



BRAYS OAKS LIVABLE CENTERS STUDY

HPOC



BRAYS OAKS LIVABLE CENTERS STUDY


Prepared for:


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HOUSTON- GALVESTON AREA COUNCIL OF GOVERNMENTS

Anita Hollmann

Wendy Almanzan

BRAYS OAKS MANAGEMENT DISTRICT BOARD MEMBERS

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Todd Running (H-GAC)

Amar Mohite (Harris County)

Cindy Chapman (BOMD Board; Westbury)

Sylvia Rivas (BOMD Board; Brays Oaks Super Neighborhood)

Starla Turnbo (BOMD Board; Apartment Community HAA)

Etan Mirwis (BOMD Board; Office and Retail Community)

Sheri Cortez (BOMD Board; Real Estate; Keegans Bayou)

Becky Edmondson (Westbury; Levitt Pavilion)

Jeff Peters (Levitt Pavilion; Brays Bayou Association)

Stephen Polnaszek (Neighborhoods to Trails Southwest)

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EXECUTIVE SUMMARY

The Brays Oaks Management District (BOMD) was created in 2005 by the Texas Legislature and expanded in 2013 with the implementation of the 2013-2028 Service Plan. Originally part of a ranch owned by oil tycoon Walter Fondren, Brays Oaks is one of Houston's most vibrant communities with a mixture of families, culture and commercial businesses. The District covers approximately 15 sq. miles located in the Southwest area of Houston. The boundaries are from South Post Oak on the east to US 59 on the west; Bissonnet is the northern boundary and US 90A our southern edge.

PROCESS AND TIMELINE

The Brays Oaks Livable Centers Study kicked-off in June 2021 with an analysis of the existing conditions, challenges and opportunities in the district. The purpose of the first public engagement period was to establish the vision and goals for the community. This was accomplished through meetings with a stakeholder group, a site visit, tours of the district, and an in person public meeting. A public survey followed this initial outreach effort. After the existing conditions report including a vision and goals for the district was complete, draft recommendations were proposed during a second public engagement period. Feedback and input from the virtual workshop and stakeholder meetings was used to refine the recommendations. Finally, an implementation plan was drafted to identify action steps, phasing, funding strategies, and partnerships needed to accomplish each recommendation. This implementation plan was reviewed by the public during the final public engagement period in December of 2021.

RECOMMENDATIONS

The Brays Oaks Livable Centers Study recommends policies, and projects for the district that create a more connected network, enhance livability in neighborhoods, efficiently utilize infrastructure, and build on the prosperity of the Brays Oaks community. The goals and resulting policies and projects represent a significant transformation for the district, if implemented.



Public Engagement 1

- Stakeholder Team Meeting #1
- Workshop: June 24 @ India House
- Site Visit, Tours, and Bike Ride: June 24 – 25
- Public Survey
- Stakeholder Team Meeting #2



Public Engagement 2

- Public Engagement #2
- Stakeholder Team Meeting #3
- Virtual Workshop: August 19
- Open House Display
- Public Survey
- Agency Package Meetings
- Stakeholder Team Meeting #4



Public Engagement 3

- Stakeholder Team Meeting #5
- Public Workshop: December 16
- Virtual Survey
- Stakeholder Team Meeting #6



EXECUTIVE SUMMARY CONTINUED

CONNECTED NETWORKS

Goal Statement

Connect residents to cultural centers, religious institutions, commercial services, restaurants, schools, and parks within the district and to major centers outside the district through a network of complete streets and drainage systems.



Opportunities and Challenges

- **Connected Bicycle Network** - The network of bayous in the district provides an opportunity for safe off-street travel for recreational and transportation purposes.
- **Safer Transportation Network** - High collision intersections and poor quality of sidewalks present challenges for residents wanting to walk or bike to schools, community centers, parks, and centers of worship.
- **Signage and Wayfinding** - A consistent signage and wayfinding plan provides an opportunity to improve the usability of the off-street network.
- **Boulevard Design** - The network of boulevards and wide landscaped medians are efficient at moving high volumes of vehicles but also lead to higher speeds and conflicts for other road users. Traffic calming and complete streets improvements present an opportunity to maintain the same volume while slowing speeds.

LIVABLE NEIGHBORHOODS

Goal statement

Support and expand on the livability of neighborhoods by enhancing access and usability of public spaces, expanding housing choice, and investing in mixed use and transit supportive developments.



Opportunities and Challenges

- **Activated Bayous** - Current development patterns along the bayous predominantly include the rear of buildings presenting a challenge to placemaking. There is an opportunity to activate key segments to enhance the usability of the network.
- **Multifamily Quality and Design** - A number of larger multi family developments within the district are aging and in need of repair. These large complexes break up the grid of streets and require people to walk around. They also limit the visibility to the interior of the complex and quality and maintenance can suffer.
- **Diverse Housing Opportunities** - There is an opportunity to diversify the housing market with the addition of new housing types such as mixed-use and transit oriented multifamily and alternative types of for-sale products.
- **Neighborhood access** - Improving the livability of neighborhoods means expanding access to quality public spaces, neighborhood centers, and amenities.

EFFICIENT INFRASTRUCTURE

Goal Statement

Design and locate re-development and placemaking activities that are supported by and complementary to existing and planned stormwater, transportation, and utility infrastructure capacity.



Opportunities and Challenges

- **Age of Infrastructure** - The majority of utility infrastructure in the District is greater than 30 years old. Efforts to update and improve infrastructure should be coordinated with re-development efforts.
- **Catalytic Redevelopment** - Redevelopment of vacant and underutilized land located in areas with high accessibility and amenities provide an opportunity to catalyze more incremental development and improvement of existing buildings along key corridors.

PROSPEROUS COMMUNITY

Goal statement

Build on unique community assets and experiences in the district to promote local wealth and prosperity.



Opportunities and Challenges

- **Community Gateways** - There is an opportunity to continue to build on and implement the gateways identified in the Brays Oaks Streetscape Master Plan. The branding and wayfinding could retain an element of consistency at all levels including neighborhood entrance signs and directional signs.
- **Placemaking** - Art installations and community gathering places along the bayous are an opportunity for placemaking.

