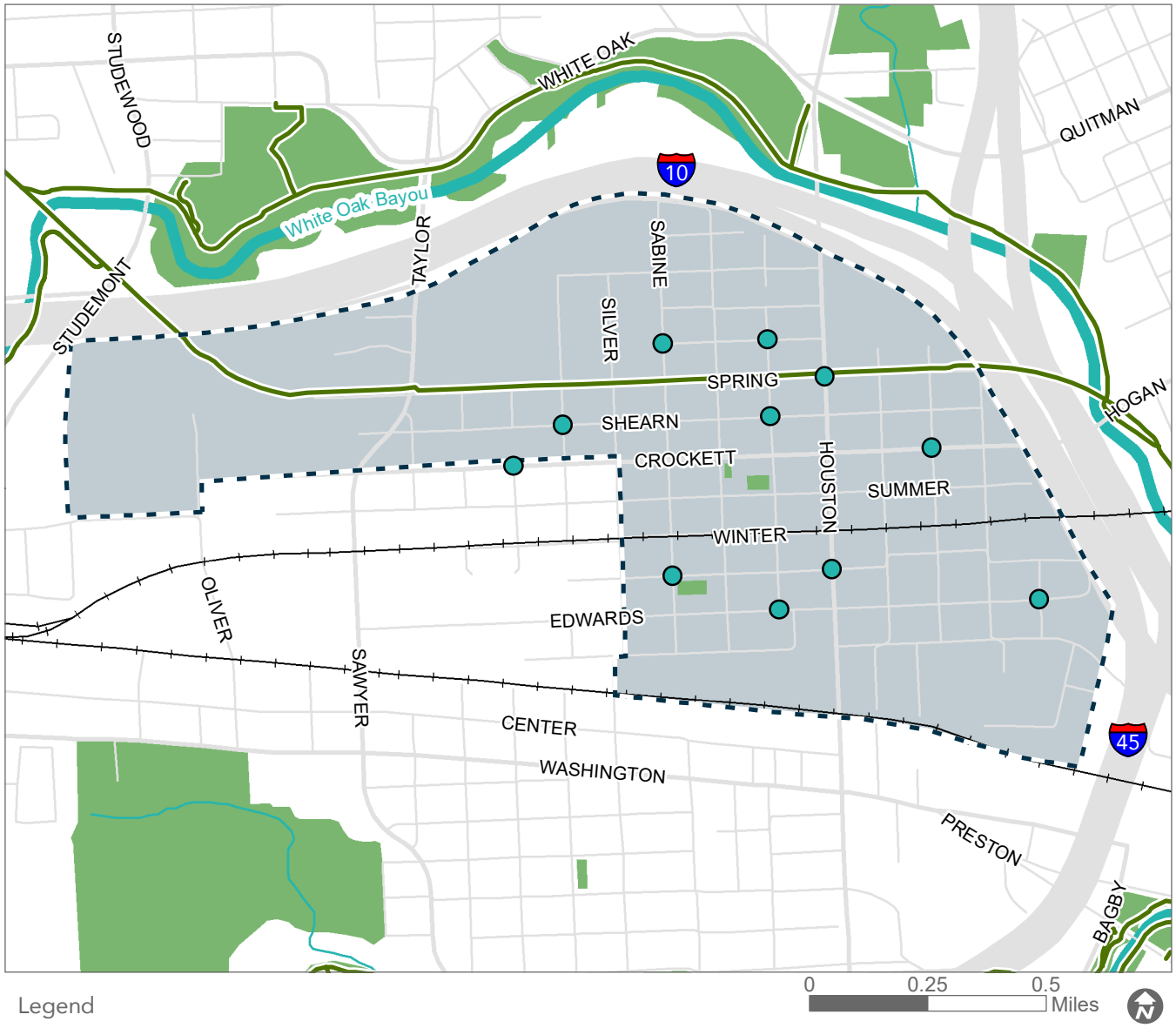


Figure A.41. Accessible Crossings
Source: Sidewalk Assessment March 2024

The Walkable Network

As noted previously, a block within a neighborhood is only as walkable as its worst sidewalk parcel. Even when a block of sidewalks is in good condition, if the parcel ends with a ramp that is in poor condition or missing, crossing an intersection becomes a dangerous and challenging feat. Identifying gaps in the sidewalk and ramp network is an important step in creating a walkable networkthatsupportswalkingasamobility option to neighborhood destinations. This information can be used to inform project recommendation and priorities throughout the Study Area going forward.

Factbook Sources

City of Houston, 2019

- Figure A. 31 Pavement Condition Index

City of Houston, 2022

- Figure A.1 Old Sixth Ward Mobility Plan Phase II Study Area
- Figure A.2 Surrounding TIRZs
- Figure A.3 Existing and Future Area Plans and Projects
- Figure A.30 Traffic Volumes & Speeds
- Figure A.34 High Injury Network
- Figure A.35 Key Corridor Characteristics

City of Houston Bike Plan

- Figure A.27 Bikeways

City of Houston Historic Preservation Manual

- City of Houston High First Ward Designation, page 9

City of Houston Major Thoroughfare & Freeway Plan

- Figure A.28 Major Thoroughfare Plan Street Classification

First Ward Civic Council

- Historic First Ward, page 9

Google Maps

- Figure A.40 Ramp Condition

Greater Northside Management District

- Figure A.4 Existing and Future Area Plans and Projects

Harris County

- Figure A.2 Surrounding TIRZs

Harris County Appraisal District (HCAD), 2022

- Figure A.5 Land Use
- Figure A.35 Key Corridor Characteristics
- Sidewalk Assessment March 2024, pages 38-39

Houston-Galveston Area Council (H-GAC)

- Figure A.4 Existing and Future Area Plans and Projects
- Figure A.26 Study Area Sidewalk Gaps

Houston-Galveston Area Council (H-GAC) Travel Demand Model Trip Distance Outputs, 2019

- Figure A.22 Trip Types
- Figure A.23 Average Trip Distance for All Trip Types

Houston Past Map Archive

- Sidewalk & Ramp Assessment, page 35

Houston Public Media

- Historic First Ward, page 9

METRO

- Figure A.4 Future METRO Projects
- Figure A.32 Transit Service & Ridership
- Figure A.35 Key Corridor Characteristics

TIRZ 13

- Figure A.4 Existing and Future Area Plans and Projects

TxDOT

- Figure A.4 Existing and Future Area Plans and Projects

TxDOT Crash Records Information System (CRIS)

- Figure A.33 Crash Density
- Figure A.35 Key Corridor Characteristics

US Census

- Figure A.7 Study Area Census Area

US Census American Community Survey, 2021

- Figure A.8 Census Area Demographics
- Figure A.9 Race & Ethnicity of Residents
- Figure A.10 Resident Population by Age
- Figure A.11 Resident Educational Attainment
- Figure A.12 Percent of Households by Income
- Figure A.13 Resident Vehicle Availability
- Figure A.15 Worker Income
- Figure A.17 Race & Ethnicity of Workers
- Figure A.20 Work Commute by Mode
- Figure A.21 Commute Time to Work

US Census LEHD Origin-Destination Employment Statistics (LODES), 2021

- Figure A.14 Worker Top Employment Sectors
- Figure A.16 Population of Workers by Age
- Figure A.18 Where Study Area Residents Work
- Figure A.19 Where Study Area Workers Live

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Appendix

B

Traffic Data Collection

1. Shearn Street at Sawyer Street - TMC

Wed May 15, 2024
Full Length (7 AM-9 AM, 3 PM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187644, Location: 29.774403, -95.381997

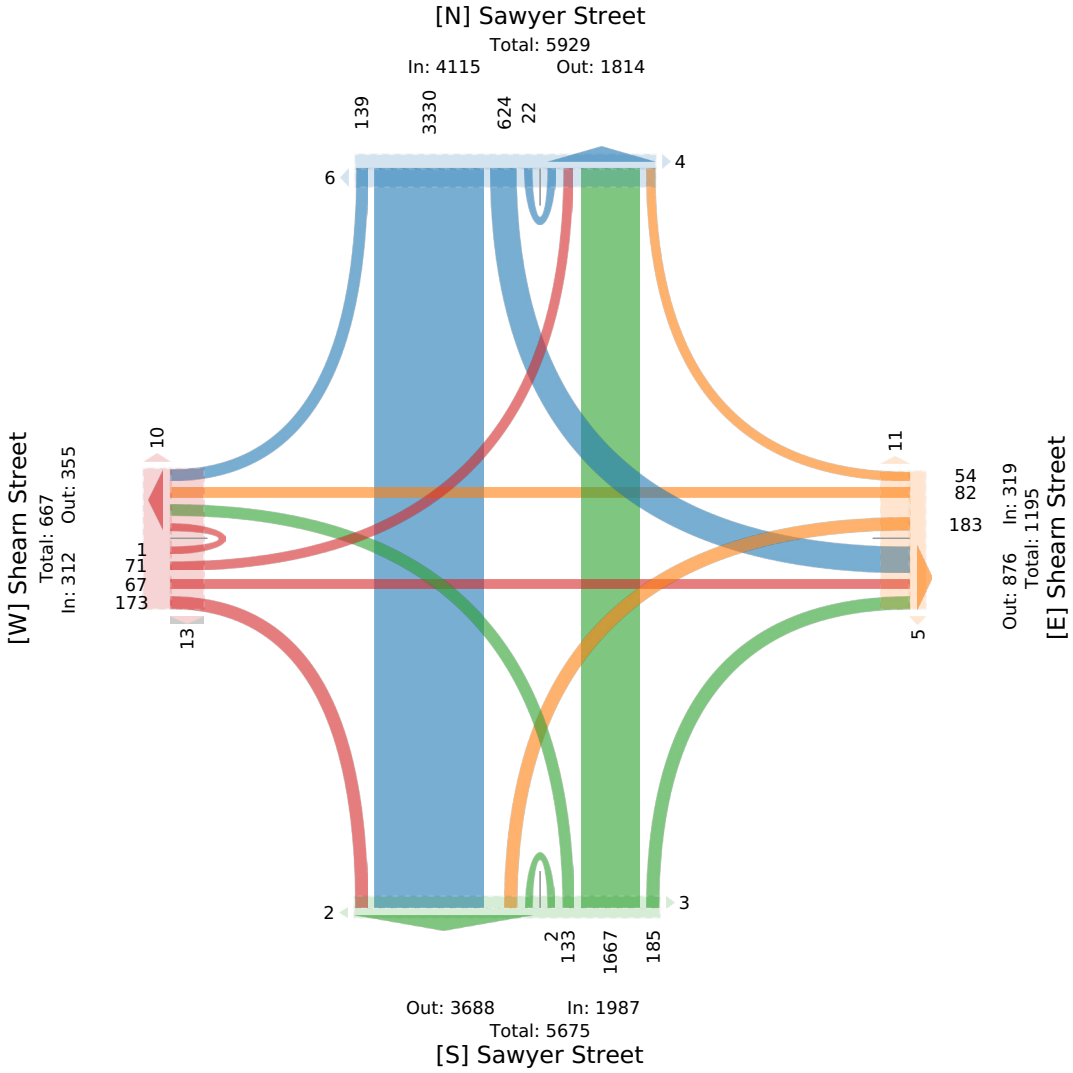
Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg / Direction	Sawyer Street Southbound						Shearn Street Westbound						Sawyer Street Northbound						Shearn Street Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2024-05-15 7:00AM	18	385	121	4	**528**	0	15	3	39	0	**57**	1	14	183	7	0	**204**	0	2	2	4	0	**8**	2	**797**
8:00AM	14	508	74	2	**598**	0	2	11	32	0	**45**	3	23	162	16	0	**201**	3	6	6	6	0	**18**	2	**862**
3:00PM	32	522	104	5	**663**	5	8	18	34	0	**60**	3	29	307	22	0	**358**	0	32	11	19	1	**63**	2	**1144**
4:00PM	19	649	120	2	**790**	1	12	14	21	0	**47**	2	39	315	43	0	**397**	0	37	19	15	0	**71**	4	**1305**
5:00PM	29	638	98	4	**769**	3	9	18	37	0	**64**	5	41	375	22	2	**440**	2	50	12	16	0	**78**	4	**1351**
6:00PM	27	628	107	5	**767**	1	8	18	20	0	**46**	2	39	325	23	0	**387**	0	46	17	11	0	**74**	9	**1274**
Total	139	3330	624	22	**4115**	10	54	82	183	0	**319**	16	185	1667	133	2	**1987**	5	173	67	71	1	**312**	23	**6733**
% Approach	3.4%	80.9%	15.2%	0.5%	**-**	-	16.9%	25.7%	57.4%	0%	**-**	-	9.3%	83.9%	6.7%	0.1%	**-**	-	55.4%	21.5%	22.8%	0.3%	**-**	-	-
% Total	2.1%	49.5%	9.3%	0.3%	**61.1%**	-	0.8%	1.2%	2.7%	0%	**4.7%**	-	2.7%	24.8%	2.0%	0%	**29.5%**	-	2.6%	1.0%	1.1%	0%	**4.6%**	-	-
Lights	136	3272	613	22	**4043**	-	54	82	183	0	**319**	-	184	1628	133	2	**1947**	-	173	67	70	1	**311**	-	6620
% Lights	97.8%	98.3%	98.2%	100%	**98.3%**	-	100%	100%	100%	0%	**100%**	-	99.5%	97.7%	100%	100%	**98.0%**	-	100%	100%	98.6%	100%	**99.7%**	-	98.3%
Articulated Trucks	1	18	2	0	**21**	-	0	0	0	0	**0**	-	0	8	0	0	**8**	-	0	0	0	0	**0**	-	29
% Articulated Trucks	0.7%	0.5%	0.3%	0%	**0.5%**	-	0%	0%	0%	0%	**0%**	-	0%	0.5%	0%	0%	**0.4%**	-	0%	0%	0%	0%	**0%**	-	0.4%
Buses and Single-Unit Trucks	2	40	9	0	**51**	-	0	0	0	0	**0**	-	1	31	0	0	**32**	-	0	0	1	0	**1**	-	84
% Buses and Single-Unit Trucks	1.4%	1.2%	1.4%	0%	**1.2%**	-	0%	0%	0%	0%	**0%**	-	0.5%	1.9%	0%	0%	**1.6%**	-	0%	0%	1.4%	0%	**0.3%**	-	1.2%
Pedestrians	-	-	-	-	-	9	-	-	-	-	-	16	-	-	-	-	-	5	-	-	-	-	-	19	
% Pedestrians	-	-	-	-	-	90.0%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	82.6%	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	4	
% Bicycles on Crosswalk	-	-	-	-	-	10.0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	17.4%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

1. Shearn Street at Sawyer Street - TMC
Wed May 15, 2024
Full Length (7 AM-9 AM, 3 PM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187644, Location: 29.774403, -95.381997

Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US



1. Shearn Street at Sawyer Street - TMC

Wed May 15, 2024
AM Peak (7:15 AM - 8:15 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187644, Location: 29.774403, -95.381997

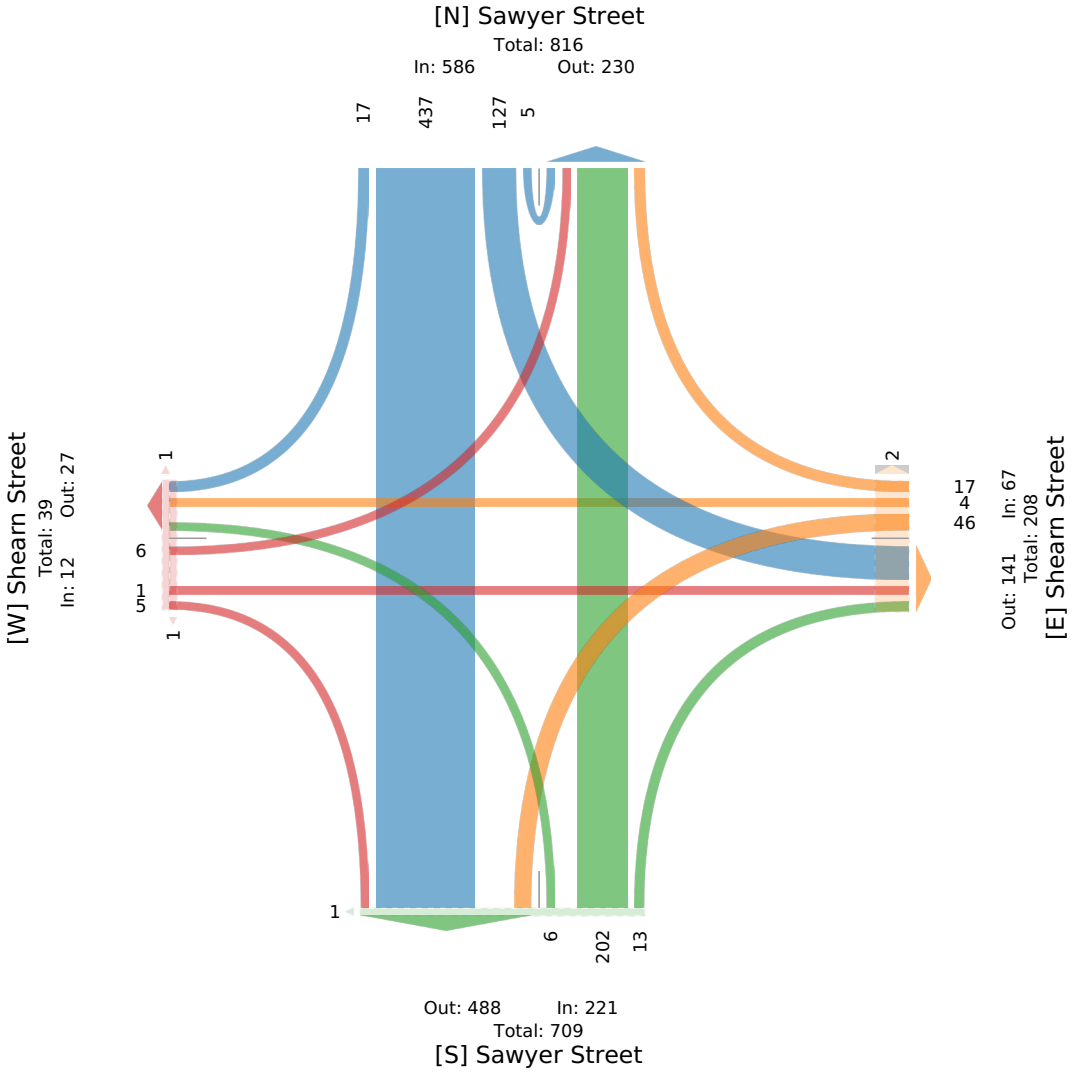
Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg	Sawyer Street						Shearn Street						Sawyer Street						Shearn Street						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2024-05-15 7:15AM	5	80	35	0	**120**	0	7	1	10	0	**18**	0	3	56	0	0	**59**	0	0	0	1	0	**1**	1	**198**
7:30AM	0	114	31	0	**145**	0	6	0	14	0	**20**	1	1	49	0	0	**50**	0	1	1	2	0	**4**	0	**219**
7:45AM	11	111	37	4	**163**	0	2	0	10	0	**12**	0	6	44	5	0	**55**	0	1	0	1	0	**2**	1	**232**
8:00AM	1	132	24	1	**158**	0	2	3	12	0	**17**	1	3	53	1	0	**57**	1	3	0	2	0	**5**	0	**237**
Total	17	437	127	5	**586**	0	17	4	46	0	**67**	2	13	202	6	0	**221**	1	5	1	6	0	**12**	2	**886**
% Approach	2.9%	74.6%	21.7%	0.9%	**-**	-	25.4%	6.0%	68.7%	0%	**-**	-	5.9%	91.4%	2.7%	0%	**-**	-	41.7%	8.3%	50.0%	0%	**-**	-	-
% Total	1.9%	49.3%	14.3%	0.6%	**66.1%**	-	1.9%	0.5%	5.2%	0%	**7.6%**	-	1.5%	22.8%	0.7%	0%	**24.9%**	-	0.6%	0.1%	0.7%	0%	**1.4%**	-	-
PHF	0.386	0.828	0.858	0.313	**0.899**	-	0.607	0.333	0.821	-	**0.838**	-	0.542	0.902	0.300	-	**0.936**	-	0.417	0.250	0.750	-	**0.600**	-	0.935
Lights	16	429	126	5	**576**	-	17	4	46	0	**67**	-	13	196	6	0	**215**	-	5	1	6	0	**12**	-	870
% Lights	94.1%	98.2%	99.2%	100%	**98.3%**	-	100%	100%	100%	0%	**100%**	-	100%	97.0%	100%	0%	**97.3%**	-	100%	100%	100%	0%	**100%**	-	98.2%
Articulated Trucks	1	3	0	0	**4**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	5
% Articulated Trucks	5.9%	0.7%	0%	0%	**0.7%**	-	0%	0%	0%	0%	**0%**	-	0%	0.5%	0%	0%	**0.5%**	-	0%	0%	0%	0%	**0%**	-	0.6%
Buses and Single-Unit Trucks	0	5	1	0	**6**	-	0	0	0	0	**0**	-	0	5	0	0	**5**	-	0	0	0	0	**0**	-	11
% Buses and Single-Unit Trucks	0%	1.1%	0.8%	0%	**1.0%**	-	0%	0%	0%	0%	**0%**	-	0%	2.5%	0%	0%	**2.3%**	-	0%	0%	0%	0%	**0%**	-	1.2%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	50.0%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	50.0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

1. Shearn Street at Sawyer Street - TMC
Wed May 15, 2024
AM Peak (7:15 AM - 8:15 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187644, Location: 29.774403, -95.381997

Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US



1. Shearn Street at Sawyer Street - TMC

Wed May 15, 2024
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187644, Location: 29.774403, -95.381997

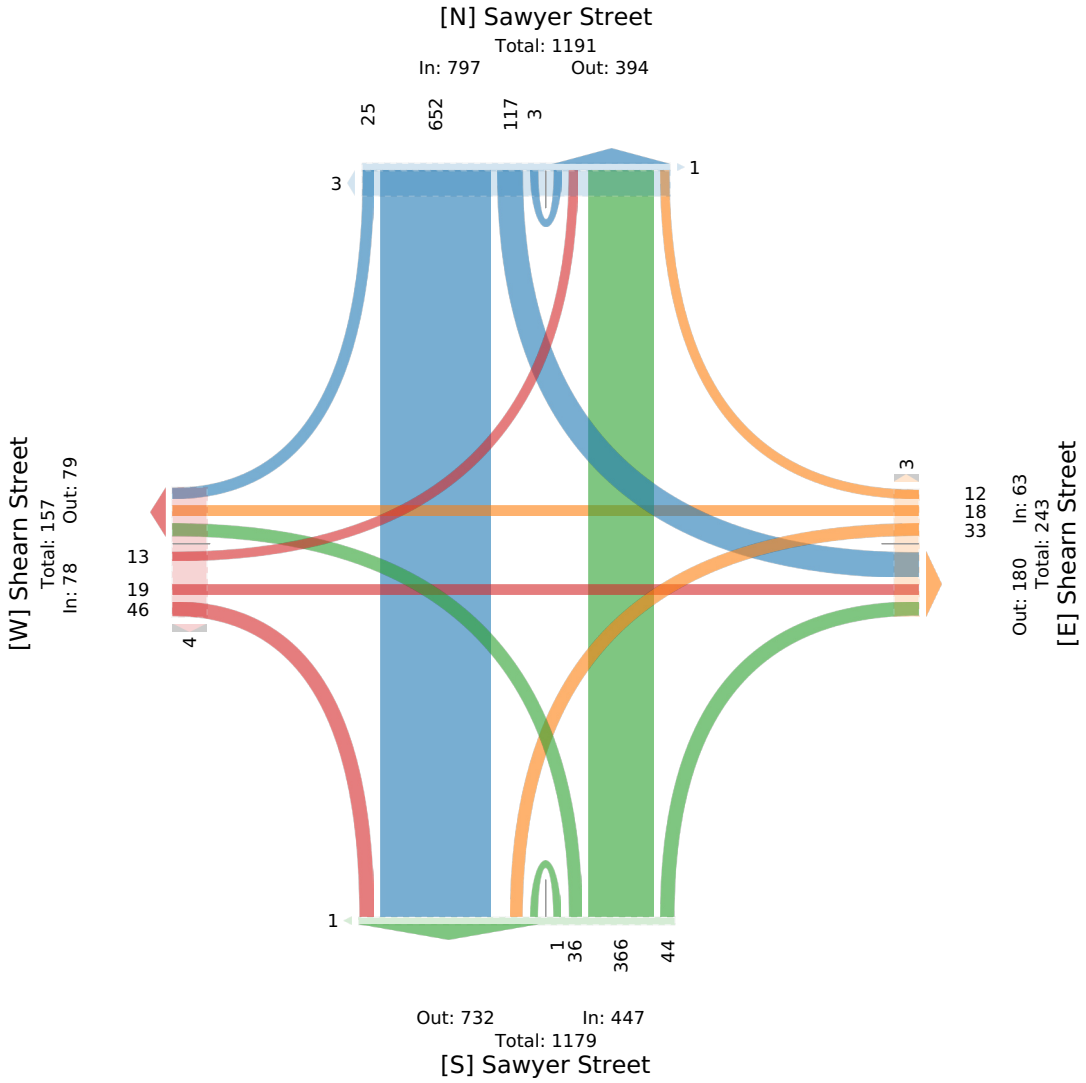
Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg / Direction	Sawyer Street Southbound						Shearn Street Westbound						Sawyer Street Northbound						Shearn Street Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2024-05-15 4:30PM	1	176	39	0	**216**	1	3	5	8	0	**16**	0	9	80	16	0	**105**	0	16	5	2	0	**23**	1	**360**
4:45PM	9	159	35	1	**204**	0	3	2	7	0	**12**	0	10	81	10	0	**101**	0	5	5	4	0	**14**	2	**331**
5:00PM	8	166	23	0	**197**	1	2	6	11	0	**19**	1	12	82	7	0	**101**	0	15	3	3	0	**21**	1	**338**
5:15PM	7	151	20	2	**180**	2	4	5	7	0	**16**	2	13	123	3	1	**140**	1	10	6	4	0	**20**	0	**356**
Total	25	652	117	3	**797**	4	12	18	33	0	**63**	3	44	366	36	1	**447**	1	46	19	13	0	**78**	4	**1385**
% Approach	3.1%	81.8%	14.7%	0.4%	**-**	-	19.0%	28.6%	52.4%	0%	**-**	-	9.8%	81.9%	8.1%	0.2%	**-**	-	59.0%	24.4%	16.7%	0%	**-**	-	-
% Total	1.8%	47.1%	8.4%	0.2%	**57.5%**	-	0.9%	1.3%	2.4%	0%	**4.5%**	-	3.2%	26.4%	2.6%	0.1%	**32.3%**	-	3.3%	1.4%	0.9%	0%	**5.6%**	-	-
PHF	0.694	0.926	0.750	0.375	**0.922**	-	0.750	0.750	0.750	-	**0.829**	-	0.846	0.744	0.563	0.250	**0.798**	-	0.719	0.792	0.813	-	**0.848**	-	0.962
Lights	25	647	116	3	**791**	-	12	18	33	0	**63**	-	44	361	36	1	**442**	-	46	19	13	0	**78**	-	1374
% Lights	100%	99.2%	99.1%	100%	**99.2%**	-	100%	100%	100%	0%	**100%**	-	100%	98.6%	100%	100%	**98.9%**	-	100%	100%	100%	0%	**100%**	-	99.2%
Articulated Trucks	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	2
% Articulated Trucks	0%	0.2%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Buses and Single-Unit Trucks	0	4	1	0	**5**	-	0	0	0	0	**0**	-	0	4	0	0	**4**	-	0	0	0	0	**0**	-	9
% Buses and Single-Unit Trucks	0%	0.6%	0.9%	0%	**0.6%**	-	0%	0%	0%	0%	**0%**	-	0%	1.1%	0%	0%	**0.9%**	-	0%	0%	0%	0%	**0%**	-	0.6%
Pedestrians	-	-	-	-	-	4	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	4	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

1. Shearn Street at Sawyer Street - TMC
Wed May 15, 2024
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187644, Location: 29.774403, -95.381997

Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US



2. Shearn Street at Taylor Street - TMC

Wed May 15, 2024
Full Length (7 AM-9 AM, 3 PM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187645, Location: 29.774412, -95.381472

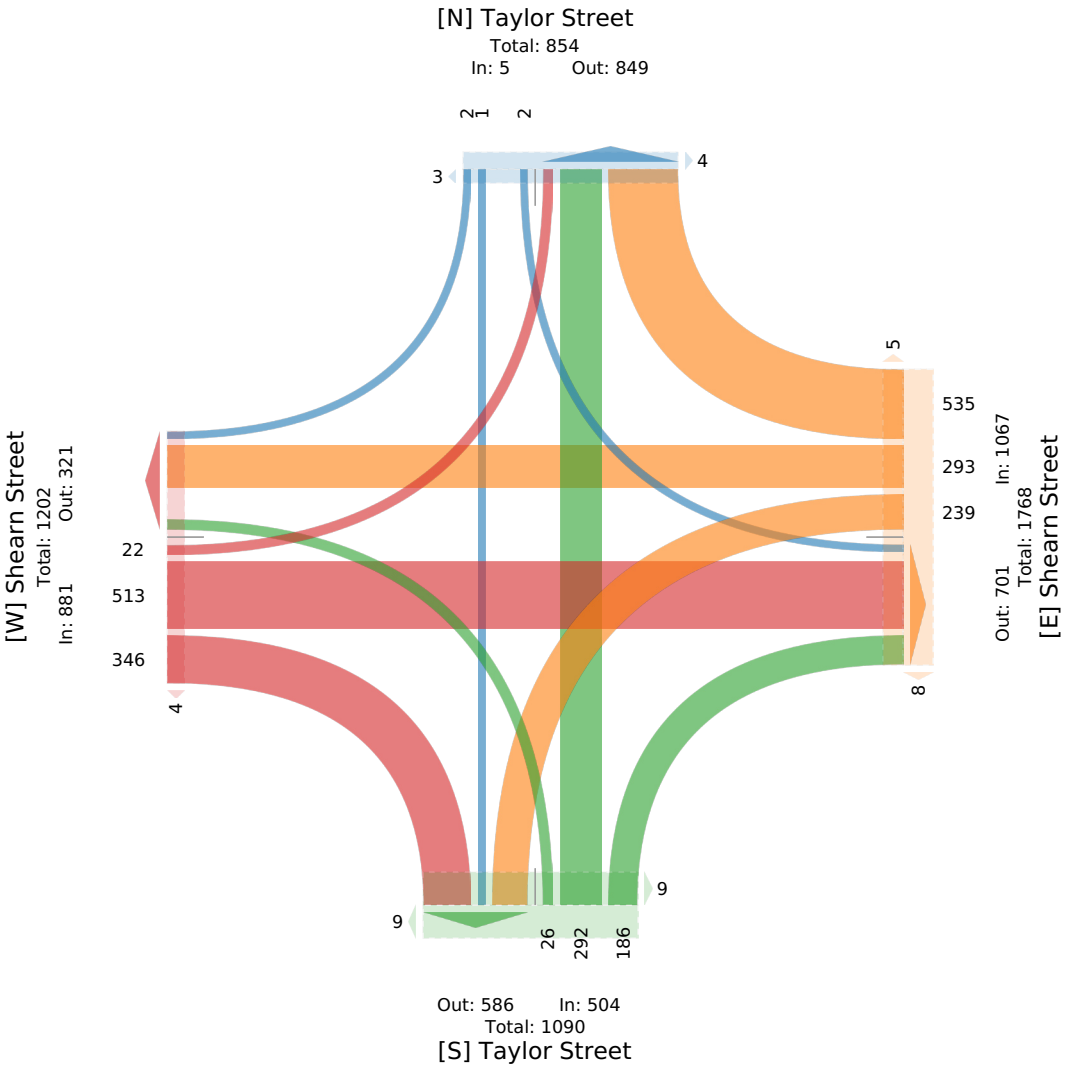
Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg / Direction	Taylor Street Southbound						Shearn Street Westbound						Taylor Street Northbound						Shearn Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2024-05-15 7:00AM	1	1	0	0	**2**	0	125	56	59	0	**240**	5	48	51	6	0	**105**	11	48	83	6	0	**137**	2	**484**
8:00AM	0	0	0	0	**0**	4	88	42	37	0	**167**	1	20	50	2	0	**72**	0	47	57	0	0	**104**	1	**343**
3:00PM	0	0	0	0	**0**	2	102	55	41	0	**198**	3	31	52	3	0	**86**	6	50	91	6	0	**147**	0	**431**
4:00PM	0	0	1	0	**1**	0	83	44	36	0	**163**	1	24	39	9	0	**72**	1	80	96	3	0	**179**	1	**415**
5:00PM	1	0	0	0	**1**	0	65	55	45	0	**165**	2	37	62	3	0	**102**	0	62	86	4	0	**152**	0	**420**
6:00PM	0	0	1	0	**1**	1	72	41	21	0	**134**	1	26	38	3	0	**67**	0	59	100	3	0	**162**	0	**364**
Total	2	1	2	0	**5**	7	535	293	239	0	**1067**	13	186	292	26	0	**504**	18	346	513	22	0	**881**	4	**2457**
% Approach	40.0%	20.0%	40.0%	0%	**-**	-	50.1%	27.5%	22.4%	0%	**-**	-	36.9%	57.9%	5.2%	0%	**-**	-	39.3%	58.2%	2.5%	0%	**-**	-	**-**
% Total	0.1%	0%	0.1%	0%	**0.2%**	-	21.8%	11.9%	9.7%	0%	**43.4%**	-	7.6%	11.9%	1.1%	0%	**20.5%**	-	14.1%	20.9%	0.9%	0%	**35.9%**	-	**-**
Lights	2	1	2	0	**5**	-	535	293	239	0	**1067**	-	182	287	26	0	**495**	-	343	508	19	0	**870**	-	2437
% Lights	100%	100%	100%	0%	**100%**	-	100%	100%	100%	0%	**100%**	-	97.8%	98.3%	100%	0%	**98.2%**	-	99.1%	99.0%	86.4%	0%	**98.8%**	-	99.2%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1	0	0	0	**1**	-	0	0	1	0	**1**	-	2
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.5%	0%	0%	0%	**0.2%**	-	0%	0%	4.5%	0%	**0.1%**	-	0.1%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	3	5	0	0	**8**	-	3	5	2	0	**10**	-	18
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	1.6%	1.7%	0%	0%	**1.6%**	-	0.9%	1.0%	9.1%	0%	**1.1%**	-	0.7%
Pedestrians	-	-	-	-	-	7	-	-	-	-	-	12	-	-	-	-	-	18	-	-	-	-	-	4	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	92.3%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	7.7%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

2. Shearn Street at Taylor Street - TMC
Wed May 15, 2024
Full Length (7 AM-9 AM, 3 PM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187645, Location: 29.774412, -95.381472

Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US



2. Shearn Street at Taylor Street - TMC

Wed May 15, 2024
AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187645, Location: 29.774412, -95.381472

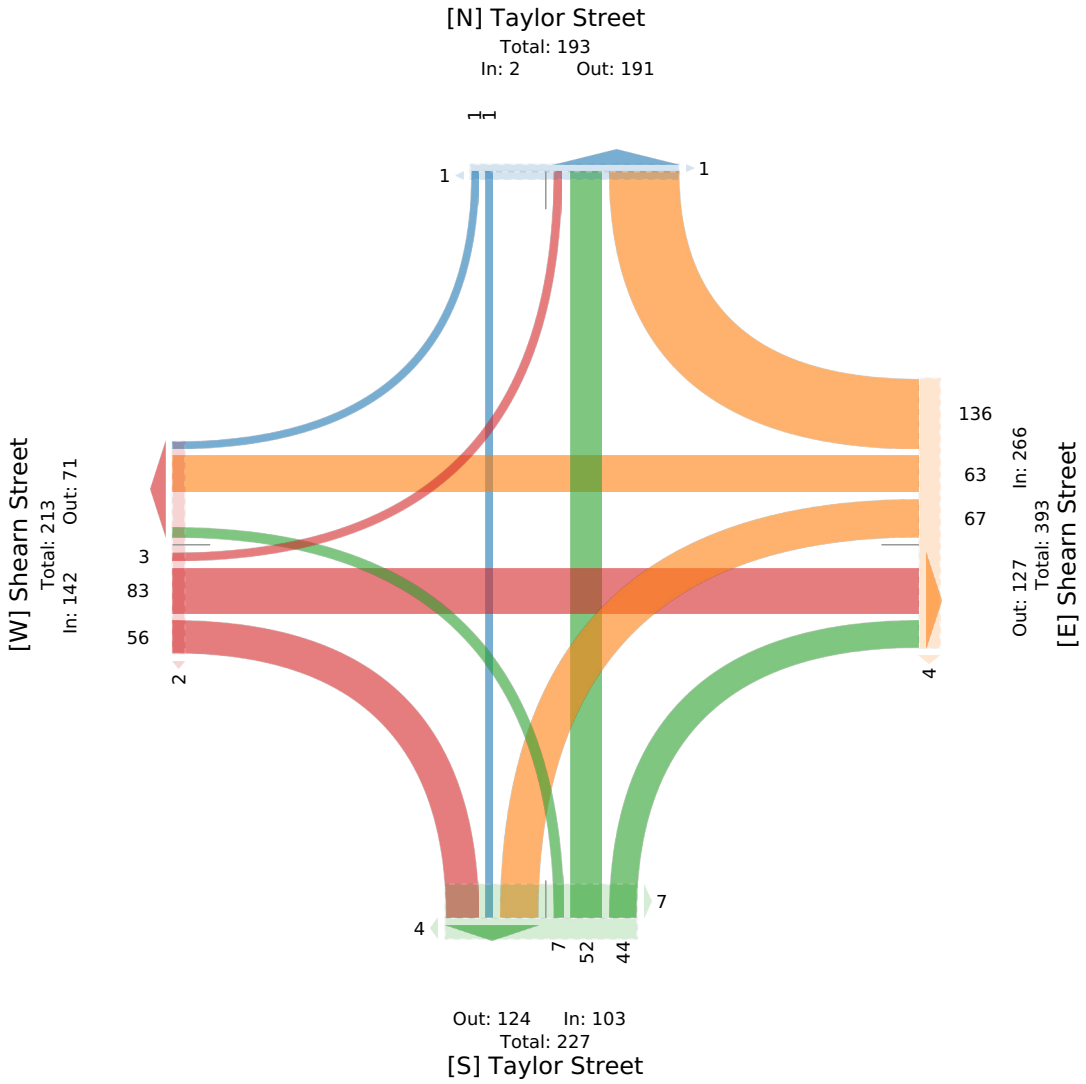
Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg / Direction	Taylor Street Southbound						Shearn Street Westbound						Taylor Street Northbound						Shearn Street Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2024-05-15 7:15AM	0	1	0	0	**1**	0	40	18	20	0	**78**	2	25	5	2	0	**32**	6	10	24	1	0	**35**	2	**146**
7:30AM	1	0	0	0	**1**	0	38	17	16	0	**71**	1	12	11	2	0	**25**	4	17	17	2	0	**36**	0	**133**
7:45AM	0	0	0	0	**0**	0	33	14	17	0	**64**	1	5	21	2	0	**28**	1	15	27	0	0	**42**	0	**134**
8:00AM	0	0	0	0	**0**	2	25	14	14	0	**53**	0	2	15	1	0	**18**	0	14	15	0	0	**29**	0	**100**
Total	1	1	0	0	**2**	2	136	63	67	0	**266**	4	44	52	7	0	**103**	11	56	83	3	0	**142**	2	**513**
% Approach	50.0%	50.0%	0%	0%	**-**	-	51.1%	23.7%	25.2%	0%	**-**	-	42.7%	50.5%	6.8%	0%	**-**	-	39.4%	58.5%	2.1%	0%	**-**	-	-
% Total	0.2%	0.2%	0%	0%	**0.4%**	-	26.5%	12.3%	13.1%	0%	**51.9%**	-	8.6%	10.1%	1.4%	0%	**20.1%**	-	10.9%	16.2%	0.6%	0%	**27.7%**	-	-
PHF	0.250	0.250	-	-	**0.500**	-	0.850	0.875	0.838	-	**0.853**	-	0.440	0.619	0.875	-	**0.805**	-	0.824	0.769	0.375	-	**0.845**	-	0.878
Lights	1	1	0	0	**2**	-	136	63	67	0	**266**	-	43	50	7	0	**100**	-	55	82	3	0	**140**	-	508
% Lights	100%	100%	0%	0%	**100%**	-	100%	100%	100%	0%	**100%**	-	97.7%	96.2%	100%	0%	**97.1%**	-	98.2%	98.8%	100%	0%	**98.6%**	-	99.0%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1	2	0	0	**3**	-	1	1	0	0	**2**	-	5
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	2.3%	3.8%	0%	0%	**2.9%**	-	1.8%	1.2%	0%	0%	**1.4%**	-	1.0%
Pedestrians	-	-	-	-	-	2	-	-	-	-	-	4	-	-	-	-	-	11	-	-	-	-	-	2	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