EXECUTIVE SUMMARY CONTINUED

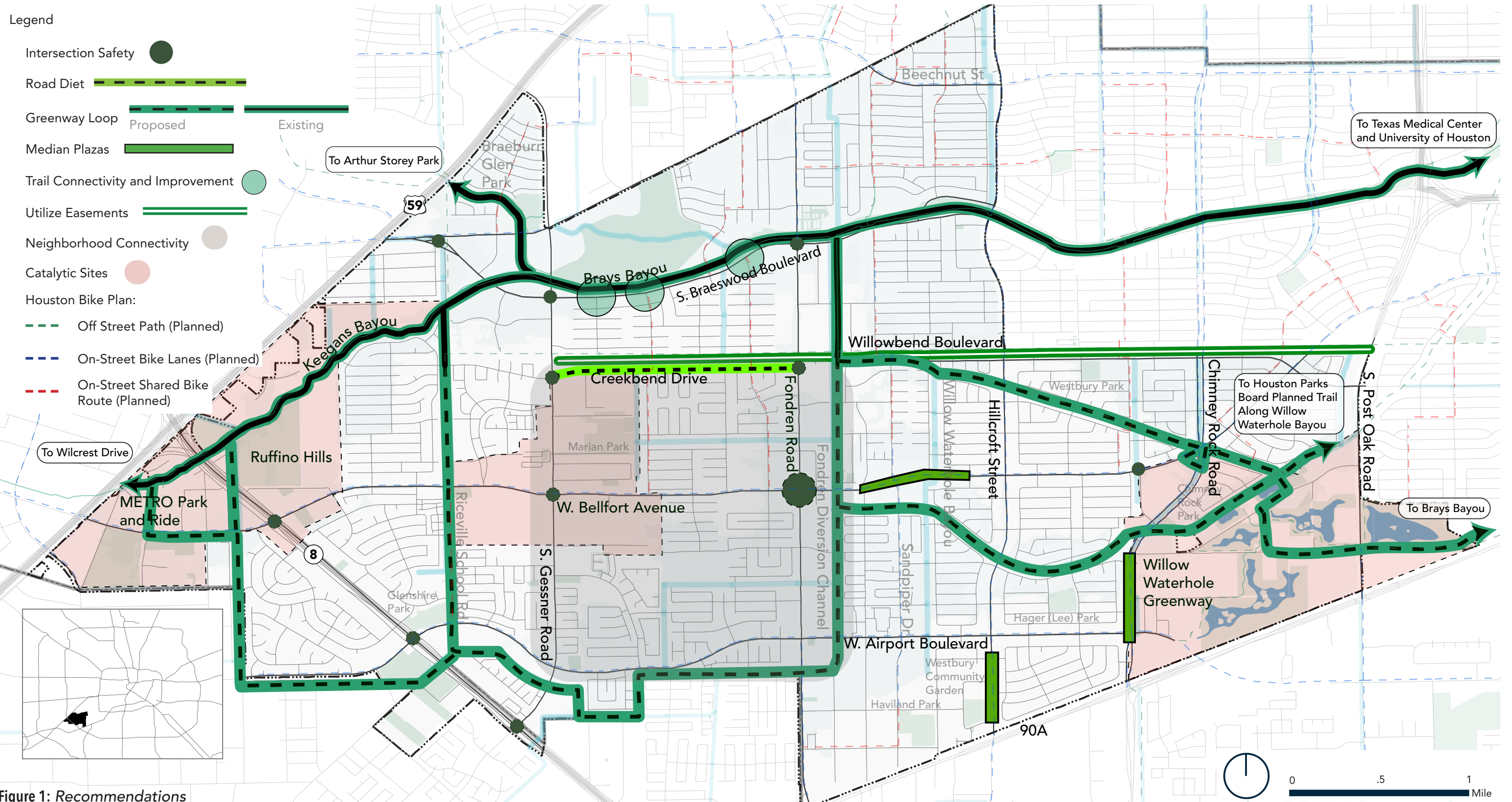


Figure 1: Recommendations

EXECUTIVE SUMMARY CONTINUED

Policy Based

Recommendations that are not material projects but that are within the scope of work of the Brays Oaks Management District.

Policy based recommendations can shape future decision making and improve the quality of life for the community. They also work in conjunction with the project based and catalytic site recommendations.

Policy Based Recommendations:

- A1. Sidewalk Assessment**
- A2. Bus Shelter Improvements**
- A3. Signage and Wayfinding**
- A4. Infill Development Program**
- A5. Bayous as Great Places Campaign**
- A6. Multifamily Improvement Program**
- A7. Low Impact Development Drainage Improvement Partnerships**
- A8. Public Utility Assessment**

Common project types are roadway and infrastructure improvements, trails and recreation improvements, and new urban development.

Project Based Recommendations:

- B1. Intersection Safety**
- B2. Road Diets**
- B3. Greenway Loop**
- B4. Utilize Medians**
- B5. Trail Connectivity and Improvements**
- B6. Utilize Easements**
- B7. Neighborhood Connectivity**

Specifically, the catalytic site recommendations pull from a kit-of-parts that can be tailored for each context. While overarching themes exist throughout the study area, the three catalytic sites have unique contexts that should be acknowledged and taken into consideration when planning and designing.

Catalytic Site Recommendations:

- C1. Ruffino Hills and METRO Park and Ride**
- C2. West Belfort Avenue and South Gessner Road**
- C3. Willow Waterhole Greenway and Westbury Square**

Project Based

Recommendations that are tangible, material projects that can be implemented within the community.

Catalytic Sites

Recommendations that provide the framework for realizing many of the project and policy based goals within specific areas of the District.

Implementation of this plan will involve a multi-year process and numerous partners across the public and private sectors. The recommendations in this study are not intended as the only programs or projects that should be pursued to achieve these goals but instead as a starting off point. As work in the district continues new partnerships will be formed and new funding sources will be discovered. Successful projects will lead to new opportunities.

The Brays Oaks Livable Centers study has identified six quick-start recommendations which may include an entire recommendation or more frequently represent one element or action step within a recommendation. Below is a table describing the recommended quick-start items in the study. These are recommendations that the District can begin implementing immediately because they require less coordination or have already begun.

#	Quick Start Recommendation	Description
A1.1, A1.2	Sidewalk Evaluation and Prioritization	Sidewalk repairs were identified as a top priority by respondents in the district. The district can begin this recommendation immediately by evaluating and prioritizing needed improvements. Action Items 1 and 2 of this recommendation.
A2.2	Coordinate with METRO's BOOST program	Coordinate and share the location of bus stops in need of improvements with METRO. Coordinate on any additional improvements that can be made to enhance connectivity.
B1	Fondren Road and West Belfort Avenue Intersection Improvements	The planned City of Houston CIP project funded by TX-DOT along Fondren Road. create an opportunity to partner with the City to improve safety for all users at this intersection.
B3	Trail Segments 3	A grant opportunity from Kinder-Morgan makes this segment of the greenway loop a quick-start action item. Planning and design has already begun.
B3	Trail Segment 5	A planned project by Precinct One along Fondren Road and the adjacent Fondren Diversion Channel creates an opportunity to partner with the City in achieving this segment of trail connection.
B3	Trail Segment 6	The METRO Park and Ride facility is a funded project in design. This project presents an opportunity to connect this transportation hub to the Keegan's Bayou Trail System.



CHAPTER 1

INTRODUCTION AND NEEDS ASSESSMENT

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INTRODUCTION: REGIONAL CONTEXT MAP

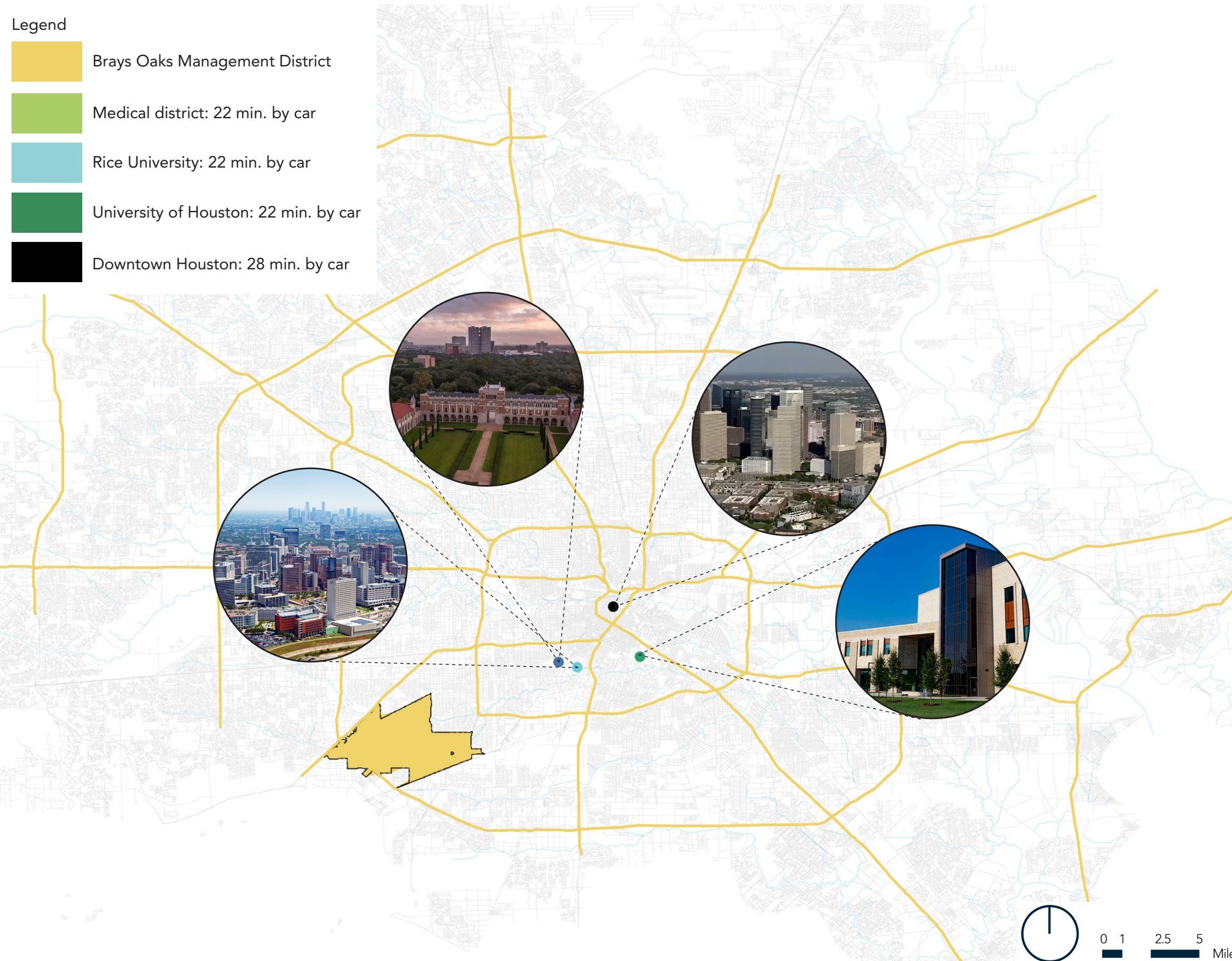
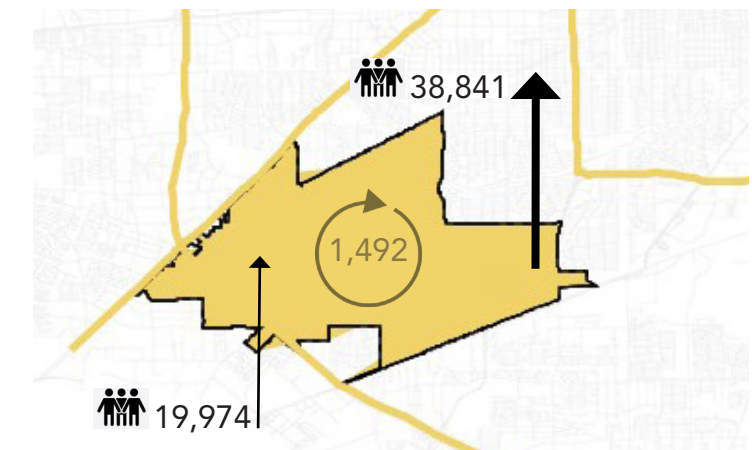