2. Shearn Street at Taylor Street - TMC
Wed May 15, 2024
AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187645, Location: 29.774412, -95.381472

CJ Hensch & Associates, Inc.
Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US



2. Shearn Street at Taylor Street - TMC

Wed May 15, 2024
PM Peak (4:30 PM - 5:30 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187645, Location: 29.774412, -95.381472

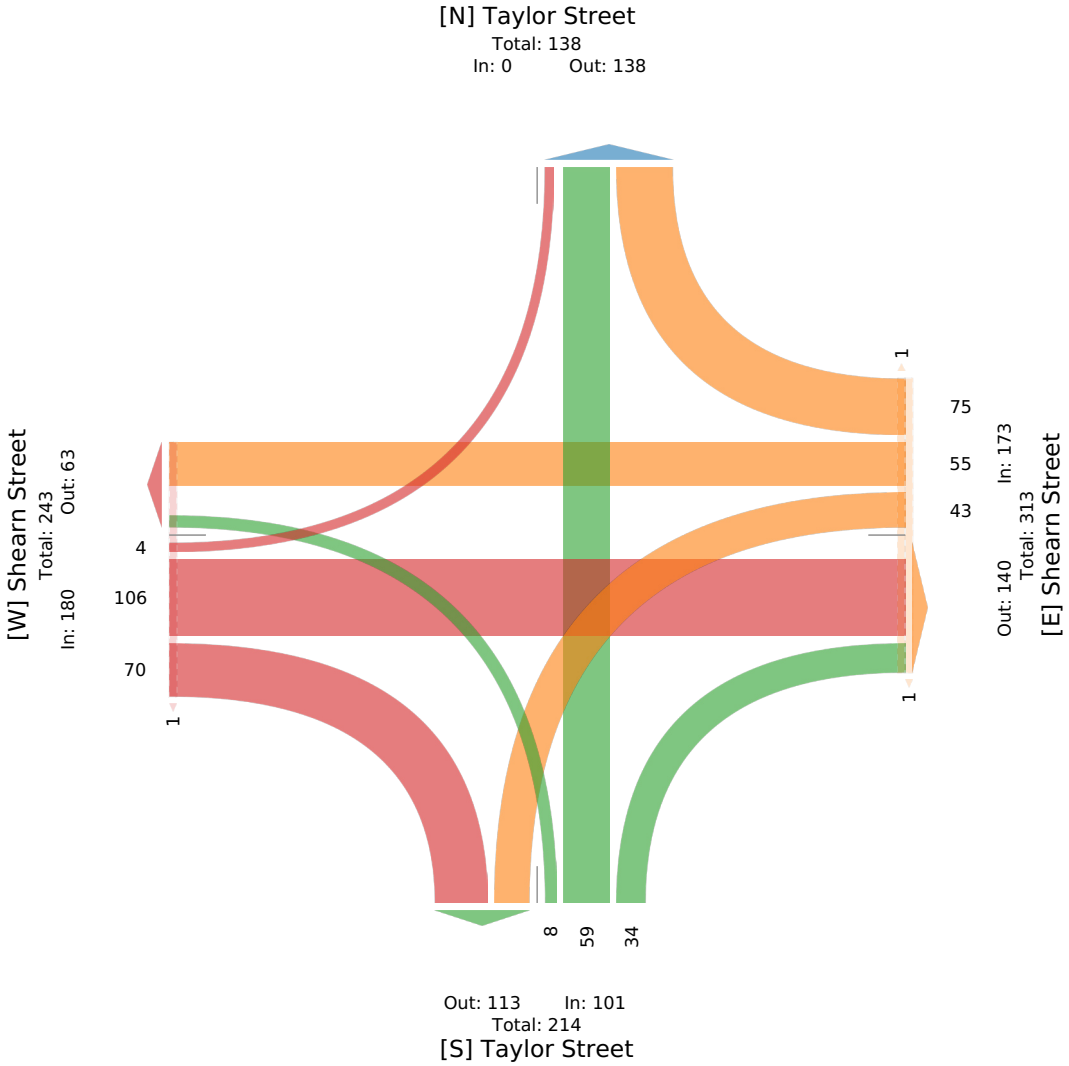
Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg / Direction	Taylor Street Southbound						Shearn Street Westbound						Taylor Street Northbound						Shearn Street Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2024-05-15 4:30PM	0	0	0	0	**0**	0	15	12	11	0	**38**	1	3	13	4	0	**20**	0	21	29	0	0	**50**	1	**108**
4:45PM	0	0	0	0	**0**	0	29	15	9	0	**53**	0	10	8	3	0	**21**	0	25	21	2	0	**48**	0	**122**
5:00PM	0	0	0	0	**0**	0	18	14	9	0	**41**	1	13	11	0	0	**24**	0	12	24	1	0	**37**	0	**102**
5:15PM	0	0	0	0	**0**	0	13	14	14	0	**41**	0	8	27	1	0	**36**	0	12	32	1	0	**45**	0	**122**
Total	0	0	0	0	**0**	0	75	55	43	0	**173**	2	34	59	8	0	**101**	0	70	106	4	0	**180**	1	**454**
% Approach	0%	0%	0%	0%	-	-	43.4%	31.8%	24.9%	0%	-	-	33.7%	58.4%	7.9%	0%	-	-	38.9%	58.9%	2.2%	0%	-	-	-
% Total	0%	0%	0%	0%	**0%**	-	16.5%	12.1%	9.5%	0%	**38.1%**	-	7.5%	13.0%	1.8%	0%	**22.2%**	-	15.4%	23.3%	0.9%	0%	**39.6%**	-	-
PHF	-	-	-	-	-	-	0.647	0.917	0.768	-	**0.816**	-	0.654	0.546	0.500	-	**0.701**	-	0.700	0.828	0.500	-	**0.900**	-	0.930
Lights	0	0	0	0	**0**	-	75	55	43	0	**173**	-	33	57	8	0	**98**	-	69	106	3	0	**178**	-	449
% Lights	0%	0%	0%	0%	-	-	100%	100%	100%	0%	**100%**	-	97.1%	96.6%	100%	0%	**97.0%**	-	98.6%	100%	75.0%	0%	**98.9%**	-	98.9%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	-	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1	2	0	0	**3**	-	1	0	1	0	**2**	-	5
% Buses and Single-Unit Trucks	0%	0%	0%	0%	-	-	0%	0%	0%	0%	**0%**	-	2.9%	3.4%	0%	0%	**3.0%**	-	1.4%	0%	25.0%	0%	**1.1%**	-	1.1%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

2. Shearn Street at Taylor Street - TMC
Wed May 15, 2024
PM Peak (4:30 PM - 5:30 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187645, Location: 29.774412, -95.381472

Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US



3. Houston Avenue at Crockett Street - TMC

Wed May 15, 2024
Full Length (7 AM-9 AM, 3 PM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187646, Location: 29.773703, -95.372422

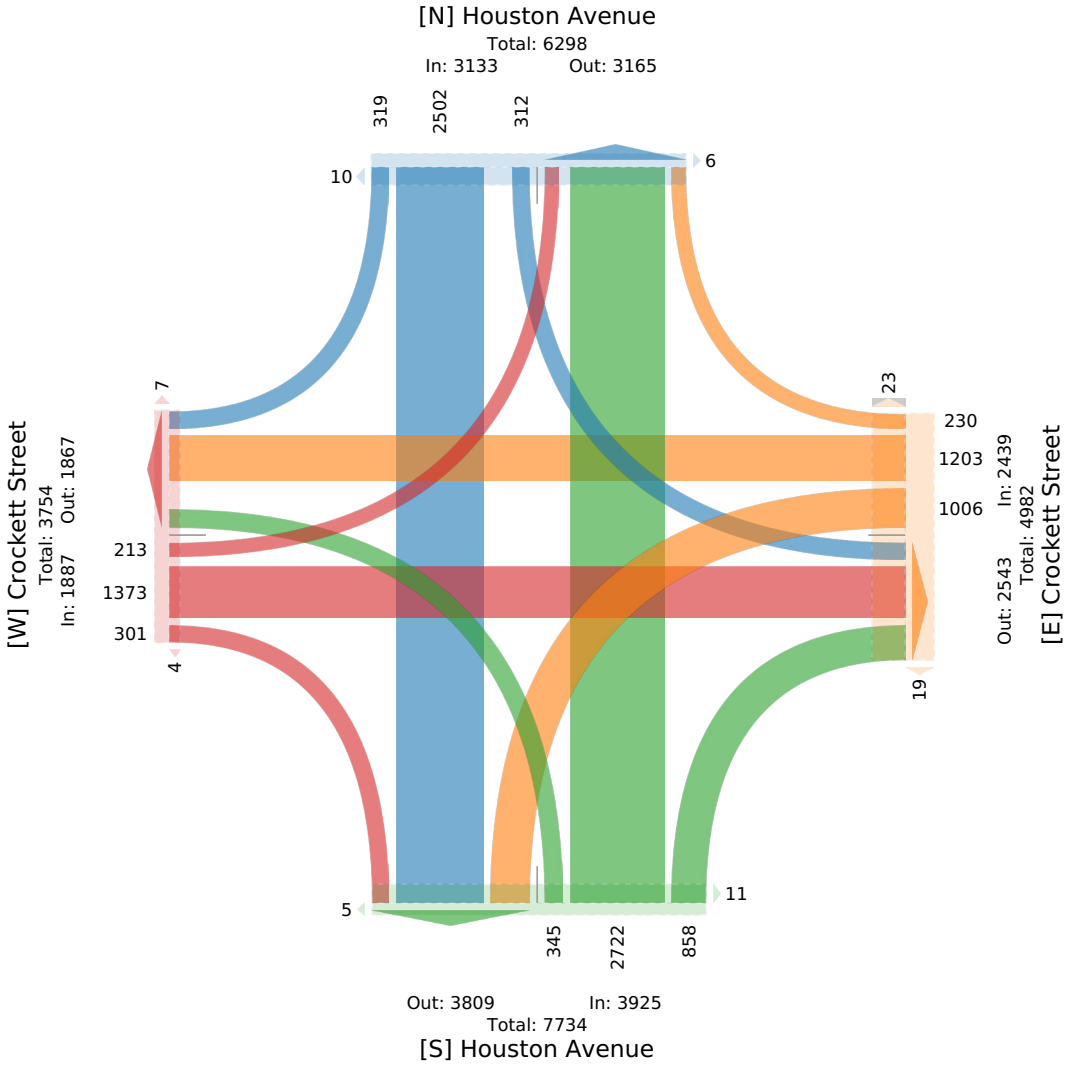
Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg Direction	Houston Avenue Southbound						Crockett Street Westbound						Houston Avenue Northbound						Crockett Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2024-05-15 7:00AM	74	457	39	0	**570**	2	26	222	226	0	**474**	3	50	186	34	0	**270**	3	43	84	28	0	**155**	2	**1469**
8:00AM	37	587	29	0	**653**	2	27	196	339	0	**562**	15	70	222	29	0	**321**	2	41	96	19	0	**156**	0	**1692**
3:00PM	52	282	54	0	**388**	4	40	139	113	0	**292**	2	180	448	64	0	**692**	0	57	263	34	0	**354**	0	**1726**
4:00PM	47	390	55	0	**492**	1	41	253	127	0	**421**	5	188	625	74	0	**887**	3	51	293	44	0	**388**	2	**2188**
5:00PM	61	430	56	0	**547**	5	50	235	117	0	**402**	4	217	803	102	0	**1122**	2	48	356	40	0	**444**	2	**2515**
6:00PM	48	356	79	0	**483**	2	46	158	84	0	**288**	13	153	438	42	0	**633**	6	61	281	48	0	**390**	5	**1794**
Total	319	2502	312	0	**3133**	16	230	1203	1006	0	**2439**	42	858	2722	345	0	**3925**	16	301	1373	213	0	**1887**	11	**11384**
% Approach	10.2%	79.9%	10.0%	0%	**-**	-	9.4%	49.3%	41.2%	0%	**-**	-	21.9%	69.4%	8.8%	0%	**-**	-	16.0%	72.8%	11.3%	0%	**-**	-	-
% Total	2.8%	22.0%	2.7%	0%	**27.5%**	-	2.0%	10.6%	8.8%	0%	**21.4%**	-	7.5%	23.9%	3.0%	0%	**34.5%**	-	2.6%	12.1%	1.9%	0%	**16.6%**	-	-
Lights	313	2447	308	0	**3068**	-	225	1193	979	0	**2397**	-	837	2664	337	0	**3838**	-	300	1368	208	0	**1876**	-	11179
% Lights	98.1%	97.8%	98.7%	0%	**97.9%**	-	97.8%	99.2%	97.3%	0%	**98.3%**	-	97.6%	97.9%	97.7%	0%	**97.8%**	-	99.7%	99.6%	97.7%	0%	**99.4%**	-	98.2%
Articulated Trucks	1	1	0	0	**2**	-	1	1	1	0	**3**	-	2	5	0	0	**7**	-	0	0	0	0	**0**	-	12
% Articulated Trucks	0.3%	0%	0%	0%	**0.1%**	-	0.4%	0.1%	0.1%	0%	**0.1%**	-	0.2%	0.2%	0%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Buses and Single-Unit Trucks	5	54	4	0	**63**	-	4	9	26	0	**39**	-	19	53	8	0	**80**	-	1	5	5	0	**11**	-	193
% Buses and Single-Unit Trucks	1.6%	2.2%	1.3%	0%	**2.0%**	-	1.7%	0.7%	2.6%	0%	**1.6%**	-	2.2%	1.9%	2.3%	0%	**2.0%**	-	0.3%	0.4%	2.3%	0%	**0.6%**	-	1.7%
Pedestrians	-	-	-	-	-	16	-	-	-	-	-	32	-	-	-	-	-	15	-	-	-	-	-	10	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	76.2%	-	-	-	-	-	93.8%	-	-	-	-	-	90.9%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	10	-	-	-	-	-	1	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	23.8%	-	-	-	-	-	6.3%	-	-	-	-	-	9.1%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

3. Houston Avenue at Crockett Street - TMC
Wed May 15, 2024
Full Length (7 AM-9 AM, 3 PM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187646, Location: 29.773703, -95.372422

Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US



3. Houston Avenue at Crockett Street - TMC

Wed May 15, 2024
AM Peak (7:45 AM - 8:45 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187646, Location: 29.773703, -95.372422

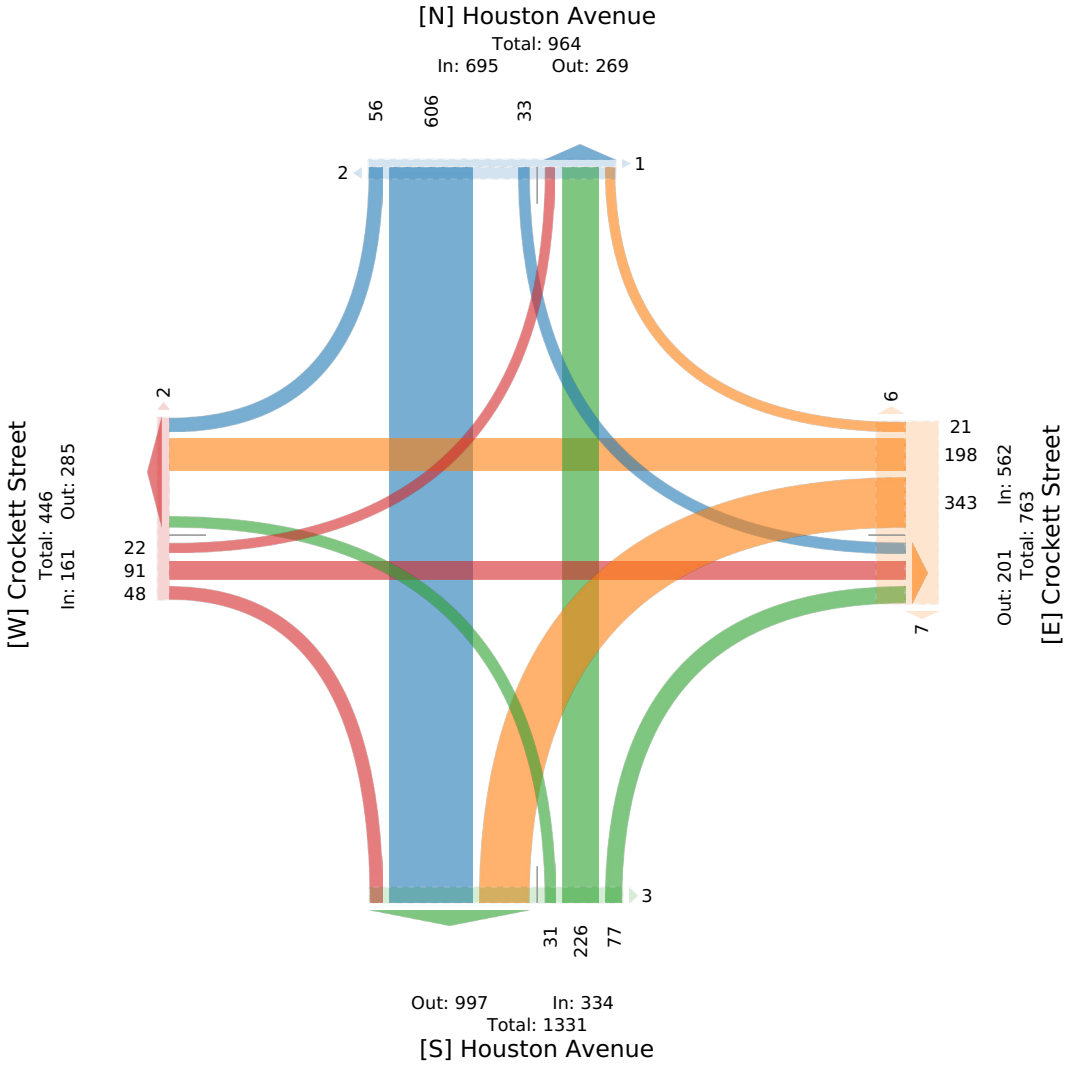
Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg / Direction	Houston Avenue Southbound						Crockett Street Westbound						Houston Avenue Northbound						Crockett Street Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2024-05-15 7:45AM	28	154	13	0	**195**	2	3	49	82	0	**134**	1	23	65	12	0	**100**	1	19	25	7	0	**51**	2	**480**
8:00AM	15	139	7	0	**161**	0	10	47	85	0	**142**	0	16	62	3	0	**81**	0	4	28	1	0	**33**	0	**417**
8:15AM	4	155	8	0	**167**	0	5	56	77	0	**138**	8	20	38	4	0	**62**	2	13	25	6	0	**44**	0	**411**
8:30AM	9	158	5	0	**172**	1	3	46	99	0	**148**	4	18	61	12	0	**91**	0	12	13	8	0	**33**	0	**444**
Total	56	606	33	0	**695**	3	21	198	343	0	**562**	13	77	226	31	0	**334**	3	48	91	22	0	**161**	2	**1752**
% Approach	8.1%	87.2%	4.7%	0%	**-**	-	3.7%	35.2%	61.0%	0%	**-**	-	23.1%	67.7%	9.3%	0%	**-**	-	29.8%	56.5%	13.7%	0%	**-**	-	-
% Total	3.2%	34.6%	1.9%	0%	**39.7%**	-	1.2%	11.3%	19.6%	0%	**32.1%**	-	4.4%	12.9%	1.8%	0%	**19.1%**	-	2.7%	5.2%	1.3%	0%	**9.2%**	-	-
PHF	0.500	0.959	0.635	-	**0.891**	-	0.525	0.884	0.866	-	**0.949**	-	0.837	0.869	0.646	-	**0.835**	-	0.632	0.813	0.688	-	**0.789**	-	0.913
Lights	55	587	33	0	**675**	-	20	194	334	0	**548**	-	77	214	28	0	**319**	-	48	89	22	0	**159**	-	1701
% Lights	98.2%	96.9%	100%	0%	**97.1%**	-	95.2%	98.0%	97.4%	0%	**97.5%**	-	100%	94.7%	90.3%	0%	**95.5%**	-	100%	97.8%	100%	0%	**98.8%**	-	97.1%
Articulated Trucks	1	1	0	0	**2**	-	1	0	1	0	**2**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	5
% Articulated Trucks	1.8%	0.2%	0%	0%	**0.3%**	-	4.8%	0%	0.3%	0%	**0.4%**	-	0%	0.4%	0%	0%	**0.3%**	-	0%	0%	0%	0%	**0%**	-	0.3%
Buses and Single-Unit Trucks	0	18	0	0	**18**	-	0	4	8	0	**12**	-	0	11	3	0	**14**	-	0	2	0	0	**2**	-	46
% Buses and Single-Unit Trucks	0%	3.0%	0%	0%	**2.6%**	-	0%	2.0%	2.3%	0%	**2.1%**	-	0%	4.9%	9.7%	0%	**4.2%**	-	0%	2.2%	0%	0%	**1.2%**	-	2.6%
Pedestrians	-	-	-	-	-	3	-	-	-	-	-	12	-	-	-	-	-	3	-	-	-	-	-	2	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	92.3%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	7.7%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