Figure 2: Regional Context

BRAYS OAKS LIVABLE CENTERS STUDY

The Brays Oaks Livable Centers study area is located in Southwest Houston. The district is roughly bounded by US59 and Beltway 8 on the west, Bissonnet Street on the north, South Post Oak Road on the east, and US 90A on the south. The district is well situated for access to major employment centers and Universities in the Houston Region.

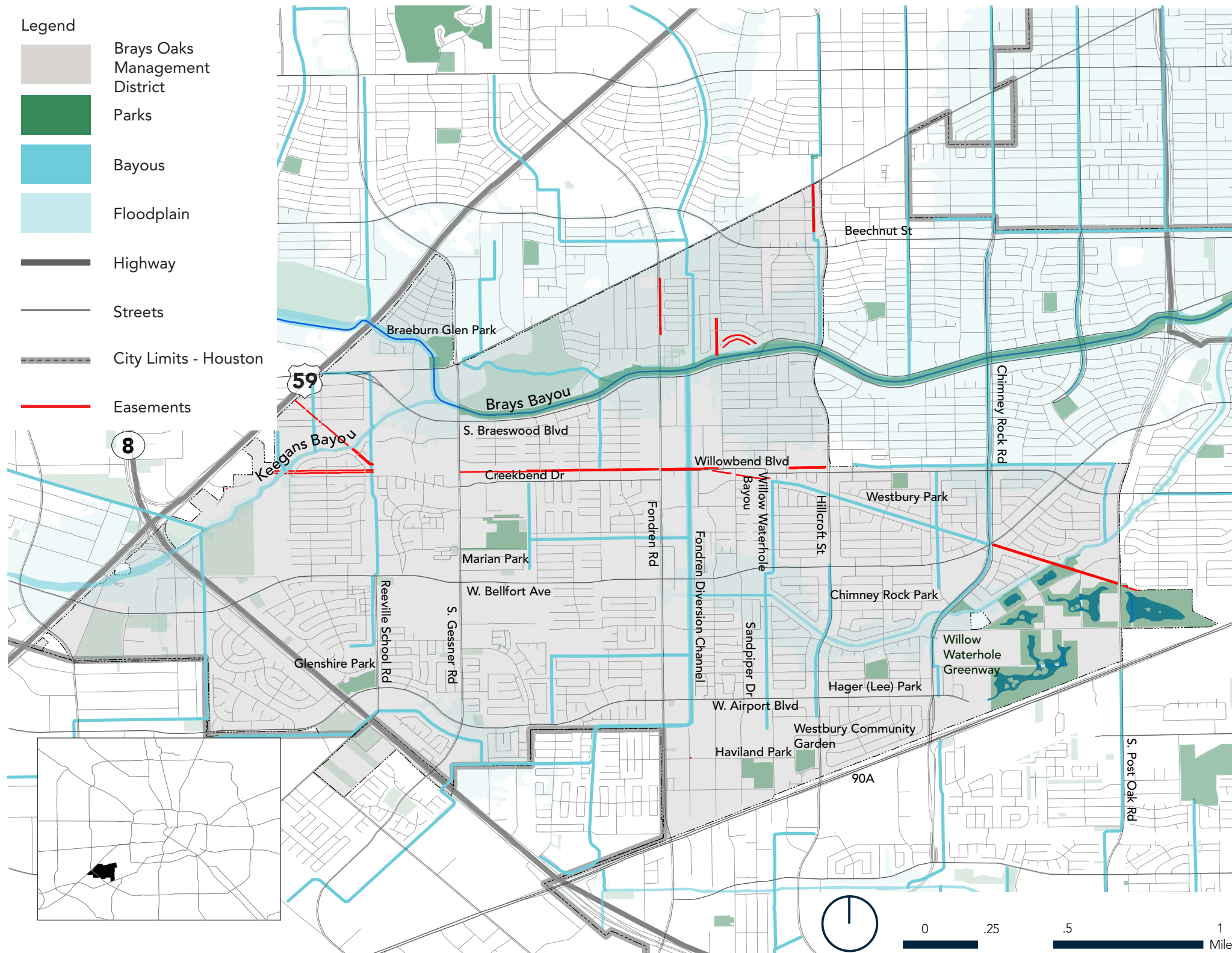


Living in the study area but employed outside: **96%**
 Employed in the selection area but living outside: **93%**
 Source: Bureau of the Census, Longitudinal Employer-Household Dynamics

Figure 3: District - Employment Residents Callout



BRAYS OAKS LIVABLE CENTERS STUDY AREA



STUDY AREA:
14.5 Miles Square

POPULATION OF THE STUDY AREA:
104,009 persons (2021 estimate)

The District's population represented 4.3% of the City of Houston's population according to 2021 estimates.

The Brays Oaks Management District (BOMD) was created in 2005 by the Texas Legislature and expanded in the district was expanded in 2013 with the implementation of the 2013-2028 Service Plan. Originally part of a ranch owned by oil tycoon Walter Fondren, Brays Oaks is one of Houston's most vibrant communities with a mixture of families, culture and commercial businesses. The District covers approximately 15 sq. miles located in the Southwest area of Houston. The boundaries are from S. Post Oak on the east to US 59 on the west; Bissonnet is the northern boundary and US 90A is the southern edge.

The Brays Oaks Management District provides programs and services in accordance with its published Service Plan. The District is funded through 10 cents per hundred-dollar property value assessment on commercial properties only. No residential property or exempt property is assessed. The Services are supplemental to those offered by the City of Houston, Harris County, and other units of government.

An 11-member, all volunteer, board of directors, consisting of area commercial and apartment property owners and civic leaders living in the District governs the BOMD. The members are appointed by the Houston City Council.

Figure 4: Brays Oaks Livable Center Study Area

Source: Brays Oaks Management District

BRAYS OAKS LIVABLE CENTERS STUDY AREA DEMOGRAPHICS



GROWTH RATE

The 2021 population estimate for the Brays Oaks District is 104,009 residents and 37,905 households. The district did not grow as fast as the City of Houston between 2010 and 2021.

Growth rate for the District: **7%**

Growth rate for the City of Houston: **15%**

This moderate growth trend is expected to continue for the district with the addition of approximately 5,000 new residents and approximately 2,063 new households.



DIVERSITY

The City of Houston is the most diverse city in the Nation and the Brays Oaks Management District is one of the most diverse places within Houston.

White Alone

District: **40%**

City of Houston: **49%**

Black or African American Alone

District: **31%**

City of Houston: **22%**

Some Other Race

District: **18%**

City of Houston: **17%**

Hispanic or Latino

District: **46%**

City of Houston: **47%**



EDUCATION

The Brays Oaks District has an almost **5% higher** share of adults with limited educational attainment versus the City of Houston. The Brays Oaks District also has a lower share of adults with at least a bachelors degree.

Approximately **22%** of adults in the Brays Oaks District did not earn a high school diploma.

College educated in the District: **27%**

College educated in the City of Houston: **33%**



HOUSEHOLDS

The Brays Oaks Management District has a larger share of family households than the City of Houston. This difference likely reflects the greater focus in the District on raising families relative to parts of the city with either younger unmarried adults or single retirees.

Family households in the District: **65%**

Family households in the City of Houston: **61%**



INCOME

More than one fourth of Brays Oaks District households earn less than \$25,000 dollars. Because of the higher concentration of households in the lowest parts of the income spectrum, the District had a significantly lower median household income than the City.

Median income in the District: **\$46,267**

Median income in the City of Houston: **\$55,000**

PAST REPORTS AND STUDIES

Following is a brief summary of applicable plans reviewed as part of this study. A table referencing specific recommendations from approved plans can be found in Appendix A: Transportation Analysis.



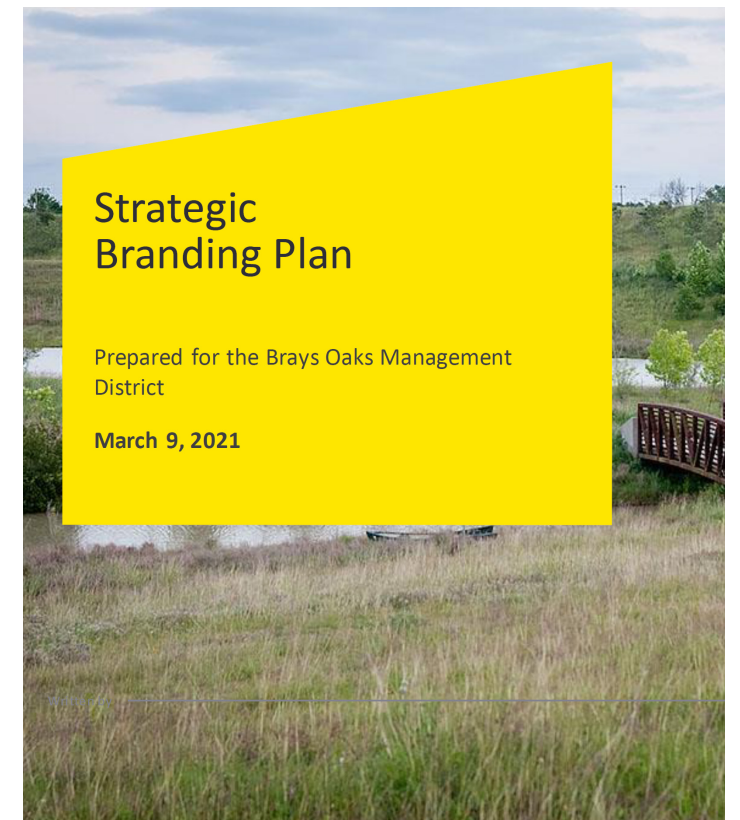
BRAYS OAKS ECONOMIC DEVELOPMENT STRATEGIC PLAN (2020)

The Economic Development Strategic Plan assesses current economic conditions, takes stock of current assets, and creates a path toward economic prosperity that can be implemented by the Management District. In several locations, transportation and encouraging non-auto modes is recognized as an under-utilized asset, primarily because of the bayous and drainage canals that crisscross the area. Eight concepts are presented and recommendations are made to implement them.



PARKS AND TRAILS MASTERPLAN (2020)

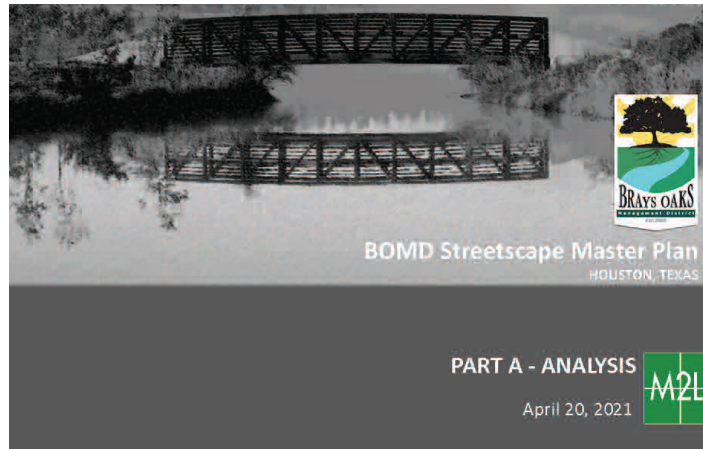
Brays Oaks Management District Parks and Trails Masterplan is intended to be a long range strategy for developing park and recreation facilities. This comprehensive approach aims to improve the quality of life for residents, those who work within the District, as well as visitors to the area. The plan establishes a clear direction for the District's Board of Directors and local stakeholders, by providing recommendations, suggesting phasing and prioritization, while considering financial and legal limitations.



BRAYS OAKS MANAGEMENT DISTRICT STRATEGIC BRANDING PLAN (2021)

The purpose of the Strategic Branding Plan is to provide a guide to prioritize marketing resources and projects over the next five years. Tasks included surveys of both external and internal audiences to better understand perceptions of the District, identification of preferred marketing tools, stakeholder outreach, and an economic and demographic scan. Recommendations include a brand promise, core messaging, a branding vision, and marketing goals.

PAST REPORTS AND STUDIES CONTINUED



BOMD STREETScape MASTER PLAN (2021)

The plan is developed to be a resource for the District as it moves forward and considers potential public improvements. The plan outlines a detailed review of the community resources and conditions and provides recommendations for wayfinding and streetscape improvements that are intended as a starting point.



HOUSTON-GALVESTON AREA COUNCIL 2045 REGIONAL TRANSPORTATION PLAN (RTP) (2019)

Updated in 2019, the Regional Transportation Plan sets the stage for transportation investments in the greater Houston area. The plan includes an analysis of future transportation needs and recommended projects. Currently, there are a number of projects proposed within the BOMD Livable Centers study area, including roadway improvements along Fondren Rd, transit improvements along South Gessner Rd, High-occupancy Vehicle (HOV) lanes along US-59, and future Bus Rapid Transit (BRT) service along Beltway 8.



WESTBURY COMMUNITY GARDEN MASTER PLAN (2016)

Westbury Community Garden is a seven-acre garden located near Hillcroft Road in the eastern part of the BOMD Livable Centers study area. The purpose of the master plan is to take stock of existing conditions at the site and recommend improvements to the site for the future (including to address the persistent issue of flooding).

GOALS

CONNECTED NETWORKS

Opportunities and Challenges

- Connected Bicycle Network,
- Safer Transportation Network,
- Signage and Wayfinding, and
- Boulevard Design.



Goal Statement

Connect residents to cultural centers, religious institutions, commercial services, restaurants, schools, and parks within the district and to major centers outside the district through a network of complete streets and drainage systems.

EFFICIENT INFRASTRUCTURE

Opportunities and Challenges

- Age of Infrastructure, and
- Vacant and Underutilized lands.



Goal Statement

Design and locate re-development and placemaking activities that are supported by and complementary to existing and planned stormwater, transportation, and utility infrastructure capacity.

LIVABLE NEIGHBORHOODS

Opportunities and Challenges

- Activated Bayous,
- Multifamily Quality and Design,
- Diverse Housing Opportunities, and
- Neighborhood access.



Goal statement

Support and expand on the livability of neighborhoods by enhancing access and usability of public spaces, expanding housing choice, and investing in mixed use and transit supportive developments.

PROSPEROUS COMMUNITY

Opportunities and Challenges

- Neighborhood Gateways, and
- Placemaking.



Goal statement

Build on unique community assets and experiences in the district to promote local wealth and prosperity.

STAKEHOLDER TEAM

PURPOSE

The purpose of the Brays Oaks Livable Centers Stakeholder Team is to provide a variety of viewpoints to the Brays Oaks Management District Board, H-GAC Staff and consultants. The Stakeholder Team will act as a sounding board as draft deliverables, community engagement materials, and outreach efforts are proposed to ensure that all perspectives and interests within Brays Oaks are represented. In summary the stakeholder team:

- Assists with community engagement,
- Helps review community engagement formats to achieve the most successful outcomes, and
- Acts as an ambassador for the Livable Centers process through implementation.