3. Houston Avenue at Crockett Street - TMC
Wed May 15, 2024
AM Peak (7:45 AM - 8:45 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187646, Location: 29.773703, -95.372422

Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US



3. Houston Avenue at Crockett Street - TMC

Wed May 15, 2024
PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187646, Location: 29.773703, -95.372422

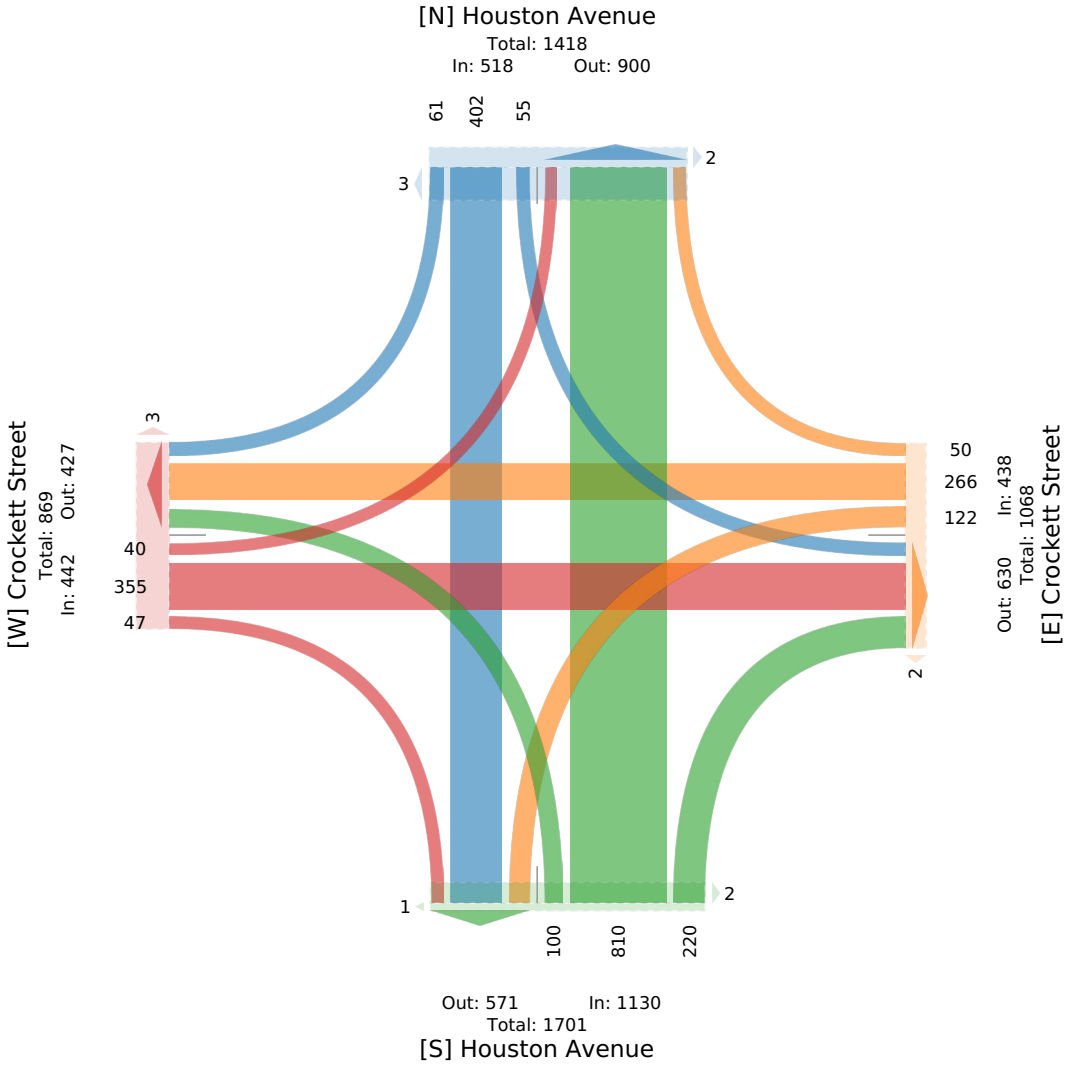
Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg / Direction	Houston Avenue Southbound						Crockett Street Westbound						Houston Avenue Northbound						Crockett Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2024-05-15 4:45PM	18	68	13	0	**99**	0	8	87	32	0	**127**	1	56	171	16	0	**243**	1	11	82	8	0	**101**	1	**570**
5:00PM	15	99	11	0	**125**	0	16	65	26	0	**107**	0	54	235	19	0	**308**	0	9	93	13	0	**115**	0	**655**
5:15PM	16	125	18	0	**159**	3	15	58	36	0	**109**	1	64	192	33	0	**289**	1	12	84	12	0	**108**	0	**665**
5:30PM	12	110	13	0	**135**	2	11	56	28	0	**95**	0	46	212	32	0	**290**	1	15	96	7	0	**118**	2	**638**
Total	61	402	55	0	**518**	5	50	266	122	0	**438**	2	220	810	100	0	**1130**	3	47	355	40	0	**442**	3	**2528**
% Approach	11.8%	77.6%	10.6%	0%	**-**	-	11.4%	60.7%	27.9%	0%	**-**	-	19.5%	71.7%	8.8%	0%	**-**	-	10.6%	80.3%	9.0%	0%	**-**	-	-
% Total	2.4%	15.9%	2.2%	0%	**20.5%**	-	2.0%	10.5%	4.8%	0%	**17.3%**	-	8.7%	32.0%	4.0%	0%	**44.7%**	-	1.9%	14.0%	1.6%	0%	**17.5%**	-	-
PHF	0.847	0.804	0.764	-	**0.814**	-	0.781	0.764	0.847	-	**0.862**	-	0.859	0.862	0.758	-	**0.917**	-	0.783	0.924	0.769	-	**0.936**	-	0.950
Lights	57	393	54	0	**504**	-	49	266	121	0	**436**	-	219	798	98	0	**1115**	-	47	354	40	0	**441**	-	2496
% Lights	93.4%	97.8%	98.2%	0%	**97.3%**	-	98.0%	100%	99.2%	0%	**99.5%**	-	99.5%	98.5%	98.0%	0%	**98.7%**	-	100%	99.7%	100%	0%	**99.8%**	-	98.7%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	4	9	1	0	**14**	-	1	0	1	0	**2**	-	1	12	2	0	**15**	-	0	1	0	0	**1**	-	32
% Buses and Single-Unit Trucks	6.6%	2.2%	1.8%	0%	**2.7%**	-	2.0%	0%	0.8%	0%	**0.5%**	-	0.5%	1.5%	2.0%	0%	**1.3%**	-	0%	0.3%	0%	0%	**0.2%**	-	1.3%
Pedestrians	-	-	-	-	-	5	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	3	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	50.0%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	50.0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

3. Houston Avenue at Crockett Street - TMC
Wed May 15, 2024
PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187646, Location: 29.773703, -95.372422

Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US



4. Houston Avenue at Edwards Street - TMC

Wed May 15, 2024
Full Length (7 AM-9 AM, 3 PM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187647, Location: 29.770784, -95.372379

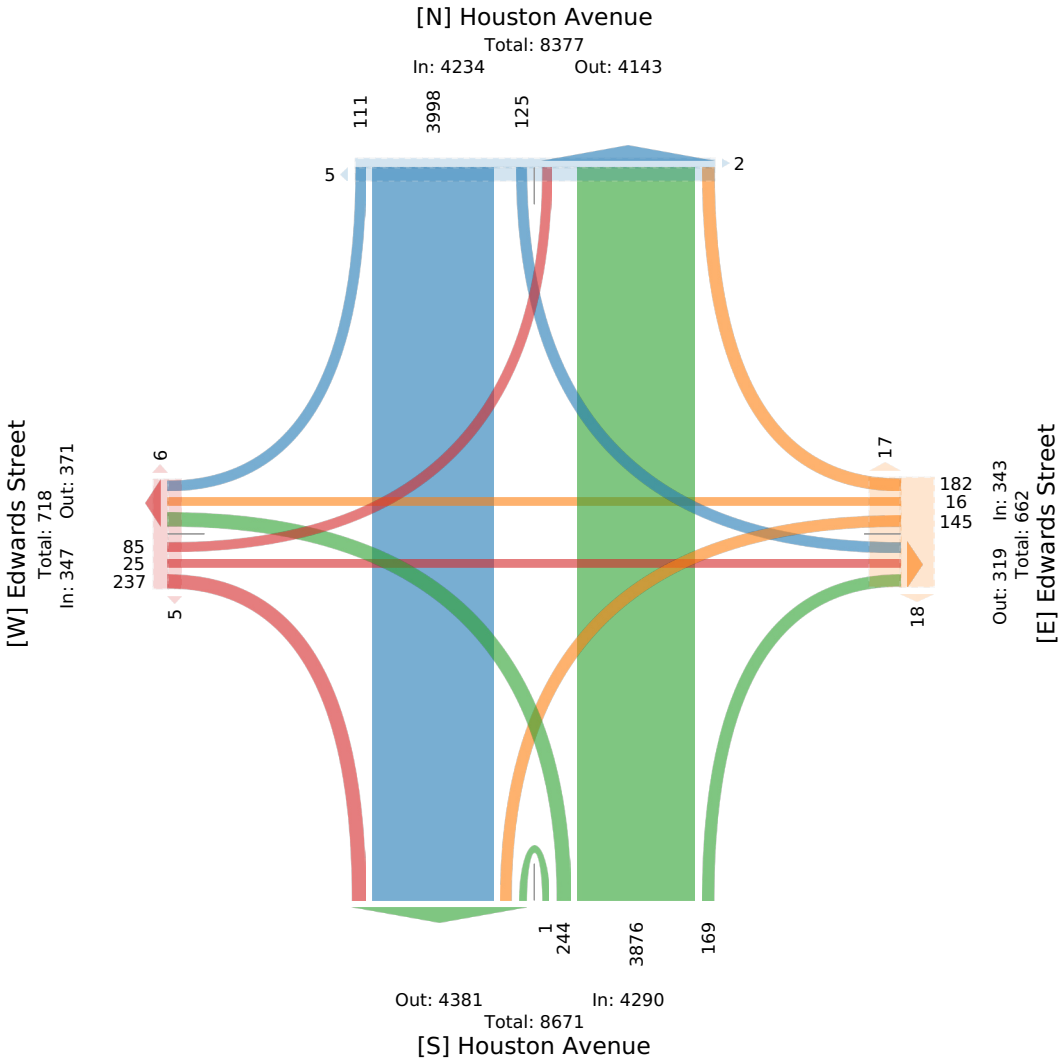
Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg / Direction	Houston Avenue Southbound						Edwards Street Westbound						Houston Avenue Northbound						Edwards Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2024-05-15 7:00AM	14	836	9	0	**859**	1	24	6	23	0	**53**	1	21	254	21	0	**296**	0	44	4	6	0	**54**	2	**1262**
8:00AM	36	1032	18	0	**1086**	0	35	2	26	0	**63**	3	18	298	30	0	**346**	0	48	3	8	0	**59**	1	**1554**
3:00PM	8	476	17	0	**501**	0	24	3	19	0	**46**	3	37	668	31	1	**737**	0	32	6	13	0	**51**	1	**1335**
4:00PM	12	577	32	0	**621**	1	33	2	26	0	**61**	11	27	1010	50	0	**1087**	0	39	4	19	0	**62**	0	**1831**
5:00PM	24	592	27	0	**643**	0	38	2	29	0	**69**	9	43	1052	53	0	**1148**	0	38	3	26	0	**67**	3	**1927**
6:00PM	17	485	22	0	**524**	5	28	1	22	0	**51**	8	23	594	59	0	**676**	0	36	5	13	0	**54**	4	**1305**
Total	111	3998	125	0	**4234**	7	182	16	145	0	**343**	35	169	3876	244	1	**4290**	0	237	25	85	0	**347**	11	**9214**
% Approach	2.6%	94.4%	3.0%	0%	**-**	-	53.1%	4.7%	42.3%	0%	**-**	-	3.9%	90.3%	5.7%	0%	**-**	-	68.3%	7.2%	24.5%	0%	**-**	-	-
% Total	1.2%	43.4%	1.4%	0%	**46.0%**	-	2.0%	0.2%	1.6%	0%	**3.7%**	-	1.8%	42.1%	2.6%	0%	**46.6%**	-	2.6%	0.3%	0.9%	0%	**3.8%**	-	-
Lights	106	3923	123	0	**4152**	-	177	15	143	0	**335**	-	168	3806	242	1	**4217**	-	234	25	82	0	**341**	-	9045
% Lights	95.5%	98.1%	98.4%	0%	**98.1%**	-	97.3%	93.8%	98.6%	0%	**97.7%**	-	99.4%	98.2%	99.2%	100%	**98.3%**	-	98.7%	100%	96.5%	0%	**98.3%**	-	98.2%
Articulated Trucks	2	4	0	0	**6**	-	0	0	0	0	**0**	-	0	6	0	0	**6**	-	0	0	1	0	**1**	-	13
% Articulated Trucks	1.8%	0.1%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0.2%	0%	0%	**0.1%**	-	0%	0%	1.2%	0%	**0.3%**	-	0.1%
Buses and Single-Unit Trucks	3	71	2	0	**76**	-	5	1	2	0	**8**	-	1	64	2	0	**67**	-	3	0	2	0	**5**	-	156
% Buses and Single-Unit Trucks	2.7%	1.8%	1.6%	0%	**1.8%**	-	2.7%	6.3%	1.4%	0%	**2.3%**	-	0.6%	1.7%	0.8%	0%	**1.6%**	-	1.3%	0%	2.4%	0%	**1.4%**	-	1.7%
Pedestrians	-	-	-	-	-	7	-	-	-	-	-	31	-	-	-	-	-	0	-	-	-	-	-	11	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	88.6%	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	11.4%	-	-	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

4. Houston Avenue at Edwards Street - TMC
Wed May 15, 2024
Full Length (7 AM-9 AM, 3 PM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187647, Location: 29.770784, -95.372379

CJ Hensch & Associates, Inc.
Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US



4. Houston Avenue at Edwards Street - TMC

Wed May 15, 2024
AM Peak (7:45 AM - 8:45 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187647, Location: 29.770784, -95.372379