STAKEHOLDER TEAM MEMBERS

- Ben E. Brewer III (BOMD)
- Anita Hollmann (H-GAC)
- Tony Allender (BOMD)
- Eoles B. Whitaker II (BOMD)
- Nina Magon (BOMD)
- Alice Lee (BOMD)
- Jeffrey English (TxDOT)
- Alan Bernstein (BOMD)
- Veronica Green (H-GAC)
- Todd Running (H-GAC)
- Amar Mohite (Harris County)
- Cindy Chapman (BOMD Board; Westbury Super Neighborhood, WAIC)
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- Etan Mirwis (BOMD Board; Office and Retail Community)
- Sheri Cortez (BOMD Board; Real Estate; Keegans Bayou)
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- Jeff Peters (Levitt Pavilion; Brays Bayou Association)
- Stephen Polnaszek (Neighborhoods to Trails Southwest)
- Terry Cominsky (Greater Meyerland Super Neighborhood; Jewish Community Center)
- Brandon Mosley (COH Transportation Planning Division)
- Paresh Lad (COH Public Works)
- Donald Buaku (COH Public Works)

SITE VISIT



A visit to the Westbury Community garden.



A bicycle tour of the Brays Bayou.

SITE VISIT SUMMARY

A site visit and tour of the Brays Oaks District was conducted June 24 to June 25, 2021. During the site visit, district representatives, board members, the consultant team, and community members toured the district by vehicle and by bike with the purpose of better understanding the challenges and opportunities that exist.



A tour around the many bayous in the study area.



OBSERVATIONS FROM THE SITE VISIT



Crosswalks and striping needs maintenance. Bike paths are missing.



Major thoroughfares in the neighborhood are busy. There is an opportunity for adding bus routes.



Lighting along and the sidewalks are missing. Some sidewalks need repair.



There were several locally owned businesses. Limited Big Box retail, except 2 Fiestas.



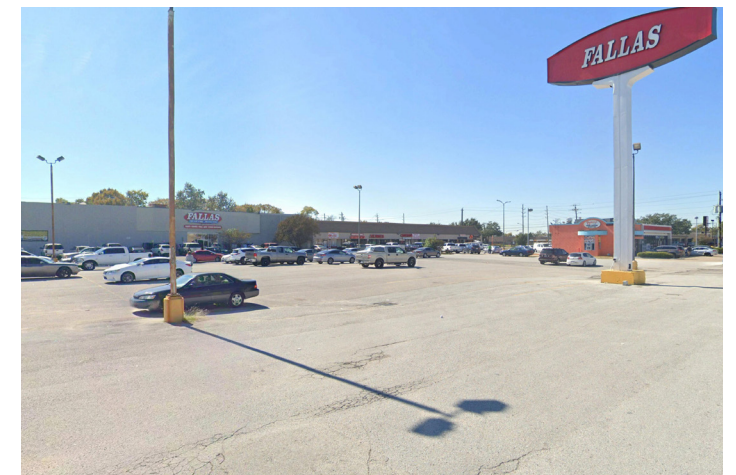
New areas of flooding have emerged in recent years.



Bayous need cross and parallel connections to the street and important landmarks.



The Willow Waterhole Greenway is a successful example of co-locating drainage infrastructure and recreational amenities.



The retail complexes seem busy but the parking lots are underutilized.

OBSERVATIONS FROM THE SITE VISIT CONTINUED



The area is very diverse with several institutions of religious and cultural communities.



There are opportunities for community gardens and associated programs.



Services for homeless are needed on the site.



There are many multifamily apartment complexes and condos in the study area.



Gates may block access to walking facilities and bayous.



There is an opportunity to utilize the underdeveloped land.

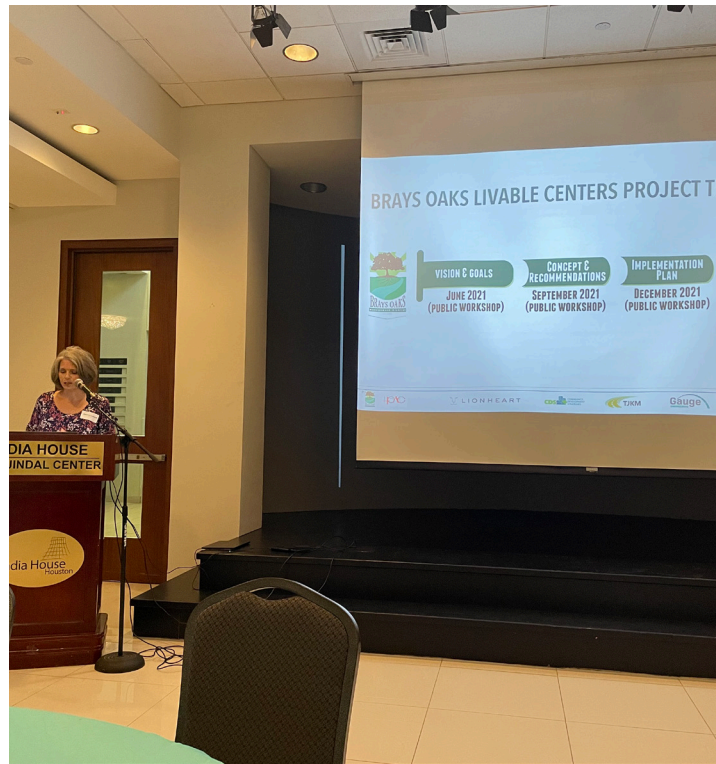


Several private lots have their backyards opening to the Bayous.



Access to pedestrian facilities and bayous could be improved.

BRAYS OAKS LIVABLE CENTERS WORKSHOPS



A Presentation and boards displayed existing conditions.



WORKSHOP 1

June 24th, 2021; 4:30 - 7:30 PM: Brays Oaks Livable Centers Workshop 1 was held at India House, West Bellfort Avenue. The workshop included several members of the community and the stakeholder team.

The purpose of the workshop was to have an authentic feedback and discussion with the community about challenges and opportunities on site with respect to goals of the livable center. The lived experiences of the community members added a lot of value and perspective to the process.

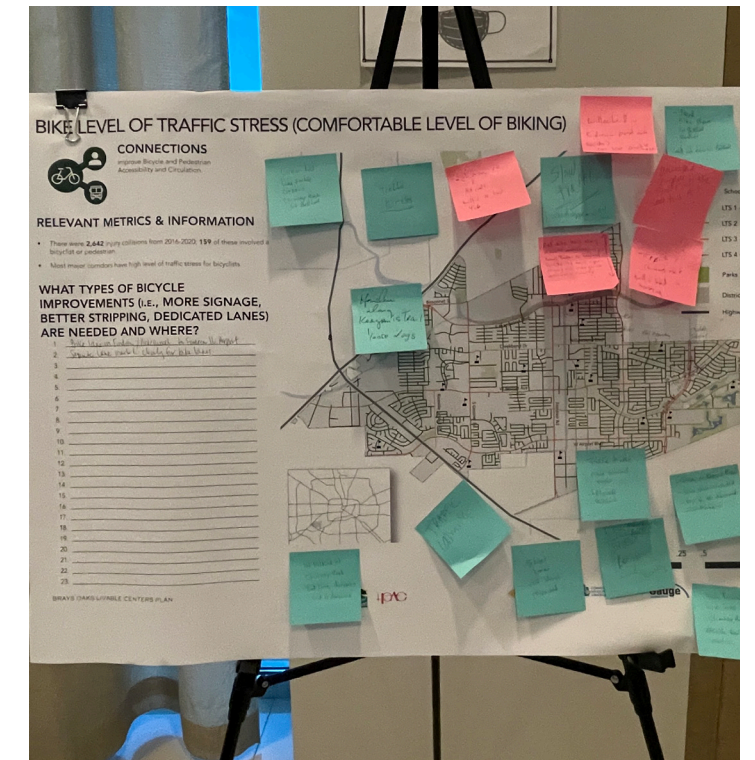
Participants were presented facts about the site in a form of presentation and information boards about transport, mobility, storm water, sanitary systems, water systems, neighborhoods center, and economics. Presentations were done by Lionheart and TJMK followed by an interactive session in which members spoke about their everyday challenges, added more information to the boards and possible solutions.



Interactive discussion was held with the participants.



Participants used sticky notes to put their comments on the board.



BRAYS OAKS LIVABLE CENTERS WORKSHOPS CONTINUED



Boards being displayed for Workshop 2 in a lobby near the BOMD office, Fondren Road.

WORKSHOP 2

September 23rd, 2021; 5:30 - 7:00 PM: Brays Oaks Livable Centers Workshop 2 was held virtually. The workshop included several members of the community and the stakeholder team.

The virtual conversation was focused on presenting initial set of recommendations made by the project team based on the analysis of existing conditions in an earlier stage. The recommendations were subdivided as project based, policy based and three catalytic sites. The presentation was followed by a detailed discussion and feedback by the community on the recommendations. Additionally, the boards were displayed at the BOMD office, Fondren Road.



Participants engaging in a dialogue over the Brays Oaks Livable Centers plan.



Participants used sticky notes to put their comments on the board.

WORKSHOP 3

December 15th, 2021; 5:30 - 7:00 PM: Brays Oaks Livable Centers Workshop 1 was held at Turquoise Center, West Bellfort Avenue. The workshop included several members of the community and the stakeholder team.

As a part of the workshop, the project team had discussions and heard from the community about possibilities, partnership organizations and resources for the implementation of the Brays Oaks Livable Center Plan. Participants were presented all the recommendations made by the team, which included project based and policy based recommendations in addition to vision for three catalytic sites. The interactive session led to valuable insights on potential oppositeness and challenges regarding the implementation.

OPPORTUNITIES AND CHALLENGES



Connected Bicycle Network - The network of bayous in the district provides an opportunity for safe off-street travel for recreational and transportation purposes.

Safer Transportation Network - High collision intersections and poor quality of sidewalks present challenges for residents wanting to walk or bike to schools, community centers, parks, and centers of worship.

Signage and Wayfinding - A consistent signage and wayfinding plan provides an opportunity to improve the usability of the off-street network.

Boulevard Design - The network of boulevards and wide landscaped medians are efficient at moving high volumes of vehicles but also lead to higher speeds and conflicts for other road users. Traffic calming and complete streets improvements present an opportunity to maintain the same volume while slowing speeds.

Connect residents to cultural centers, religious institutions, neighborhoods, commercial services, restaurants, schools, and parks within the district and to major centers outside the district through a network of complete streets and drainage systems.



ANALYSIS: CONNECTED NETWORKS CONTINUED

BACKGROUND

Traffic in Houston has been steadily increasing as the population of the city has exploded over the last decade. Metro of Houston added nearly 92,000 residents last year, boosting the region's population to nearly 7.0 million. In order to accommodate the continued growth, the city's transportation system must be responsive and meet the needs of residents and visitors. The existing conditions around and within the Brays Oaks Livable Centers study area were studied to understand current infrastructure and its deficiencies. This includes not only analyzing the roadway system, but also examining opportunities for Complete Streets implementation, transit services, improving safety on the system, and opportunities to reduce Vehicle Miles Traveled (VMT). VMT is the sum of the number of vehicles on the road multiplied by the number of miles driven. Each of these will contribute to the development of a balanced and sustainable transportation system for the Brays Oaks Livable Centers study area.

GENERAL FINDINGS

- The BOMD study area has continuous sidewalks but much of it is in fair to poor condition and nearly all sidewalks are too narrow for two people to walk side-by-side.
- Traffic congestion levels are acceptable during morning and evening peak times, except along US-59/IH-69.
- 2,642 injury collisions occurred over a recent five-year period of which 147 resulted in a fatality or serious injury.
- Fondren Road/West Bellfort Avenue and West Bellfort Avenue/Beltway 8 are intersections with a high frequency of collisions.
- There were 159 bicycle/pedestrian-involved injury collisions in five years.
- Most collisions occurred at non-intersection locations; a total of 45% of all injury collisions.
- Willowbend Boulevard and Creekbend Drive are the only major streets in the BOMD study area to have a low level of stress for bicycling. All other major streets have high-speed limits, multiple travel lanes, limited or non-existent bicycle lanes and signage, and large crossing distances.
- The average amount of driving per person in Brays Oaks is 22.68 miles per day.
- Bicycling and walking infrastructure (such as sidewalks, bicycle lanes, crosswalks, pedestrian push buttons at traffic signals, etc.), are in fair to poor condition in most locations in the study area.
- The District has public rights-of-way that may become good transportation assets; the network of bayous and drainage channels may be transformed into future transportation corridors.
- Findings from the community outreach generally found that Brays Oaks residents desire more street enhancements. They are concerned about safety while walking and biking around the District.
- Preliminary analysis of the roadway network shows two corridors as candidates for roadway reconfiguration and pedestrian infrastructure enhancements. These corridors are chosen based on their existing Right of Way and existing infrastructure that is currently in place. The recommended streets are:
 1. Creekbend Drive from South Gessner Road to Fondren Road
 2. Willowbend Boulevard from Fondren Road to Albury Drive
- Additional evaluation should consider: Roadway segments with large medians such as Chimney Rock Road currently show excessive space that can be repurposed for street enhancements and upgrades.



A bike path separated from the street provides a higher level of comfort for the cyclist.

CONNECTED BICYCLE NETWORK

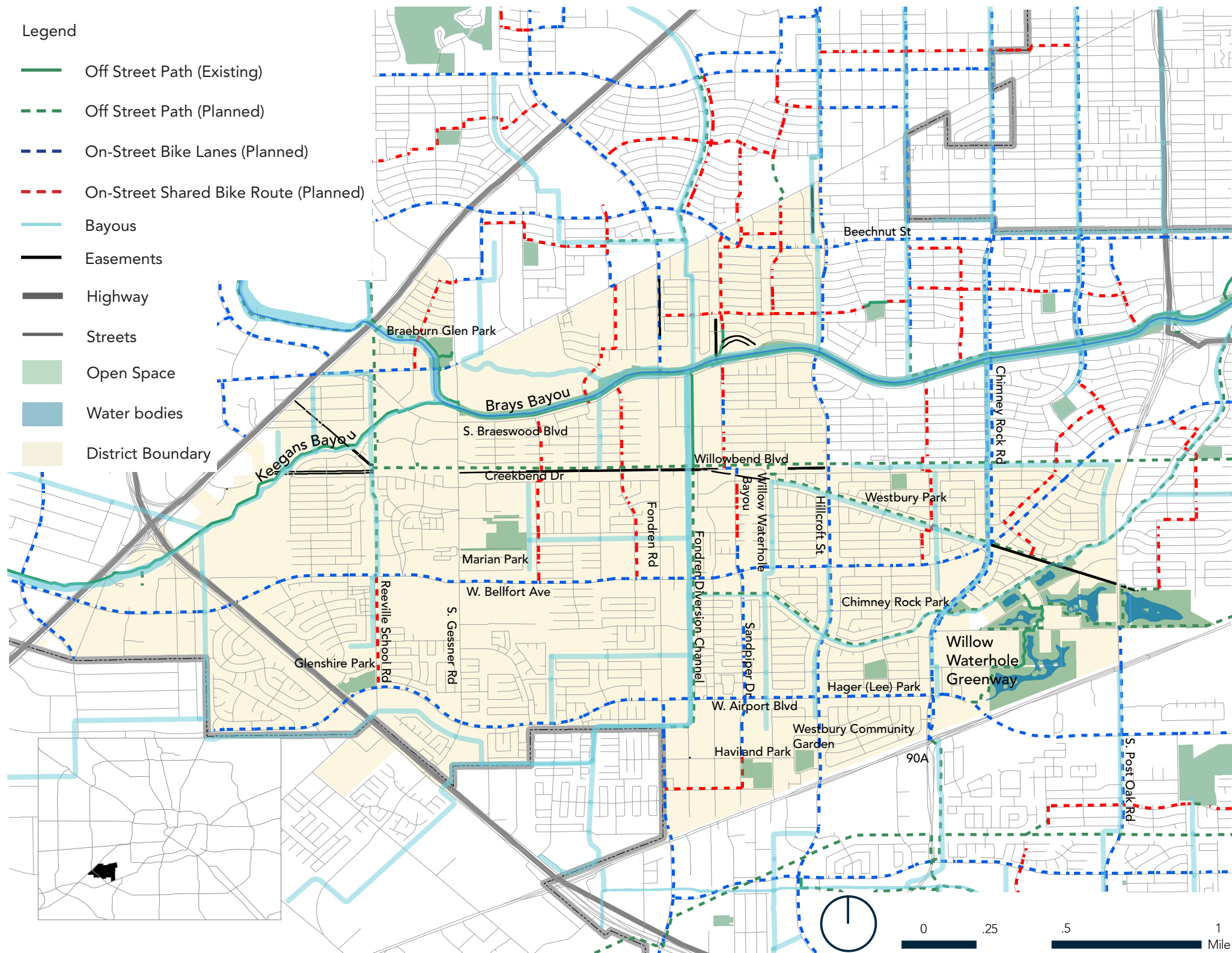


Figure 5: Bicycle Facilities

Source: Brays Oaks Management District

A key element to any livable area is having high quality bicycle facilities that allow for safe and convenient travel throughout the area on a bicycle. Bicycle facilities are designated as the following:

- Dedicated On-Street Bicycle Facilities provide separate travel from vehicle lanes within the roadways. These include the standard bike lane, buffered bike lane, separated bike lane, and side path,
- Non-Dedicated On-Street Bicycle Facilities are where bicyclists share the street with motor vehicle traffic. They can be high-comfort facilities on roadway with certain characteristics such as low- traffic volumes and speed, and
- Off-Street Bicycle Facilities provided dedicate space for bicyclists separate from vehicle lanes outside of the roadway. These can be trails or side paths, which are within the street right-of-way but outside the roadway. The side path can be a sidewalk widened to sufficiently to support bicycle travel.