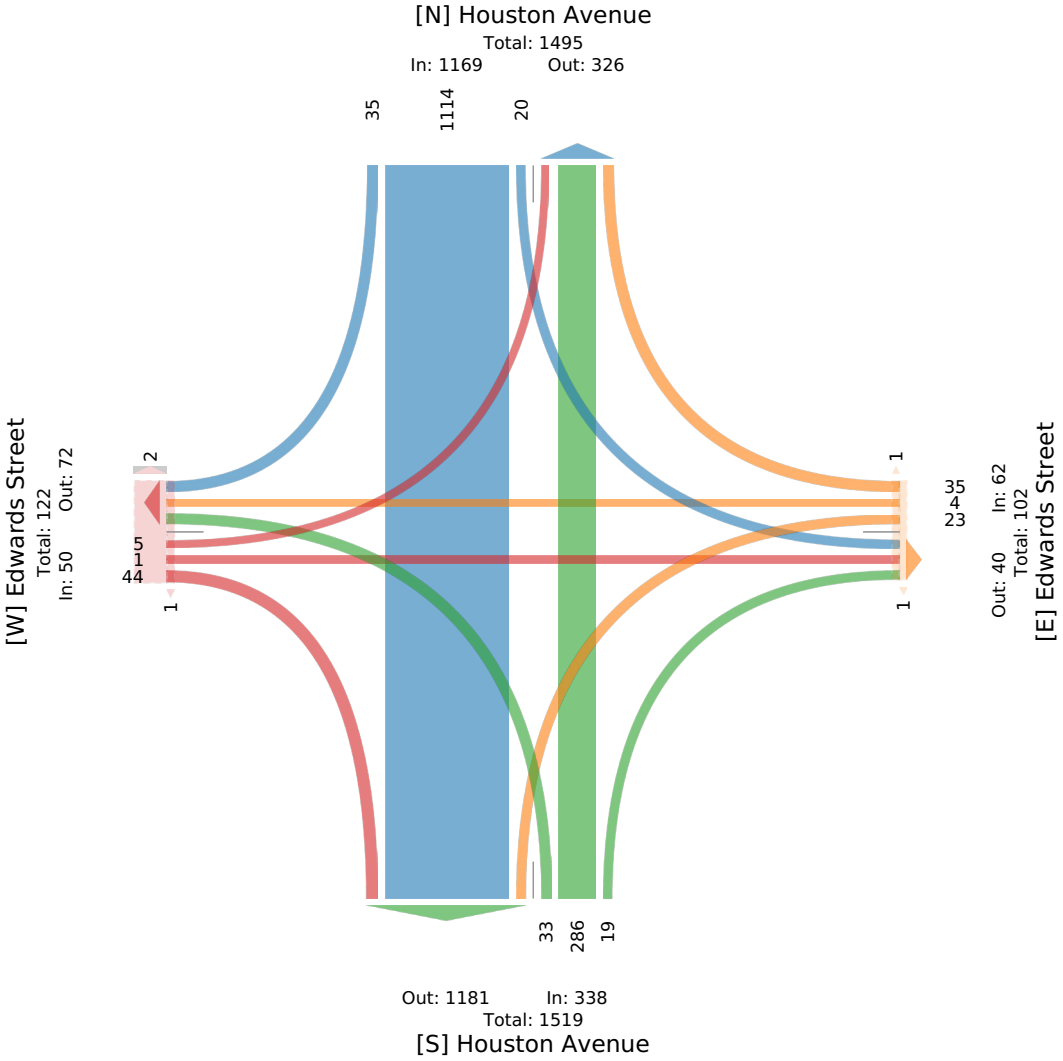
Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg / Direction	Houston Avenue Southbound						Edwards Street Westbound						Houston Avenue Northbound						Edwards Street Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2024-05-15 7:45AM	6	319	3	0	**328**	0	6	2	3	0	**11**	0	6	77	8	0	**91**	0	7	0	0	0	**7**	2	**437**
8:00AM	9	260	3	0	**272**	0	12	1	11	0	**24**	0	7	65	11	0	**83**	0	13	1	2	0	**16**	0	**395**
8:15AM	7	245	5	0	**257**	0	11	1	3	0	**15**	0	5	65	5	0	**75**	0	13	0	0	0	**13**	1	**360**
8:30AM	13	290	9	0	**312**	0	6	0	6	0	**12**	2	1	79	9	0	**89**	0	11	0	3	0	**14**	0	**427**
Total	35	1114	20	0	**1169**	0	35	4	23	0	**62**	2	19	286	33	0	**338**	0	44	1	5	0	**50**	3	**1619**
% Approach	3.0%	95.3%	1.7%	0%	**-**	-	56.5%	6.5%	37.1%	0%	**-**	-	5.6%	84.6%	9.8%	0%	**-**	-	88.0%	2.0%	10.0%	0%	**-**	-	-
% Total	2.2%	68.8%	1.2%	0%	**72.2%**	-	2.2%	0.2%	1.4%	0%	**3.8%**	-	1.2%	17.7%	2.0%	0%	**20.9%**	-	2.7%	0.1%	0.3%	0%	**3.1%**	-	-
PHF	0.673	0.873	0.556	-	**0.891**	-	0.729	0.500	0.523	-	**0.646**	-	0.679	0.905	0.750	-	**0.929**	-	0.846	0.250	0.417	-	**0.781**	-	0.926
Lights	33	1089	19	0	**1141**	-	34	3	22	0	**59**	-	18	275	32	0	**325**	-	44	1	4	0	**49**	-	1574
% Lights	94.3%	97.8%	95.0%	0%	**97.6%**	-	97.1%	75.0%	95.7%	0%	**95.2%**	-	94.7%	96.2%	97.0%	0%	**96.2%**	-	100%	100%	80.0%	0%	**98.0%**	-	97.2%
Articulated Trucks	2	2	0	0	**4**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	5
% Articulated Trucks	5.7%	0.2%	0%	0%	**0.3%**	-	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.3%**	-	0%	0%	0%	0%	**0%**	-	0.3%
Buses and Single-Unit Trucks	0	23	1	0	**24**	-	1	1	1	0	**3**	-	1	10	1	0	**12**	-	0	0	1	0	**1**	-	40
% Buses and Single-Unit Trucks	0%	2.1%	5.0%	0%	**2.1%**	-	2.9%	25.0%	4.3%	0%	**4.8%**	-	5.3%	3.5%	3.0%	0%	**3.6%**	-	0%	0%	20.0%	0%	**2.0%**	-	2.5%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	3	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

4. Houston Avenue at Edwards Street - TMC
Wed May 15, 2024
AM Peak (7:45 AM - 8:45 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187647, Location: 29.770784, -95.372379

Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US



4. Houston Avenue at Edwards Street - TMC

Wed May 15, 2024
PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187647, Location: 29.770784, -95.372379

Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg / Direction	Houston Avenue Southbound						Edwards Street Westbound						Houston Avenue Northbound						Edwards Street Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2024-05-15 4:45PM	3	105	5	0	**113**	1	5	2	2	0	**9**	0	9	288	17	0	**314**	0	4	1	4	0	**9**	0	**445**
5:00PM	6	137	2	0	**145**	0	5	2	12	0	**19**	0	13	307	11	0	**331**	0	12	1	7	0	**20**	0	**515**
5:15PM	4	167	13	0	**184**	0	12	0	7	0	**19**	5	10	257	13	0	**280**	0	6	1	6	0	**13**	0	**496**
5:30PM	4	153	8	0	**165**	0	18	0	8	0	**26**	2	7	269	16	0	**292**	0	10	0	8	0	**18**	2	**501**
Total	17	562	28	0	**607**	1	40	4	29	0	**73**	7	39	1121	57	0	**1217**	0	32	3	25	0	**60**	2	**1957**
% Approach	2.8%	92.6%	4.6%	0%	**-**	-	54.8%	5.5%	39.7%	0%	**-**	-	3.2%	92.1%	4.7%	0%	**-**	-	53.3%	5.0%	41.7%	0%	**-**	-	-
% Total	0.9%	28.7%	1.4%	0%	**31.0%**	-	2.0%	0.2%	1.5%	0%	**3.7%**	-	2.0%	57.3%	2.9%	0%	**62.2%**	-	1.6%	0.2%	1.3%	0%	**3.1%**	-	-
PHF	0.708	0.841	0.538	-	**0.825**	-	0.556	0.500	0.604	-	**0.702**	-	0.750	0.913	0.838	-	**0.919**	-	0.667	0.750	0.781	-	**0.750**	-	0.950
Lights	16	554	28	0	**598**	-	39	4	29	0	**72**	-	39	1106	57	0	**1202**	-	32	3	25	0	**60**	-	1932
% Lights	94.1%	98.6%	100%	0%	**98.5%**	-	97.5%	100%	100%	0%	**98.6%**	-	100%	98.7%	100%	0%	**98.8%**	-	100%	100%	100%	0%	**100%**	-	98.7%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	1
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Buses and Single-Unit Trucks	1	8	0	0	**9**	-	1	0	0	0	**1**	-	0	14	0	0	**14**	-	0	0	0	0	**0**	-	24
% Buses and Single-Unit Trucks	5.9%	1.4%	0%	0%	**1.5%**	-	2.5%	0%	0%	0%	**1.4%**	-	0%	1.2%	0%	0%	**1.2%**	-	0%	0%	0%	0%	**0%**	-	1.2%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	7	-	-	-	-	-	0	-	-	-	-	-	2	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

4. Houston Avenue at Edwards Street - TMC
Wed May 15, 2024
PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 1187647, Location: 29.770784, -95.372379

Provided by: C. J. Hensch & Associates Inc.
5215 Sycamore Ave.,
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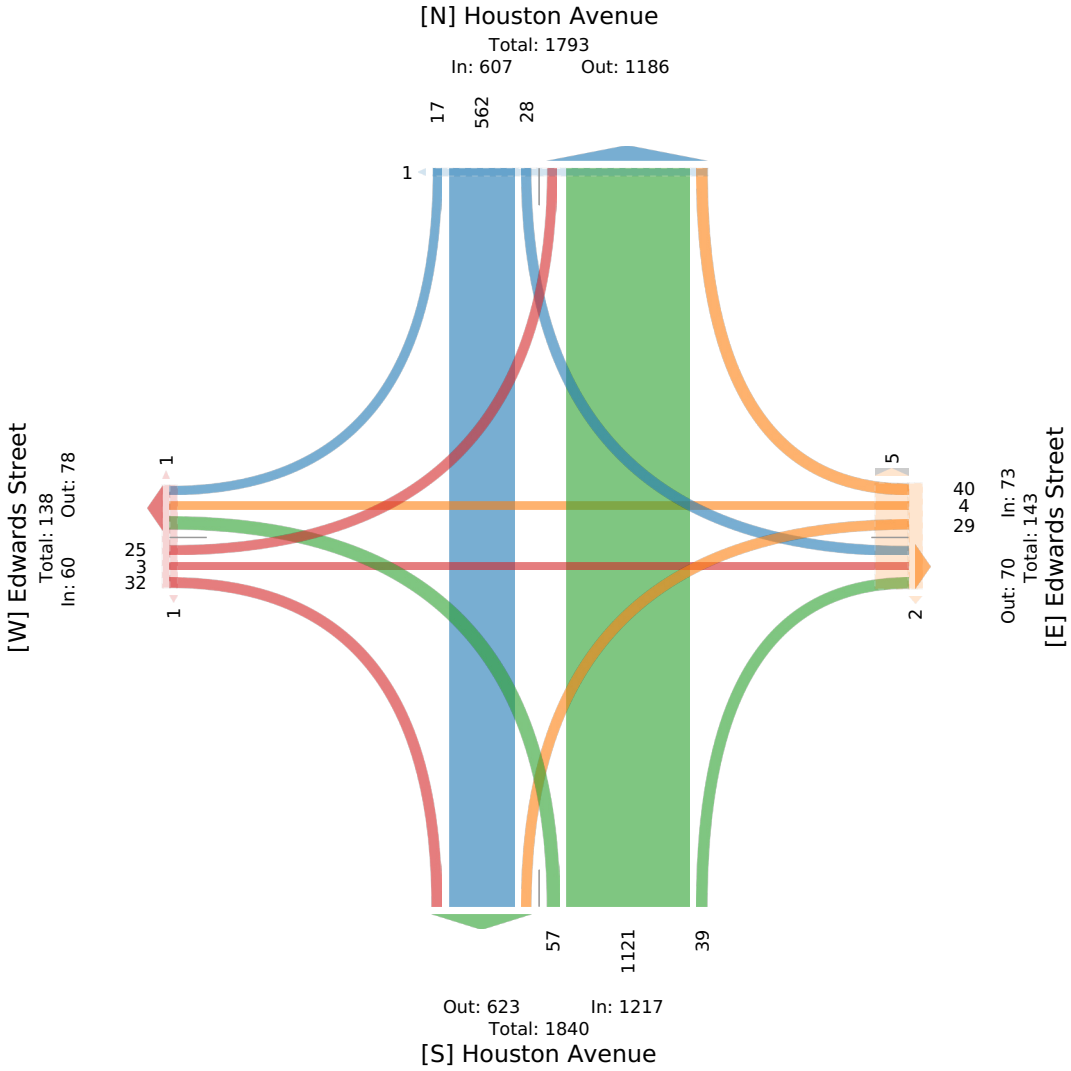

CJ Hensch & Associates, Inc.

TRAFFIC DATA REPORT
SPEED STUDY

Location: Shearn St west of Silver St
Start Date: 5/21/2024

Direction: Westbound

5/21/2024 Time	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
0:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:00	1	1	0	0	0	0	0	0	0	0	0	0	0	2
4:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	2	0	0	0	0	0	0	0	0	0	0	0	3
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
5:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	1	2	0	0	0	0	0	0	0	0	0	0	0	3
6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	2	2	1	0	0	0	0	0	0	0	0	0	0	5
6:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2
6:45	0	4	1	0	0	0	0	0	0	0	0	0	0	5
	2	8	2	0	0	0	0	0	0	0	0	0	0	12
7:00	8	1	0	0	0	0	0	0	0	0	0	0	0	9
7:15	5	12	0	0	0	0	0	0	0	0	0	0	0	17
7:30	2	3	1	0	0	0	0	0	0	0	0	0	0	6
7:45	1	6	2	0	0	0	0	0	0	0	0	0	0	9
	16	22	3	0	0	0	0	0	0	0	0	0	0	41
8:00	4	3	3	0	0	0	0	0	0	0	0	0	0	10
8:15	2	5	0	0	0	0	0	0	0	0	0	0	0	7
8:30	4	2	1	0	0	0	0	0	0	0	0	0	0	7
8:45	5	2	1	0	0	0	0	0	0	0	0	0	0	8
	15	12	5	0	0	0	0	0	0	0	0	0	0	32
9:00	3	6	4	0	0	0	0	0	0	0	0	0	0	13
9:15	6	6	2	0	0	0	0	0	0	0	0	0	0	14
9:30	0	3	1	0	0	0	0	0	0	0	0	0	0	4
9:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5
	9	20	7	0	0	0	0	0	0	0	0	0	0	36
10:00	2	3	0	0	0	0	0	0	0	0	0	0	0	5
10:15	1	1	1	0	0	0	0	0	0	0	0	0	0	3
10:30	2	4	3	0	0	0	0	0	0	0	0	0	0	9
10:45	2	3	0	0	0	0	0	0	0	0	0	0	0	5
	7	11	4	0	0	0	0	0	0	0	0	0	0	22
11:00	4	4	0	0	0	0	0	0	0	0	0	0	0	8
11:15	2	2	2	0	0	0	0	0	0	0	0	0	0	6
11:30	2	4	1	0	0	0	0	0	0	0	0	0	0	7
11:45	6	3	2	0	0	0	0	0	0	0	0	0	0	11
	14	13	5	0	0	0	0	0	0	0	0	0	0	32
12:00	2	13	2	0	0	0	0	0	0	0	0	0	0	17

1

CJ Hensch & Associates, Inc.

TRAFFIC DATA REPORT
SPEED STUDY

Location: Shearn St west of Silver St
Start Date: 5/21/2024

12:15	4	5	2	0	0	0	0	0	0	0	0	0	0	11
12:30	1	9	2	0	0	0	0	0	0	0	0	0	0	12
12:45	3	7	0	0	0	0	0	0	0	0	0	0	0	10
	10	34	6	0	0	0	0	0	0	0	0	0	0	50
13:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
13:15	1	8	2	0	0	0	0	0	0	0	0	0	0	11
13:30	2	3	3	0	0	0	0	0	0	0	0	0	0	8
13:45	2	6	0	0	0	0	0	0	0	0	0	0	0	8
	5	23	5	0	0	0	0	0	0	0	0	0	0	33
14:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
14:15	2	6	1	0	0	0	0	0	0	0	0	0	0	9
14:30	6	8	1	0	0	0	0	0	0	0	0	0	0	15
14:45	6	10	1	0	0	0	0	0	0	0	0	0	0	17
	14	30	3	0	0	0	0	0	0	0	0	0	0	47
15:00	5	4	0	0	0	0	0	0	0	0	0	0	0	9
15:15	2	3	2	0	0	0	0	0	0	0	0	0	0	7
15:30	1	6	0	0	0	0	0	0	0	0	0	0	0	7
15:45	1	5	1	0	0	0	0	0	0	0	0	0	0	7
	9	18	3	0	0	0	0	0	0	0	0	0	0	30
16:00	3	2	2	0	0	0	0	0	0	0	0	0	0	7
16:15	4	3	0	1	0	0	0	0	0	0	0	0	0	8
16:30	2	5	0	0	1	0	0	0	0	0	0	0	0	8
16:45	2	6	3	0	0	0	0	0	0	0	0	0	0	11
	11	16	5	1	1	0	0	0	0	0	0	0	0	34
17:00	1	3	4	0	0	0	0	0	0	0	0	0	0	8
17:15	5	12	1	0	0	0	0	0	0	0	0	0	0	18
17:30	3	10	3	0	0	0	0	0	0	0	0	0	0	16
17:45	4	3	0	0	0	0	0	0	0	0	0	0	0	7
	13	28	8	0	0	0	0	0	0	0	0	0	0	49
18:00	5	5	1	0	0	0	0	0	0	0	0	0	0	11
18:15	2	5	2	0	0	0	0	0	0	0	0	0	0	9
18:30	1	3	0	0	0	0	0	0	0	0	0	0	0	4
18:45	1	4	0	0	0	0	0	0	0	0	0	0	0	5
	9	17	3	0	0	0	0	0	0	0	0	0	0	29
19:00	2	3	1	0	0	0	0	0	0	0	0	0	0	6
19:15	2	2	0	0	0	0	0	0	0	0	0	0	0	4
19:30	2	0	0	0	0	0	0	0	0	0	0	0	0	2
19:45	3	5	1	0	0	0	0	0	0	0	0	0	0	9
	9	10	2	0	0	0	0	0	0	0	0	0	0	21
20:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1
20:15	4	4	1	0	0	0	0	0	0	0	0	0	0	9
20:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3
20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	7	1	0	0	0	0	0	0	0	0	0	0	13
21:00	1	2	0	0	0	0	0	0	0	0	0	0	0	3
21:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2
21:30	0	3	1	0	0	0	0	0	0	0	0	0	0	4
21:45	1	2	0	0	0	0	0	0	0	0	0	0	0	3
	2	9	1	0	0	0	0	0	0	0	0	0	0	12
22:00	2	1	0	0	0	0	0	0	0	0	0	0	0	3
22:15	0	0	1	0	0	0	0	0	0	0	0	0	0	1
22:30	0	1	1	0	0	0	0	0	0	0	0	0	0	2
22:45	0	0	2	0	0	0	0	0	0	0	0	0	0	2
	2	2	4	0	0	0	0	0	0	0	0	0	0	8
23:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
23:15	2	0	0	0	0	0	0	0	0	0	0	0	0	2
23:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:45	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	3	1	1	0	0	0	0	0	0	0	0	0	0	5
Total	158	286	68	1	1	0	0	0	0	0	0	0	0	514

Percentile	15th	50th	85th	95th
Speed	11	16	19	20
Mean Speed (Average)	16.9			
10 MPH Pace Speed	13-22			

2

CJ Hensch & Associates, Inc.

TRAFFIC DATA REPORT
SPEED STUDY

Location: Shearn St west of Silver St
Start Date: 5/21/2024

Number in Pace	467
Percent in Pace	91.0%
Number > 30 MPH	1
Percent > 30 MPH	0.2%

CJ Henson & Associates, Inc.

TRAFFIC DATA REPORT
SPEED STUDY

Location: Shearn St west of Silver St
Start Date: 5/21/2024

Direction: Eastbound

5/21/2024 Time	0 - 15 MPH	> 15 - 20 MPH	> 20 - 25 MPH	> 25 - 30 MPH	> 30 - 35 MPH	> 35 - 40 MPH	> 40 - 45 MPH	> 45 - 50 MPH	> 50 - 55 MPH	> 55 - 60 MPH	> 60 - 65 MPH	> 65 - 70 MPH	> 70 MPH	Total
0:00	0	0	0	2	0	0	0	0	0	0	0	0	0	2
0:15	0	0	1	2	0	0	0	0	0	0	0	0	0	3
0:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	1	4	0	0	0	0	0	0	0	0	0	5
1:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30	0	0	0	0	0	1	0	0	0	0	0	0	0	1
3:45	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	0	1	0	1	0	1	0	0	0	0	0	0	0	3
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1
4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	0	1	0	1	0	0	0	0	0	0	0	0	0	2
5:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2
5:15	0	2	0	1	0	0	0	0	0	0	0	0	0	3
5:30	1	1	4	0	1	0	0	0	0	0	0	0	0	7
5:45	0	0	0	0	1	0	0	0	0	0	0	0	0	1
	1	3	5	2	2	0	0	0	0	0	0	0	0	13
6:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
6:15	1	1	3	3	0	0	0	0	0	0	0	0	0	8
6:30	0	2	4	1	0	0	0	0	0	0	0	0	0	7
6:45	2	3	5	0	2	0	0	0	0	0	0	0	0	12
	3	6	12	5	2	0	0	0	0	0	0	0	0	28
7:00	5	4	3	2	0	0	0	0	0	0	0	0	0	14
7:15	4	6	6	3	0	0	0	0	0	0	0	0	0	19
7:30	3	9	12	5	2	0	0	0	0	0	0	0	0	31
7:45	1	2	9	11	0	0	0	0	0	0	0	0	0	23
	13	21	30	21	2	0	0	0	0	0	0	0	0	87
8:00	2	5	8	4	0	0	0	0	0	0	0	1	0	20
8:15	1	6	9	3	2	0	0	0	0	0	0	0	0	21
8:30	1	3	5	1	2	0	0	0	0	0	0	0	0	12
8:45	1	4	9	3	0	1	0	0	0	0	0	0	0	18
	5	18	31	11	4	1	0	0	0	0	0	1	0	71
9:00	0	2	3	1	0	0	0	0	0	0	0	0	0	6
9:15	1	5	4	4	0	0	0	0	0	0	0	0	0	14
9:30	0	2	3	8	2	0	0	0	0	0	0	0	0	15
9:45	2	4	3	3	1	0	0	0	0	0	0	0	0	13
	3	13	13	16	3	0	0	0	0	0	0	0	0	48
10:00	0	2	6	3	1	1	0	0	0	0	0	0	0	13
10:15	0	4	7	4	0	0	0	0	0	0	0	0	0	15
10:30	1	3	9	3	0	0	0	0	0	0	0	0	0	16
10:45	2	5	9	2	0	0	0	0	0	0	0	0	0	18
	3	14	31	12	1	1	0	0	0	0	0	0	0	62
11:00	1	6	6	3	1	0	0	0	0	0	0	0	0	17
11:15	1	4	11	2	1	0	0	0	0	0	0	0	0	19
11:30	0	5	6	5	1	0	0	0	0	0	0	0	0	17
11:45	2	2	11	5	0	0	0	0	0	0	0	0	0	20
	4	17	34	15	3	0	0	0	0	0	0	0	0	73
12:00	1	4	5	4	1	0	0	0	0	0	0	0	0	15

1

CJ Hensch & Associates, Inc.

TRAFFIC DATA REPORT
SPEED STUDY

Location: Shearn St west of Silver St
Start Date: 5/21/2024

12:15	2	4	5	6	0	0	0	0	0	0	0	0	0	17
12:30	1	3	2	4	0	0	0	0	0	0	0	0	0	10
12:45	2	3	5	12	0	0	0	0	0	0	0	0	0	22
	6	14	17	26	1	0	0	0	0	0	0	0	0	64
13:00	0	0	11	6	0	0	0	0	0	0	0	0	0	17
13:15	1	4	16	3	0	0	0	0	0	0	0	0	0	24
13:30	2	5	9	5	0	0	0	0	0	0	0	0	0	21
13:45	1	2	4	1	2	0	0	0	0	0	0	0	0	10
	4	11	40	15	2	0	0	0	0	0	0	0	0	72
14:00	0	2	3	2	1	0	1	0	0	0	0	0	0	9
14:15	1	3	8	2	0	0	0	0	0	0	0	0	0	14
14:30	2	4	1	4	1	0	0	0	0	0	0	0	0	12
14:45	8	11	6	2	0	0	0	0	0	0	0	0	0	27
	11	20	18	10	2	0	1	0	0	0	0	0	0	62
15:00	3	6	14	3	2	0	0	0	0	0	0	0	0	28
15:15	1	1	8	4	0	0	0	0	0	0	0	0	0	14
15:30	0	6	9	3	2	0	0	0	0	0	0	0	0	20
15:45	1	4	2	8	4	0	0	0	0	0	0	0	0	19
	5	17	33	18	8	0	0	0	0	0	0	0	0	81
16:00	2	2	10	4	2	0	0	0	0	0	0	0	0	20
16:15	1	9	7	3	1	0	0	0	0	0	0	0	0	21
16:30	1	2	11	10	1	1	0	0	0	0	0	0	0	26
16:45	1	3	10	8	1	0	0	0	0	0	0	0	0	23
	5	16	38	25	5	1	0	0	0	0	0	0	0	90
17:00	1	0	5	6	3	0	0	0	0	0	0	0	0	15
17:15	2	2	11	5	1	0	0	0	0	0	0	0	0	21
17:30	3	5	7	11	0	0	0	0	0	0	0	0	0	26
17:45	0	3	16	3	0	1	0	0	0	0	0	0	0	23
	6	10	39	25	4	1	0	0	0	0	0	0	0	85
18:00	1	3	4	7	1	0	0	0	0	0	0	0	0	16
18:15	1	6	5	5	2	0	0	0	0	0	0	0	0	19
18:30	1	2	8	7	0	0	0	0	0	0	0	0	0	18
18:45	1	7	8	12	0	0	0	0	0	0	0	0	0	28
	4	18	25	31	3	0	0	0	0	0	0	0	0	81
19:00	2	6	8	7	0	0	0	0	0	0	0	0	0	23
19:15	0	3	15	3	0	0	0	0	0	0	0	0	0	21
19:30	0	0	6	7	1	0	0	0	0	0	0	0	0	14
19:45	2	2	1	2	2	0	0	0	0	0	0	0	0	9
	4	11	30	19	3	0	0	0	0	0	0	0	0	67
20:00	0	1	5	6	0	0	0	0	0	0	0	0	0	12
20:15	0	6	6	3	0	0	0	0	0	0	0	0	0	15
20:30	0	4	4	4	0	0	0	0	0	0	0	0	0	12
20:45	0	2	4	2	2	0	0	0	0	0	0	0	0	10
	0	13	19	15	2	0	0	0	0	0	0	0	0	49
21:00	1	1	5	1	0	0	0	0	0	0	0	0	0	8
21:15	1	0	7	2	1	0	0	0	0	0	0	0	0	11
21:30	0	4	4	5	1	0	0	0	0	0	0	0	0	14
21:45	0	4	1	2	1	0	0	0	0	0	0	0	0	8
	2	9	17	10	3	0	0	0	0	0	0	0	0	41
22:00	1	0	3	2	1	0	0	0	0	0	0	0	0	7
22:15	0	0	3	1	0	0	0	0	0	0	0	0	0	4
22:30	0	0	1	1	1	0	0	0	0	0	0	0	0	3
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0	7	4	2	0	0	0	0	0	0	0	0	14
23:00	0	1	3	0	0	0	0	0	0	0	0	0	0	4
23:15	0	0	0	2	0	0	0	0	0	0	0	0	0	2
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	2	0	0	0	0	0	0	0	0	0	2
	0	1	3	4	0	0	0	0	0	0	0	0	0	8
Total	80	234	444	290	52	5	1	0	0	0	0	1	0	1107

	Percentile	15th	50th	85th	95th
	Speed	16	22	26	29
Mean Speed (Average)		23.0			
10 MPH Pace Speed		19-28			

2

CJ Hensch & Associates, Inc.

TRAFFIC DATA REPORT
SPEED STUDY

Location: Shearn St west of Silver St
Start Date: 5/21/2024

Number in Pace	781
Percent in Pace	71.0%
Number > 30 MPH	59
Percent > 30 MPH	5.3%

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Appendix

C

Signal Justification Document

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Dart Street Access Management

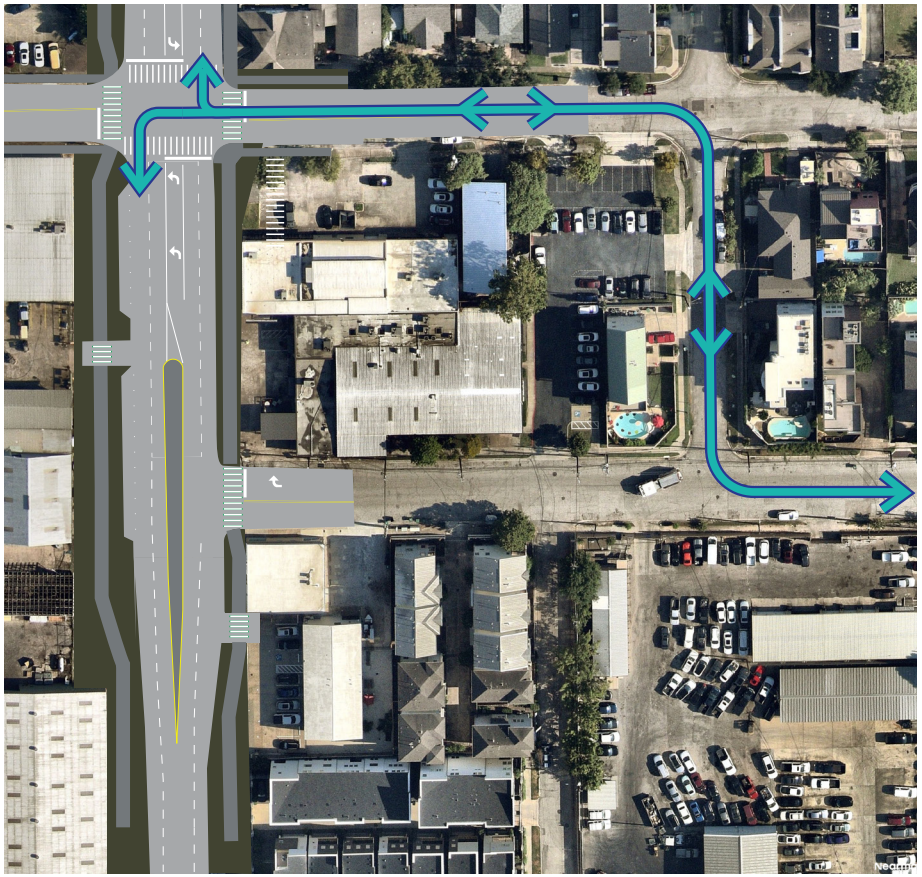
One method of creating Houston Avenue into a safer corridor for all road users is focusing on access management for both certain driveways and intersections. It was determined that Houston Avenue at Dart Street had some safety concerns due to sight distance issues. The intersections of Houston Avenue at both Dart Street and Edwards Street had a total of 21 crashes. Nearly half of the crashes (47%) involved a driver failure to yield. Drivers traveling NB on Houston Avenue travel at high rates of speed due to the underpass. Additionally, drivers turning from Dart Street or Edwards Street can have a difficult time seeing cross-traffic due to the alignment of the underpass. For this reason, the project team recommends a median closure at Dart Street to prevent conflicts between cross-traffic and left turning traffic in addition to a signal at Houston Avenue at Edwards Street. This would then create a safer intersection for residents on the East side of Houston Avenue to cross.

The Dart Street median closure would improve traffic safety by reducing the number of conflict points where vehicles can potentially collide - in this case left turning traffic off of Dart Street onto southbound Houston Avenue. By limiting the number of places where vehicles can cross over or turn left across traffic, median closures help to decrease the likelihood of head-on and side-impact collisions. This can lead to a reduction in the overall number of collisions and enhance the flow of traffic, making Houston Avenue safer for all road users.

The map shows the new route vehicles on Dart Street would take to cross the corridor safely.

Edwards Street at Houston Avenue Signal

Individuals driving, walking, biking who want to cross Houston Avenue at Edwards Street would need to travel over 1/4 mile each way to the nearest signalized crossing. For a person walking this could mean an additional 10 minutes of travel time, potentially leading them to making a risking, mid-block crossing or not making the trip at all. For those driving, site distance issue and high speeds along Houston Avenue can create for an unsafe experience. This section of Houston Avenue has no signals, with the closest signal to the south at Washington Avenue and the closest signal to the north at Crockett Street. This results in no built infrastructure slowing drivers down so speeding is an issue on this section of Houston Avenue. The Mobility Study received comments from the public stating that they feel trapped and isolated in their neighborhood because of the barrier Houston Avenue creates. A proposed signal at Houston Avenue and Edwards Street would provide necessary safety improvements to the neighborhood and mobility benefits for all users. The signal would also be greatly enhanced by the proposed future improvements to the Houston Ave corridor through the Mobility Plan's Houston Avenue Corridor Vision.



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Appendix

D

Old Sixth Ward/TIRZ 13 Phase II Mobility Plan

2024

Public Engagement

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Introduction

Throughout the planning process, the project team worked extensively with Houston-Galveston Area Council and TIRZ 13 staff to identify key stakeholders and audiences, develop engagement activities and outreach materials, and facilitate information exchange at community events.

Public Involvement Plan

At the beginning of the planning process, the project team developed a Public Involvement Plan (PIP) that provided a framework for meaningful community and stakeholder engagement, with supporting outreach and participation strategies necessary to inform, engage, and develop support for the Mobility Plan.

Target Audiences

Four primary audiences were targeted through community engagement to ensure awareness for the Mobility Plan and encourage participation and feedback.

Residents

All residents, both homeowners and renters, will be encouraged to participate in the development of the Mobility Plan. Addressing the needs of residents of all ages will be particularly important as the needs of various ages and demographics may have differences in transportation needs and desires. Efforts will be made to ensure inclusiveness of elderly, youth, low-income populations, and those who speak primary languages other than English within community engagement efforts.

Local Businesses

Local businesses provide a backbone for the local economy and are key destinations within the study area. Businesses may have different perspectives and needs for patrons and employees to be able to access their establishments.

Community Organizations

As trusted partners within the community, these organizations (such as the First Ward Civic Council) can provide key insights to community needs and offer an opportunity to encourage participation and feedback from the community.

Stakeholder Agencies and Organizations

Stakeholder agencies comprise governmental entities, beyond H-GAC and TIRZ 13, that provide community services or have a coordinating interest in the development of infrastructure within the study area. These agencies provide valuable information regarding the use of services, future projects, and partnership opportunities. These entities mostly comprised the Steering Committee.

Outreach and Engagement Strategies

The PIP outlined the usage of tools including a project webpage, social media, communication and coordination with community organizations, and general media to help promote awareness of the Plan among the Target Audiences. It also identified options for how to use online engagement tools and in-person activities to provide opportunities for a broad cross-section of the community to participate.

Figure A.1. Engagement Milestones

Activity Name	Date	Location
Steering Committee Meeting 1	February 27, 2024	Houston Permitting Center
Community Pop-Up Tabling and Outreach	April 13, 2024	The Deck at Silver Street Studios
Community Pop-Up	April 20, 2024	The Deck at Silver Street Studios
Steering Committee Meeting 2	May 16, 2024	Virtual - Microsoft Teams
Steering Committee Meeting 3	August 22, 2024	Houston-Galveston Area Council

Engagement Methods

Steering Committee

The Steering Committee was comprised of representatives from governmental entities with jurisdiction or significant influence on mobility conditions in the area, including the City of Houston, Harris County Precinct 1, METRO, TIRZ 13, Houston Police Department, Houston Fire Department, and the Texas Department of Transportation (TxDOT).

Meeting Summaries and Activities

The first Steering Committee meeting was held on February 27, 2024 at the Houston Permitting Center. Discussion topics included the Case For Action report, project goals, and an overview of planned community engagement. Attendees shared perspectives including focuses on safety, access, and options for transportation modes within the area, the importance of coordination with local elected officials, and future community meeting formats.

Following community engagement events and outreach activities in April and May 2024, the second Steering Committee held virtually on May 16, 2024 provided an opportunity for the Steering Committee to receive an update on the planning process and review community feedback received to date. There was further discussion regarding the high number of residents that indicated walkability as a priority, traffic volumes and speeds on Houston Avenue and Crockett Street, and design requirements for on-street parking, shared-use paths, and fire apparatus access.

The third Steering Committee meeting held on August 22, 2024 at the Houston-Galveston Area Council offices provided an opportunity for attendees to review and provide feedback on recommendations that were later presented to the community at the October Community Pop-Up.

Coordination with Community Groups

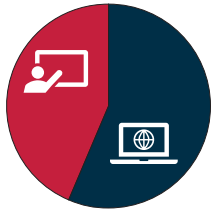
In addition to project-specific programming such as the Steering Committee and the Community Pop-Ups, representatives from the project team attended local organizations' meetings including the May 14, 2024 First Ward Civic Council meeting and Super Neighborhood 22's monthly meeting on May 16, 2024.

Steering Committee Meeting 1, February 27, 2024

Community Feedback

The two primary methods of collecting community feedback were the April and October 2024 Community Pop-Up events and online engagement through the Engage HGAC project website. Nearly 300 contributions were received throughout the process.

128
Community Pop-Up Contributions



167
Online Contributions

April 2024 Community Pop-Up

The OSW/TIRZ 13 Phase II Mobility Plan Community Pop-Up took place during the afternoon of April 20, 2024, on the deck at Silver Street Studios in the Sawyer Yards area of the First Ward neighborhood. The Pop-Up took place during a "Third Saturday" art studio event at Sawyer Yards, which attracted members of the public to the area. Promotion for the Pop-Up included posting yard signs within the study area and distributing information at the prior weekend's "Second Saturday" event on April 13, 2024.

The Pop-Up included a variety of educational materials and activities to engage the public. These consisted of an informational board summarizing the project, an interactive map activity with stickers and post-it notes, and a post-it note activity to assess the public's experience walking, biking, taking transit, and driving around the study area. Postcard-sized flyers were also available for attendees and included a QR code to the project website, and over 100 flyers were distributed during the events to raise awareness of the planning process.

At least 30 members of the public visited the Pop-Up, most of whom lived in the study area and many that were involved in the First Ward Civic Club organization. The majority of attendees were engaged community members who were aware of the project and/or had visited the project website.

10 yard signs were placed at strategic locations and intersections within the study area to raise awareness among cyclists, pedestrians, and transit users.

The Pop-Up activities were located near the entrance to an exhibition at Silver Street Studios, allowing the project team to engage exhibition attendees as well as others who planned to attend the engagement event.

Activities and Results

Map Activity

A map of the study area was provided during the Pop-Up and community members were asked to note the following with stickers and post-it note comments: 1) Something You Like, 2) Ideas and Suggestions, and 3) Other Comments.

Common themes identified by the public for this activity were:

- The desire for improved walkability on Washington Avenue and Houston Avenue
- Unsafe walking, biking, and driving conditions on Crockett Street, particularly at Crockett and Silver Street
- Poor sidewalk conditions throughout the study area
- The desire for additional north/south connections, particularly to trailways
- The Spring Street Trail and White Oak Bayou Trail as popular destinations for the community

Mobility Matrix

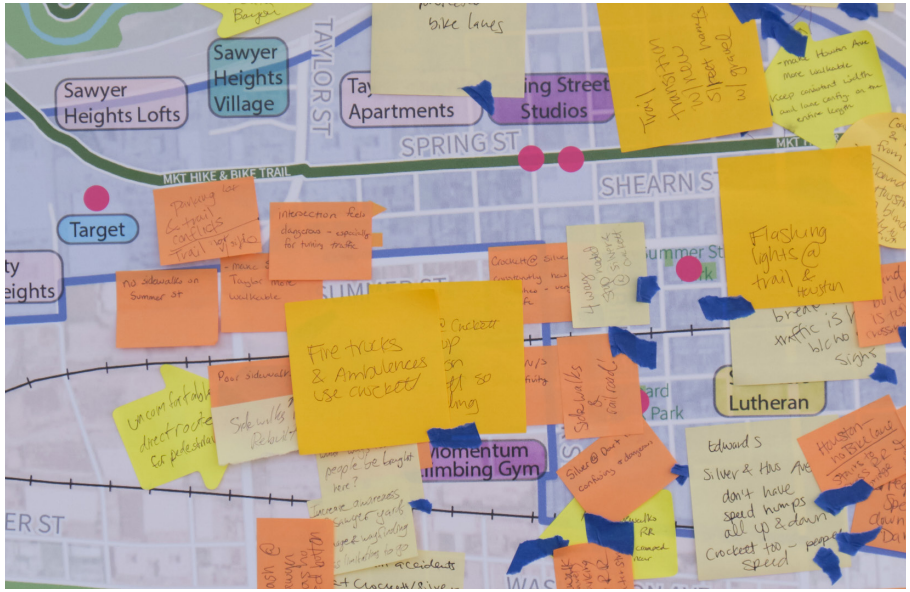
Attendees were asked to identify places they currently go, places they wish they could go, and what would make their experience better for different modes, including walking, rolling, biking, taking transit, and driving:

Walking/Rolling: MKT Trail, Downtown, Buffalo Bayou, Target, and Sawyer Yards were the most common destinations. Suggestions for improvements included safer crossings, connected and good quality sidewalks, and more shade and trees along trailways.