Currently, bike facilities within the study area consist of a number of high-comfort, off street trails, including:

1. Brays Bayou Greenway Trail, adjacent to Braeswood Boulevard,
2. Keegan's Bayou Trail, between Braeswood Boulevard and Beltway 8 and a branch connecting to Willow Meadow Drive, and
3. Fondren Diversion Channel Trail, between Braeswood Boulevard and Willowbend Boulevard.

CONNECTED BICYCLE NETWORK CONTINUED



An example of a safe off-street bicycle route.



A bike path along the Keegans Bayou.

There are 9.1 miles of existing bikeways.

There are 59.9 miles of proposed bikeways.

Which bicycle linkages provide the best potential to connect Brays Oaks residents to community centers and services?

26.9% percent people thought most potential in bicycle connections for residents along the Bayous.

Streets for potential bikeway connections



Figure 6: Survey Question

Source: Public survey

CONNECTED BICYCLE NETWORK CONTINUED

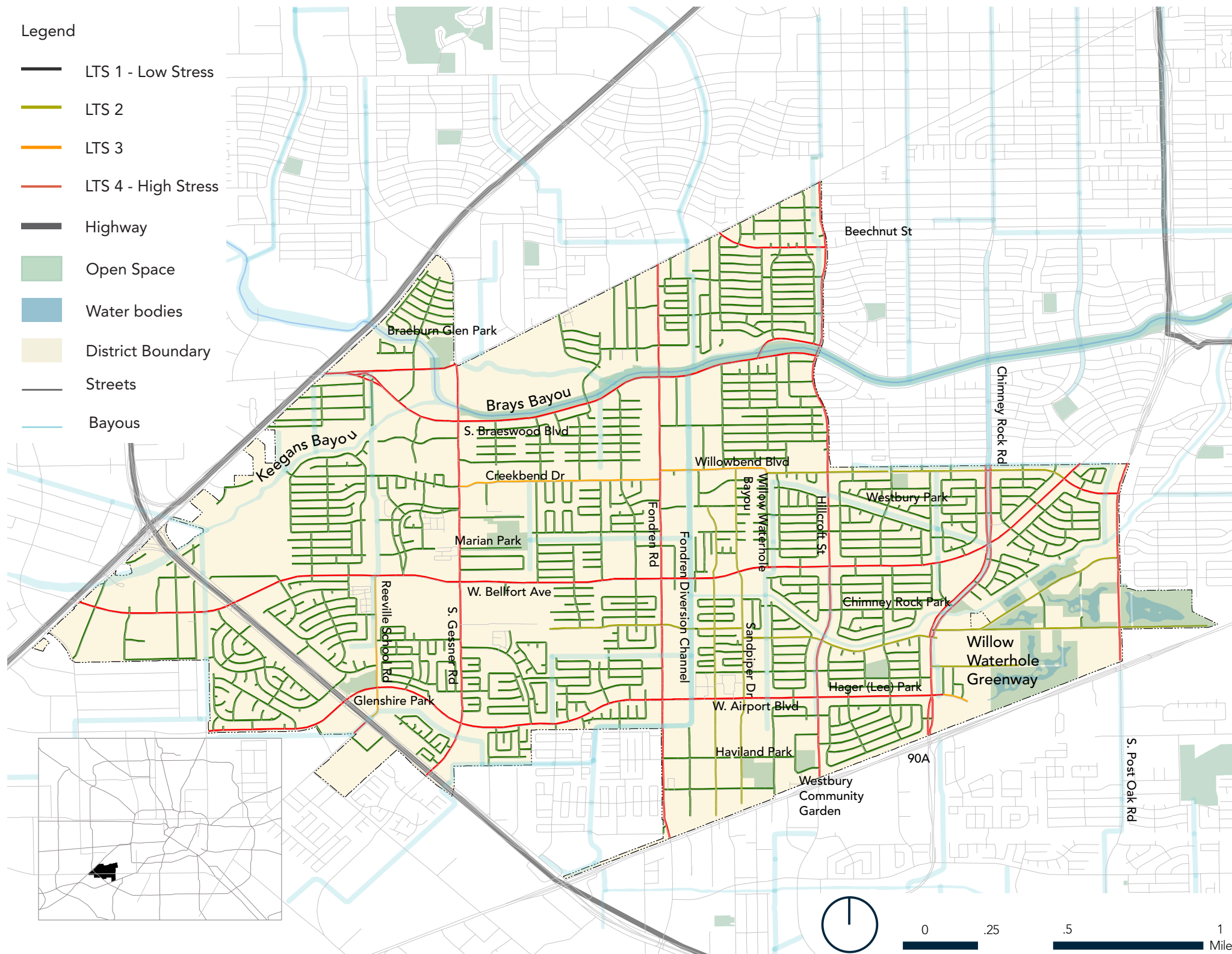


Figure 7: Bicycle Stress Levels

Source: Brays Oaks Management District

Bicycle Level of Traffic Stress (LTS) is an evaluation that quantifies the amount of discomfort that people feel when bicycling near motor vehicle traffic. LTS is measured on a range of 1 to 4 with 1 representing the least stressful streets in the network for bicyclists and 4 representing the high stress and least comfortable streets. The implication of higher LTS is the possibility for improving bicycle infrastructure to make such bicycle facility safe and comfortable for all types of users. Figure 5 below summarizes the four bicycle LTS ratings as generally perceived from the user perspective:

- LTS 1: Low traffic stress. Most children feel comfortable bicycling,
- LTS 2: Low -Moderate traffic stress. The mainstream adult population feels comfortable bicycling,
- LTS 3: Moderate traffic stress. Bicyclists who are considered “enthusied and confident” but still prefer having their own dedicated space feel comfortable while bicycling, and
- LTS 4: High traffic stress. Only “strong and fearless” bicyclists feel comfortable while bicycling. These routes have high-speed limits, multiple travel lanes, limited or non-existent bicycle lanes and signage, and large distances to cross at an intersection.

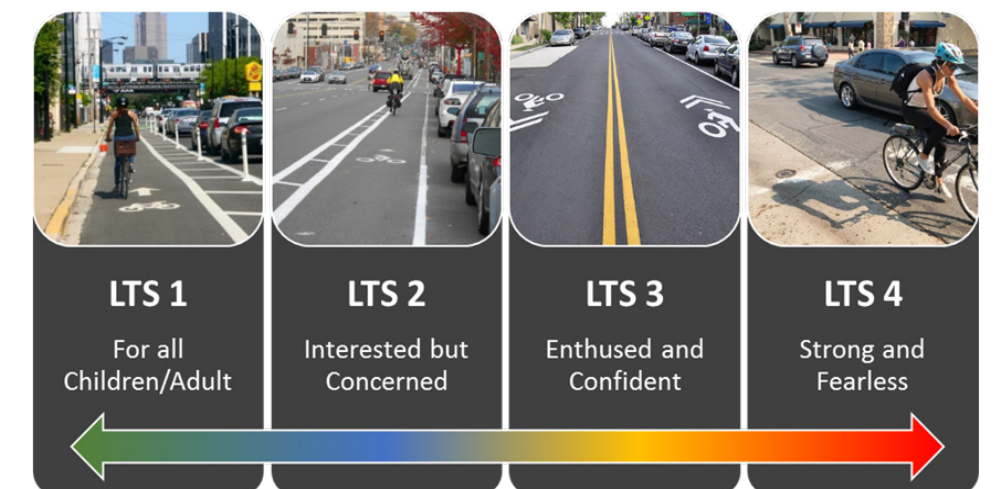


Figure 8: Graphic showing Bike-level stress

CONNECTED BICYCLE NETWORK CONTINUED

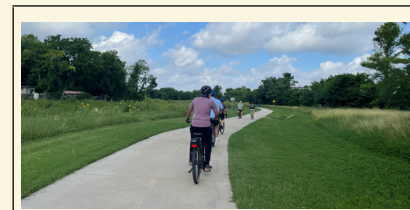


Bike paths and striping need to be improved.