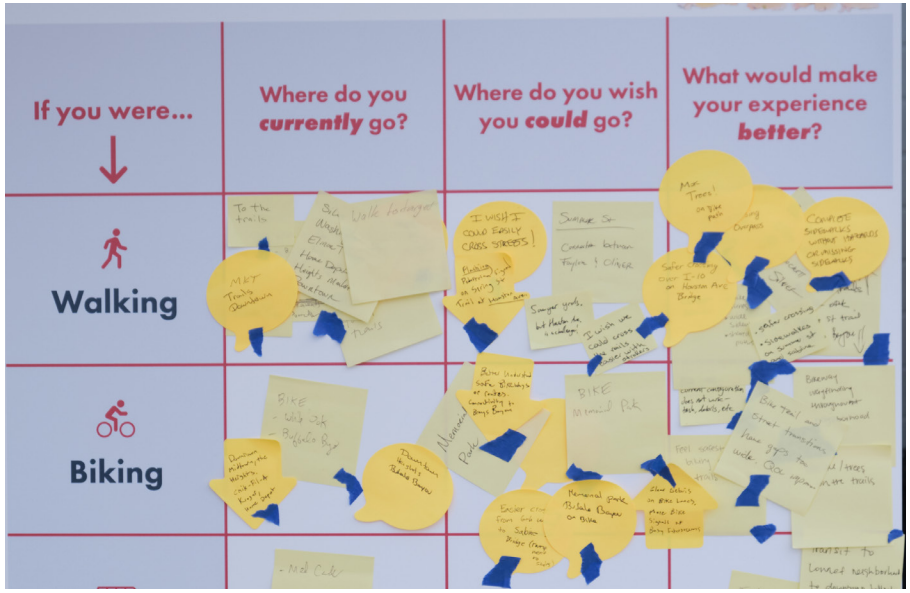
Biking: Common destinations include Downtown, the Heights, and Buffalo Bayou. Participants wanted improvements for bikeway path wayfinding, bike lanes, and shade/trees.

Transit: Destinations include the Medical Center and participants wanted safer connections to Downtown and voiced a desire for a trolley along Washington Ave. from Downtown to Memorial Park.

Driving: Restaurants greater than 3 miles away were primary destinations. Attendees wanted to improve safety of Crockett/Silver St. and increasing the quality of neighborhood streets.



The map activity invited community members to provide comments with stickers and post-it notes.



The matrix activity invited community members to provide comments with stickers and post-it notes.

October 2024 Community Pop-Up

The second Pop-Up event for the OSW/TIRZ 13 Phase II Mobility Plan was held the evening of October 1, 2024 at The Silos at Sawyer Yards. It was part of the First Ward Civic Club's National Night Out, which brought a variety of people to the area and resulted in greater exposure for the project. An estimated 50-75 event attendees reviewed the planning study's recommendations and participated in the pop up activities.

The Pop-Up included a set of presentation boards that showed the draft recommendations from the study. Projects were broken into short-term recommendations, mid- and long-term recommendations, and recommendations for Houston Avenue. Attendees provided feedback through a dot voting exercise and through written comments.

Activities and Results

Dot Voting on Project Recommendations

Participants were asked to review the meeting boards and were provided three different dot options to use during a voting exercise, which are defined below. Participants could vote on each project, though many participants chose only to vote on some projects.

- Projects attendees found exciting
- Projects that were attendees' favorites
- Projects where attendees had some reservations

Figure A.2. Short Term Recommendations Responses

Short-Term Recommendations			
	✓	★	•••
Spring Street Trail Improvements	10	3	0
Crockett Street Improvements	17	7	0
Park Signage and Crosswalks	9	1	0
Crockett Elementary School Enhancements	9	3	0
Sidewalk Prioritization	13	2	0

The second Pop-Up was held at The Silos at Sawyer Yards during National Night Out.

The Community Pop-Up gathered feedback on 23 recommendations that were developed as part of this Phase II Mobility Study.

Figure A.3. Mid- to Long-Term Recommendations Responses

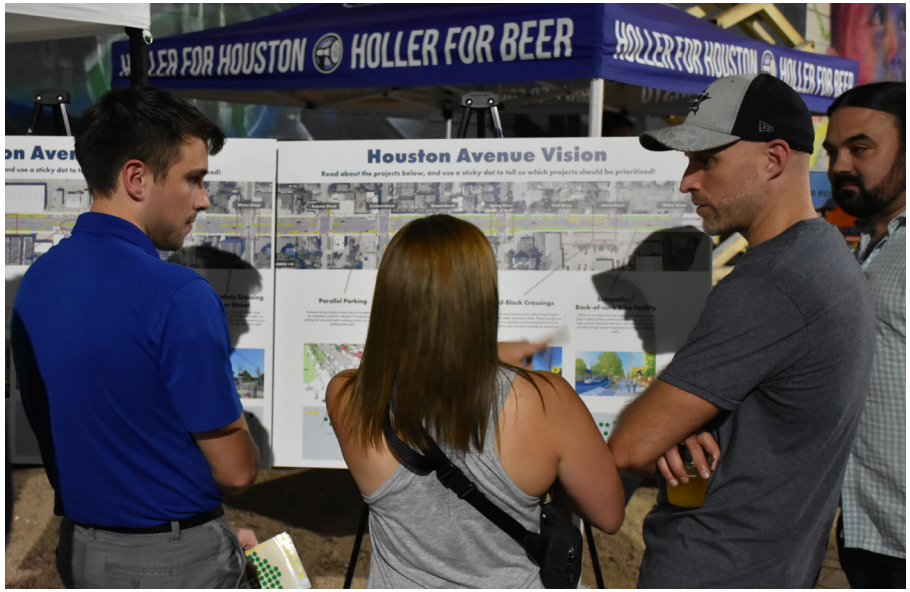
Mid- to Long-Term Recommendations			
	✓	★	•••
Crockett/Silver Traffic Circle	17	8	1
Silver/Dart Intersection and Bikeway	5	1	2
Edwards Street Signal	6	1	2
Sawyer/Taylor/Shearn Access Management	17	4	0
Winter Street Permeable Paver	8	1	0
TxDOT Trail Connections	16	2	0
Crockett/Houston Signal Improvements	19	9	0
Spring Street Driveway Consolidation	10	1	0
METRO Transit Improvements	5	0	2

Figure A.4. Houston Avenue Recommendations Responses

Houston Avenue Recommendations			
	✓	★	•••
Railroad Ramp and Underpass	14	12	0
Access Management (Dart Street Median)	5	0	2
Signal Improvements	9	2	0
Landscaping (Medians, Behind Curbs)	14	2	1
Railroad Safety Crossing at Winter	4	1	1
Parallel Parking	5	2	3
Spring Street Trail Intersection	11	4	1
Mid-Block Crossings	13	1	0
Sidepaths/Back of Curb Bike Facility	13	6	1

Open Feedback

Attendees were also given the chance to provide open ended written feedback during the event. The open-ended feedback helped identify concern regarding through traffic in the area and its impact on safety for vulnerable road users like pedestrians and cyclists.



The October Community Pop-Up gave the project team another opportunity to engage directly with residents.

Attendees voted on the study's draft recommendations using a variety of dots to indicate their favorite projects, exciting projects, and project where they had reservations.

Online Engagement

In addition to in-person engagement activities, the Engage H-GAC online engagement platform provided opportunities for community members and stakeholders who were unable to attend in-person programming to share their perspectives. The online engagement activities mirrored the in-person activities, with an interactive mapping activity allowing participants to identify areas of interest. A discussion forum provided opportunities for open-ended feedback, discussion, and elaboration on key ideas.

Activities and Results

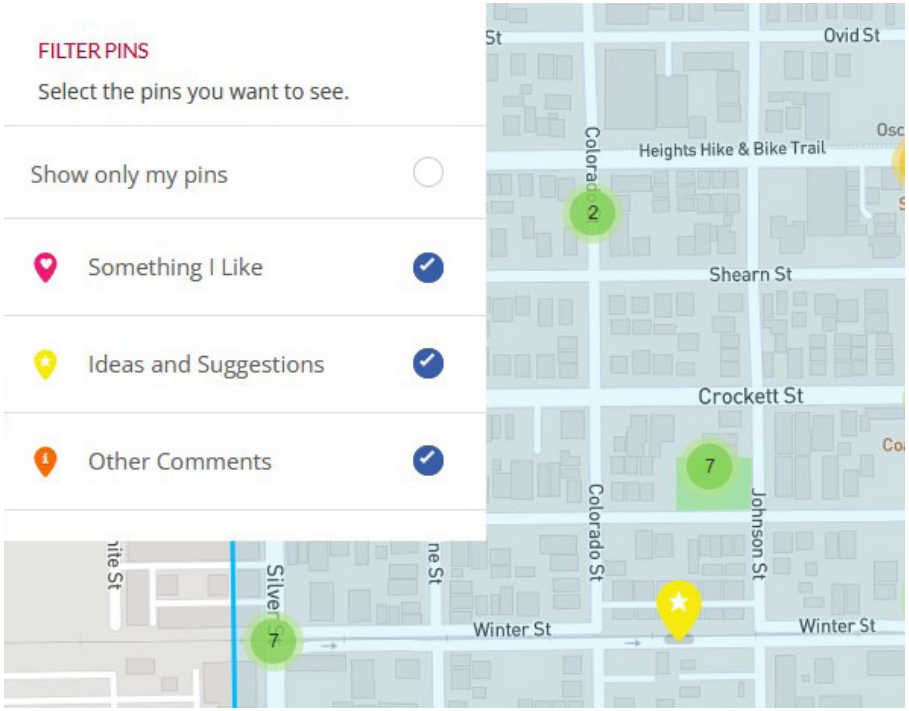
Mapping Activity

The mapping activity included three pin types: "Something I Like", "Ideas and Suggestions", and "Other Comments", allowing participants to identify areas they already value as well as areas for improvement. The location with the most comments was the intersection of Houston Avenue and Spring Street where the trail crosses Houston Avenue. Corridors with the highest number of comments included Houston Avenue and Silver Street, both of which are the major corridors providing north-south access within the study area. Pedestrian crossings and railroad crossings were the major areas of focus, and the feedback largely aligned with the input received at the Community Pop-Up.

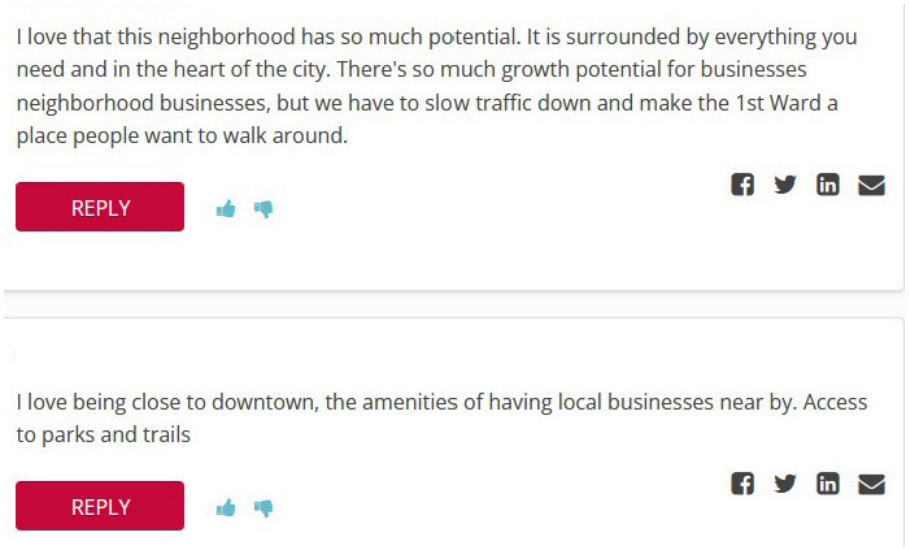
Discussion Forum

Three questions were posed for participants to respond to:

- Why do you live here? What do you like most about the neighborhood?
- What areas or destinations do you have challenges getting to in or around the study area? What makes it challenging?
- If you could start tomorrow, what is the first thing you would improve about mobility in the neighborhood?

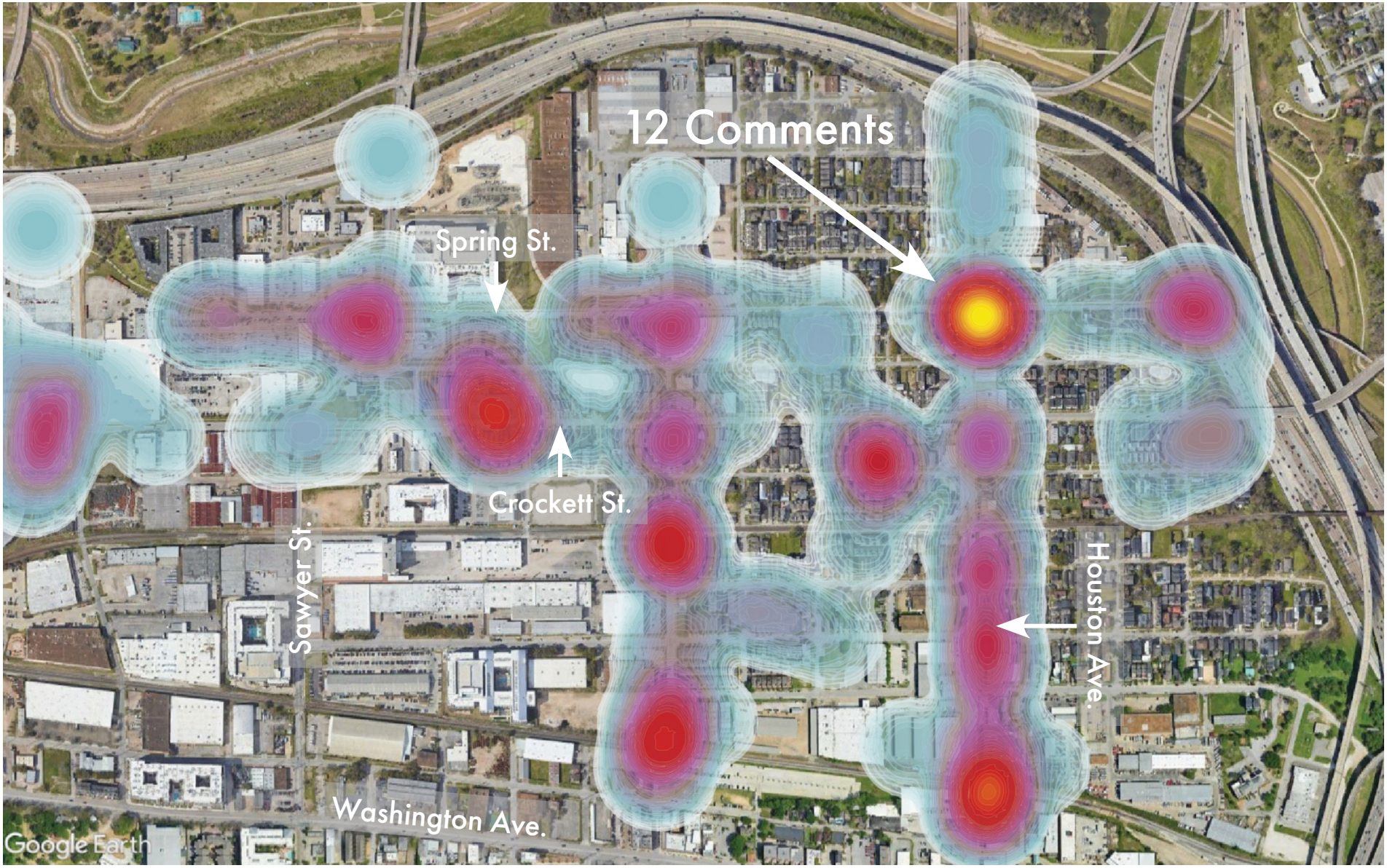


Multiple "pin" types were available for online participants to categorize their responses.



The Discussion forum allowed participants to share open-ended feedback and build on each others' insights.

Figure A.5. Heatmap of Online Map Comments



Legend:

Sparse — Dense

Key Takeaways

Throughout the planning process, the project team sought to address the community's priority themes and issues through a coordinated suite of projects. The below priorities summarize the initial issues identified by the community as well as preferences for implementation projects.

Community Priority Themes

- Mobility gaps and impediments are affecting the mobility of multi-generational families throughout the neighborhood.
- Respondents seek reduced barriers to mobility through calmer and safer streets.
- Accessibility is a major challenge for those on wheels, such as strollers.
- A lack of comfort elements, signage and wayfinding, and consistent, quality infrastructure impede mode switching.

Community Priority Projects

- There was strong support for improvements on Crockett Street, including: traffic calming and striping projects on both sections east and west of Houston Avenue, the addition of a traffic circle at its intersection at Silver Street, and improvements to the signal at its intersection with Houston Avenue.
- The community generally prioritized pedestrian improvements such as sidewalks, trail connections, and improved crossings over vehicular traffic solutions.
- The Houston Avenue and Crockett Street traffic signal and intersection improvements received the greatest amount of positive feedback among short-term and mid-to-long-term recommendations at the October 1 pop-up event and voting exercise. It had the highest number of green dots and gold stars, with no respondents indicating reservations through yellow dots.
- Among Houston Avenue projects, the community generally prioritized projects that improve the pedestrian and cyclist experience. These projects included the railroad underpass, landscaping, mid-block crossings, and the sidepath.

"I would like a safe way to cross Houston [Avenue] with my daughter."

Comment from study participant from the April 2024 Community Pop-Up.

Birds-eye view of Houston Avenue facing towards Downtown Houston.

Appendix

E

City of Houston Neighborhood Traffic Calming Program

Neighborhood Traffic Management Program Overview

Presented by:
Jeffrey S. Weatherford, P.E., PTOE
Deputy Director
Department of Public Works and Engineering

https://www.houstontx.gov/council/committees/tti/20140911/ntmp.pdf

What Is The Neighborhood Traffic Management Program?

- Neighborhood Management Program (NTMP) ordinance is intended "to establish the procedures governing the application for and review, approval, financing and construction of projects to minimize or eliminate traffic congestion, cut-through traffic or other traffic-related problems in a neighborhood area. "
  - Ordinance governing NTMP process can be found in Article XV of Chapter 45 within COH Code of Ordinances.
- NTMP is the program that provides traffic calming devices within a neighborhood to help control speeds, reduce or eliminate cut-through traffic and address other traffic related issues.

Traffic Calming

Institute of Transportation Engineers (ITE) defines traffic calming as "the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users."

Traffic calming is intended to:

- reduce potential traffic accidents
- increase safety & convenience for pedestrians & others
- provide neighborhood revitalization and stability.

History of Traffic Calming in Houston

- The first recorded request in Houston was from Houston Country Club Estates to close a road.
  - Apartment complex was constructed adjacent to a neighborhood
  - Gate was constructed closing the street.
  - Apartment community sued COH in federal court
  - As a result, gate was removed & original Neighborhood Traffic Management Ordinance was passed (1993).

History of Traffic Calming in Houston

- In 2009, Texas Legislature passed a statute that requires the City to:
  - Publish standards
  - Notify the public and receive comments
  - In order to close a street, Council must hold a public hearing and approve the closure by majority vote
  - This statute resulted in the current version of the NTMP ordinance (2010)

Types of Traffic Calming Devices

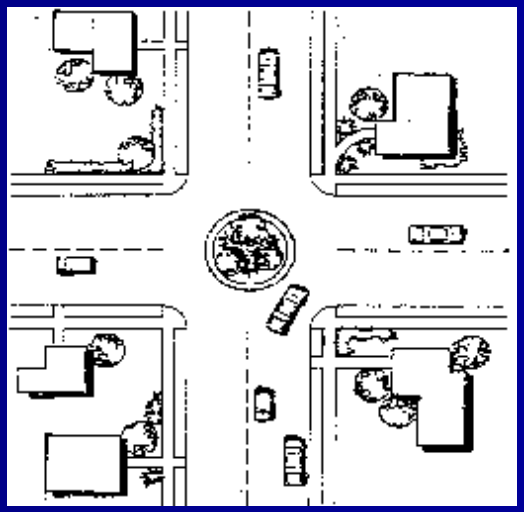
- Speeds Cushions vs. Speed Humps
  - Serve the same purpose
  - HFD prefers speed cushions since they do not impact response times
  - Speed Cushions cost approximately $5,000 per location.
  - Speed Humps cost approximately $1,500 per location

Speed Cushion

Speed Hump

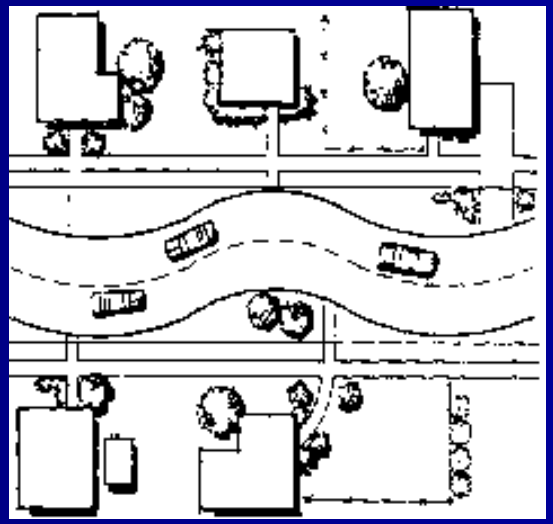
Types of Traffic Calming Devices

- Traffic Calming Circles
  - Not Roundabouts
  - Roundabouts are not traffic calming devices



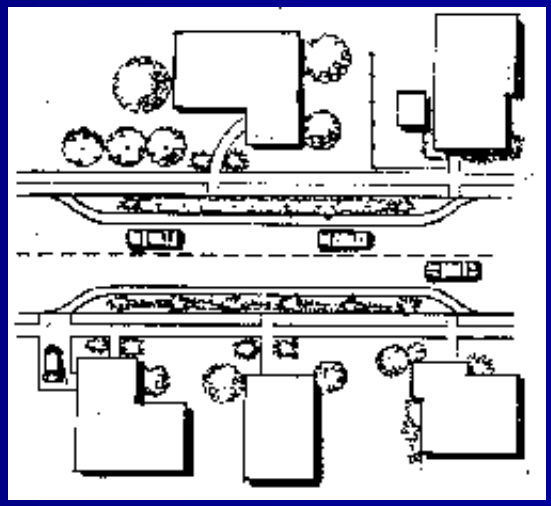
Types of Traffic Calming Devices

- Chicanes
  - Chicanes create horizontal shifts in the roadway (curves)



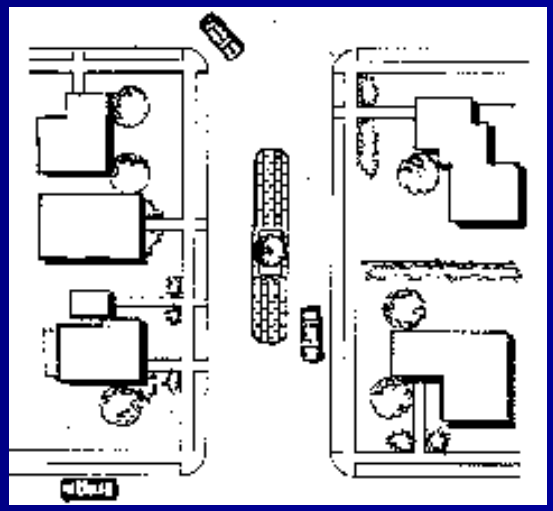
Types of Traffic Calming Devices

- Chokers
  - Chokers create a narrowing of the roadway



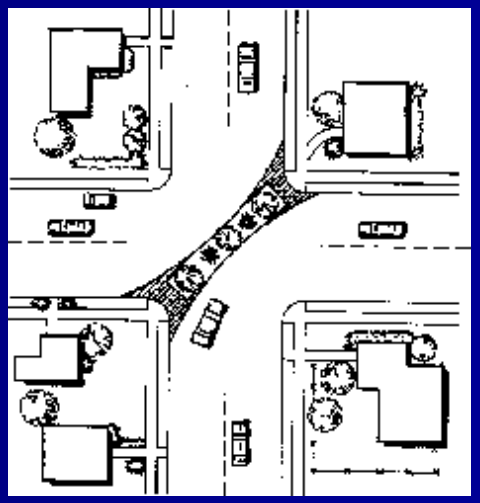
Types of Traffic Calming Devices

- Medians
  - Medians within neighborhoods are intended to create a narrowing of the roadway coupled with a horizontal shift in the travel path



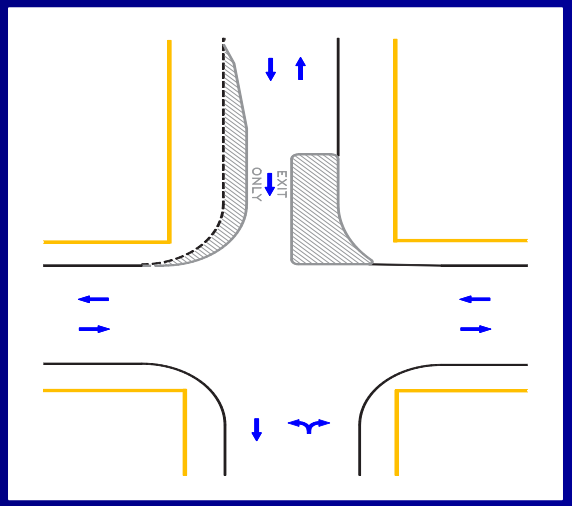
Types of Traffic Calming Devices

- Diverters
  - Diverters are intended to stop thru traffic, forcing a turn.



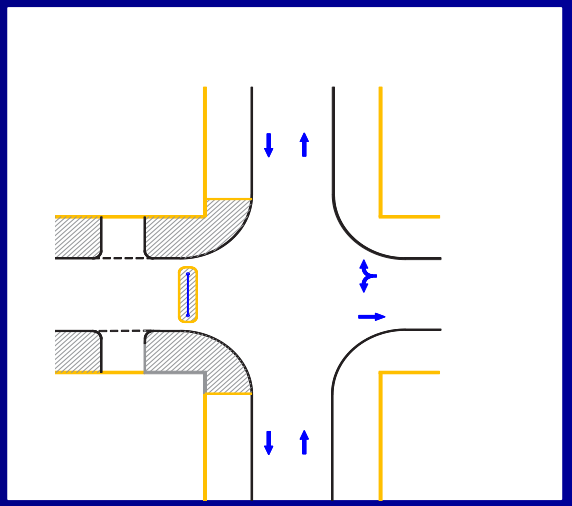
Types of Traffic Calming Devices

- Partial Closure
  - Restricts traffic to outbound only (no turning from the main street)



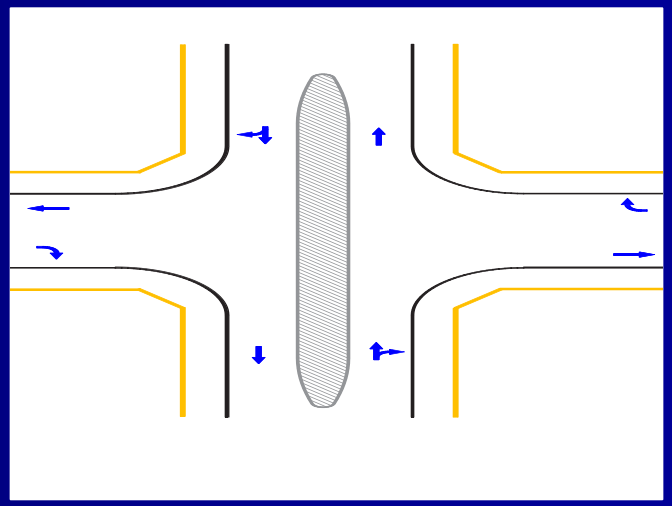
Types of Traffic Calming Devices

- Right Turn In and Out Only
  - Restricts traffic to only right turns into or out of the street
  - Prevents through and left turn movements



Types of Traffic Calming Devices

- Perpendicular Directional Island
  - Restricts traffic to only making right turns into or out of the street
  - Prevents through and left turn movements
  - Similar to the Right Turn In and Out Only



Key Components of the NTMP Ordinance

Neighborhood means any contiguous area within the city that generally has as its boundaries the: (i) interior ROW line of any thoroughfare or collector street; (ii) interior boundary or ROW line of any railroad line, utility or pipeline corridor, river or waterway (not including drainage or flood control ditches not being traversed by other streets within the general locale); (iii) corporate limits of the city; or (iv) any combination of 1 or more of the foregoing boundaries. A neighborhood may consist of 1 or more subdivisions & shall include only those properties within & fronting on or taking their only access from a street within the bounded area.

- i.e., traffic calming devices cannot be installed on major thoroughfares or collector streets

Key Components of the NTMP Ordinance

Interdepartmental review committee consists of 1 representative each from the fire, police, planning and development, solid waste management, public works and engineering, and convention and entertainment facilities departments who shall be appointed by the mayor & 1 representative designated by METRO.

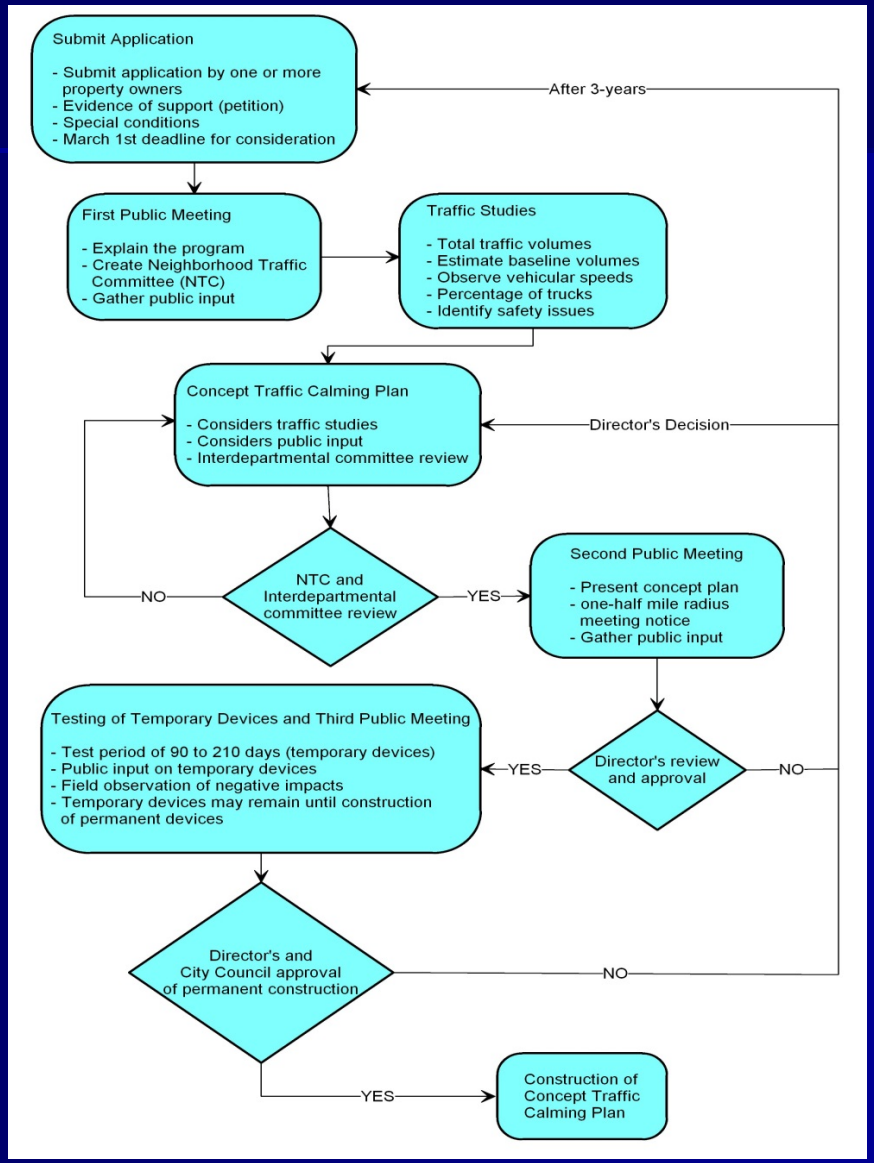
Neighborhood traffic committee consists of not more than 5 members drawn from the residents or property owners within a neighborhood to assist in the processing of a request for a project.

Key Components of the NTMP Ordinance

- City will fund & construct "temporary" devices for
  - Speed cushions; No difference between temporary & permanent devices.
  - Other devices; City uses flexible curbing with delineators mounted on them.

- The neighborhood is responsible for upgrading to permanent devices at their expense.
  - Council enacted a Neighborhood Matching Grant Program that will begin this year to assist financially.

NTMP Process




Questions?

Appendix

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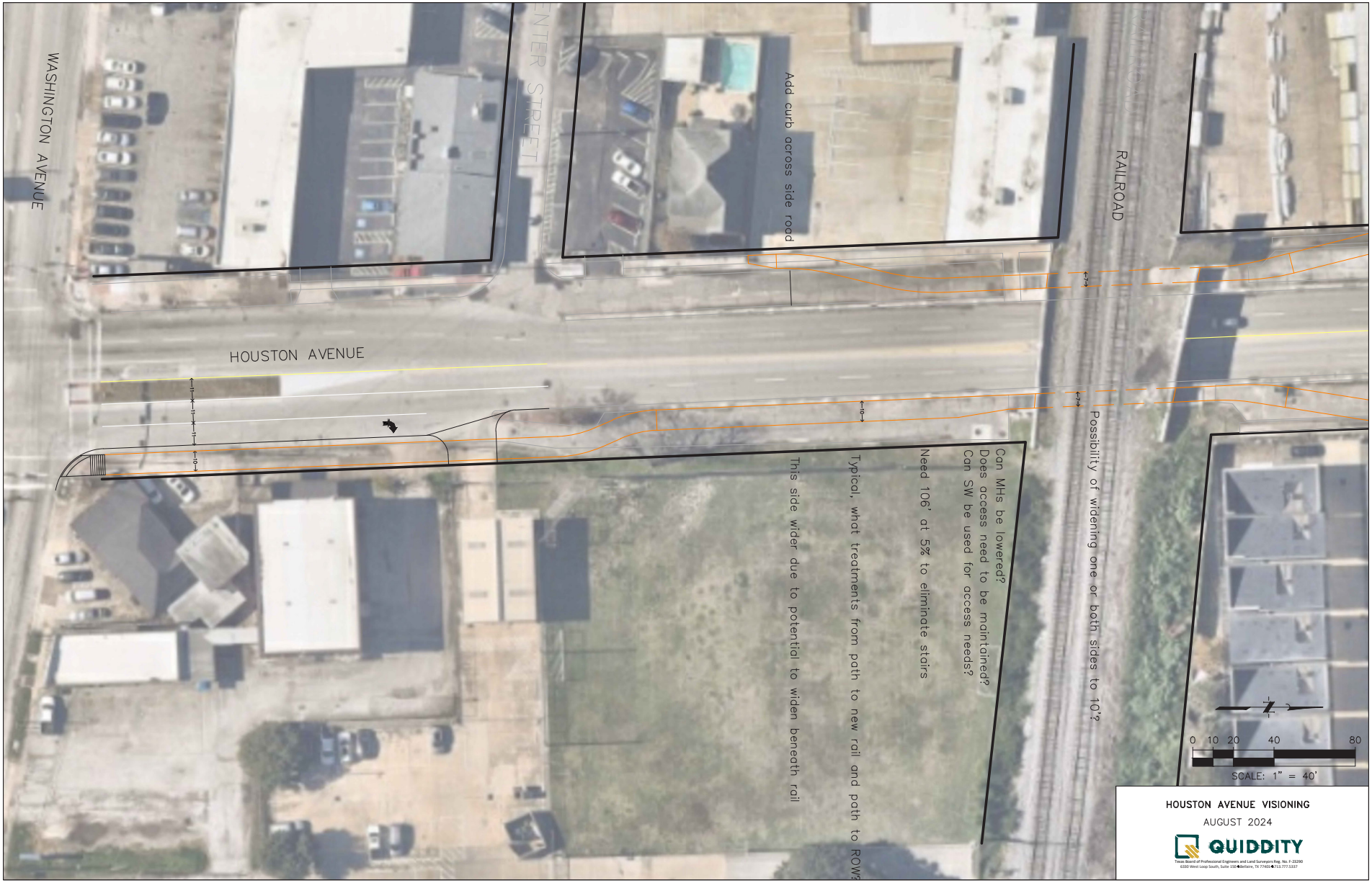
Houston Avenue Schematic


WASHINGTON AVENUE
CENTER STREET
RAILROAD
HOUSTON AVENUE
Add curb across side road
Possibility of widening one or both sides to 10'?
Can MHs be lowered?
Does access need to be maintained?
Can SW be used for access needs?
Need 106' at 5% to eliminate stairs
Typical, what treatments from path to new rail and path to ROW?
This side wider due to potential to widen beneath rail
0 10 20 40 80
SCALE: 1" = 40'
HOUSTON AVENUE VISIONING
AUGUST 2024
QUIDDITY


HOUSTON AVENUE VISIONING
AUGUST 2024
QUIDDITY
EDWARDS STREET
Add Signal
EDWARDS STREET
Head in parking eliminated...can't really
Suggest keeping parking on west side Ho
Head in parking eliminated
Mountable median for emergency vehicles
Head in parking eliminated
DART STREET
HOUSTON AVENUE
Confirm DW needed
METRO Stop
METRO Stop
Parallel parking eliminated
DW, northbound egress to/from business removed
0 10 20 40 80
SCALE: 1" = 40'


HOUSTON AVENUE
WINTER STREET
WINTER STREET
RAILROAD
BINGHAM STREET
BINGHAM STREET
METRO Stop
METRO Stop
Add ped crossing arms? Signage?
Add ped crossing arms? Signage? arm to path and from gate arm to road
Protect oak tree and surround
2 crepe myrtle trees removed
3 oak trees removed
nd shift SW to back of curb, eliminating parking
Oak trees removed
Exist trees removed
0 10 20 40 80
SCALE: 1" = 40'
HOUSTON AVENUE VISIONING
AUGUST 2024
QUIDDITY

SHEARN STREET
METRO Stop
CROCKETT STREET
Intersection Aligned
SUMMER STREET
METRO Stop Relocate?
METRO Stop
Building Encroaching ROW?
What to do about SW cafe?
Could eliminate parking and bump curb out..could s
Gap in
0 10 20 40 80
SCALE: 1" = 40'
HOUSTON AVENUE VISIONING
AUGUST 2024
QUIDDITY


ALAMO STREET
OVID STREET
METRO Stop
SPRING STREET
MKT TRAIL
Add RRFB
Add RRFB
SPRING STREET
MKT TRAIL
Extra safety buffer space...could add lane back in
0 10 20 40 80
SCALE: 1" = 40'
HOUSTON AVENUE VISIONING
AUGUST 2024
QUIDDITY


WEBER STREET
IH-10
METRO Stop
METRO Stop
Safety buffer is wide, but could split facilities and put a 4'
.Shepherd/Durham will be a good case study to see how th
0 10 20 40 80
SCALE: 1" = 40'
HOUSTON AVENUE VISIONING
AUGUST 2024
QUIDDITY