There is a lack of bike parking facilities.

What types of bicycle/bikepath improvements are needed and where?



Continuous bike paths along the Bayous, without road crossings.



Lighting along all bike paths makes it safer to ride at night.

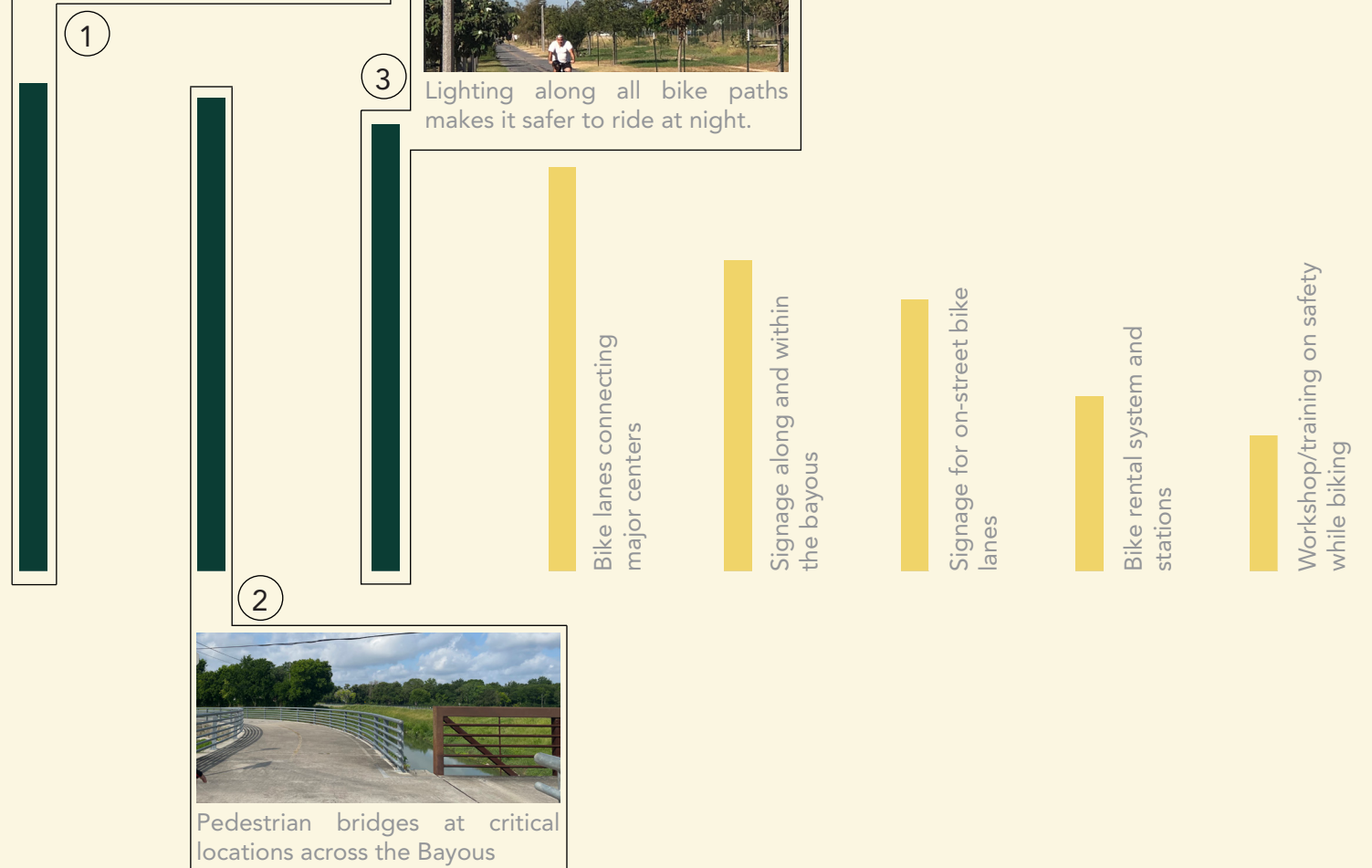
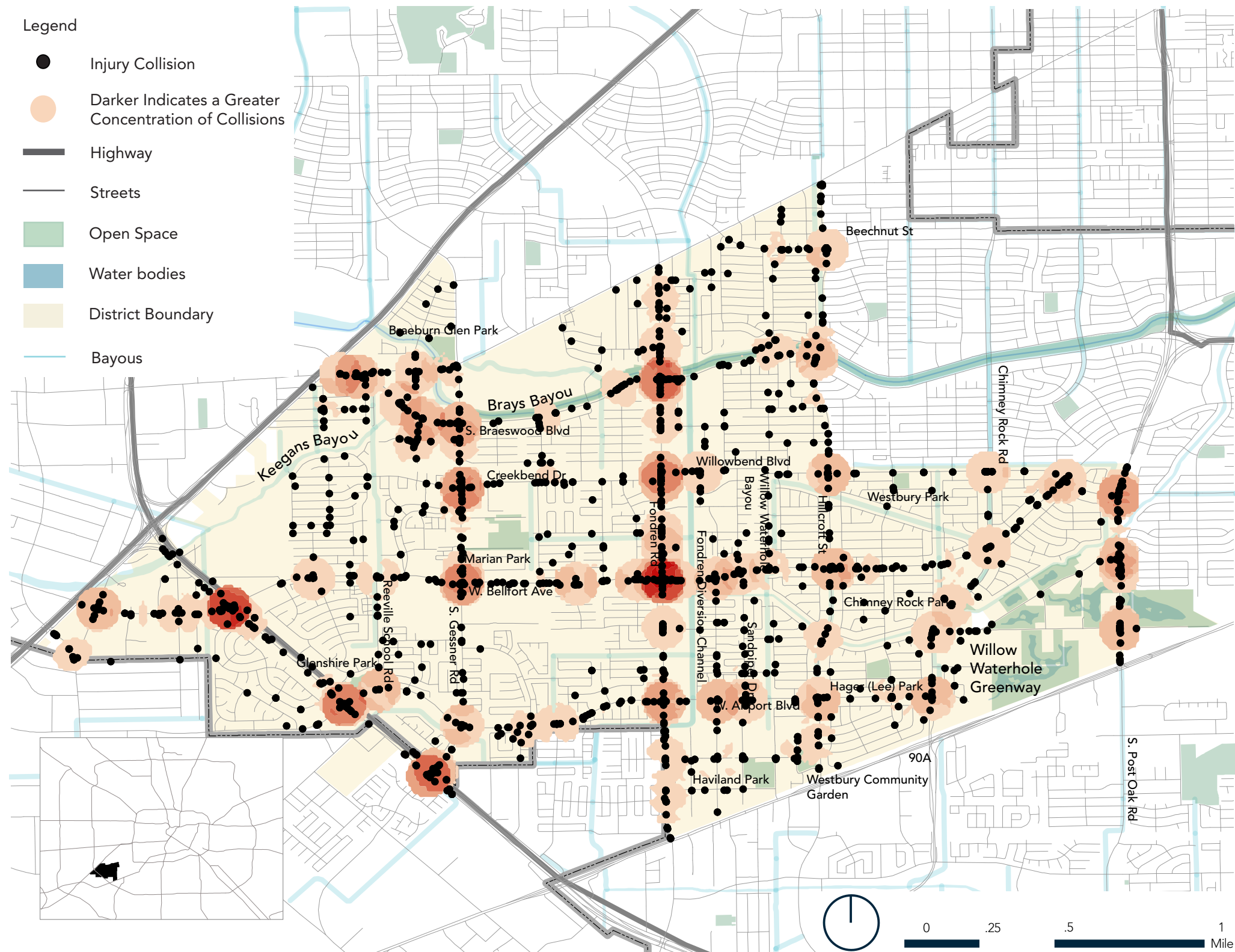


Figure 9: Survey Question

Source: Public Survey

SAFER TRANSPORTATION NETWORK



Following is a summary of the results of a District-wide collision analysis for five years of collision history from January 2016 to December 2020 for the BOMD. The collision analysis is the first step in identifying potential improvements to address traffic safety within the Brays Oaks Management District.

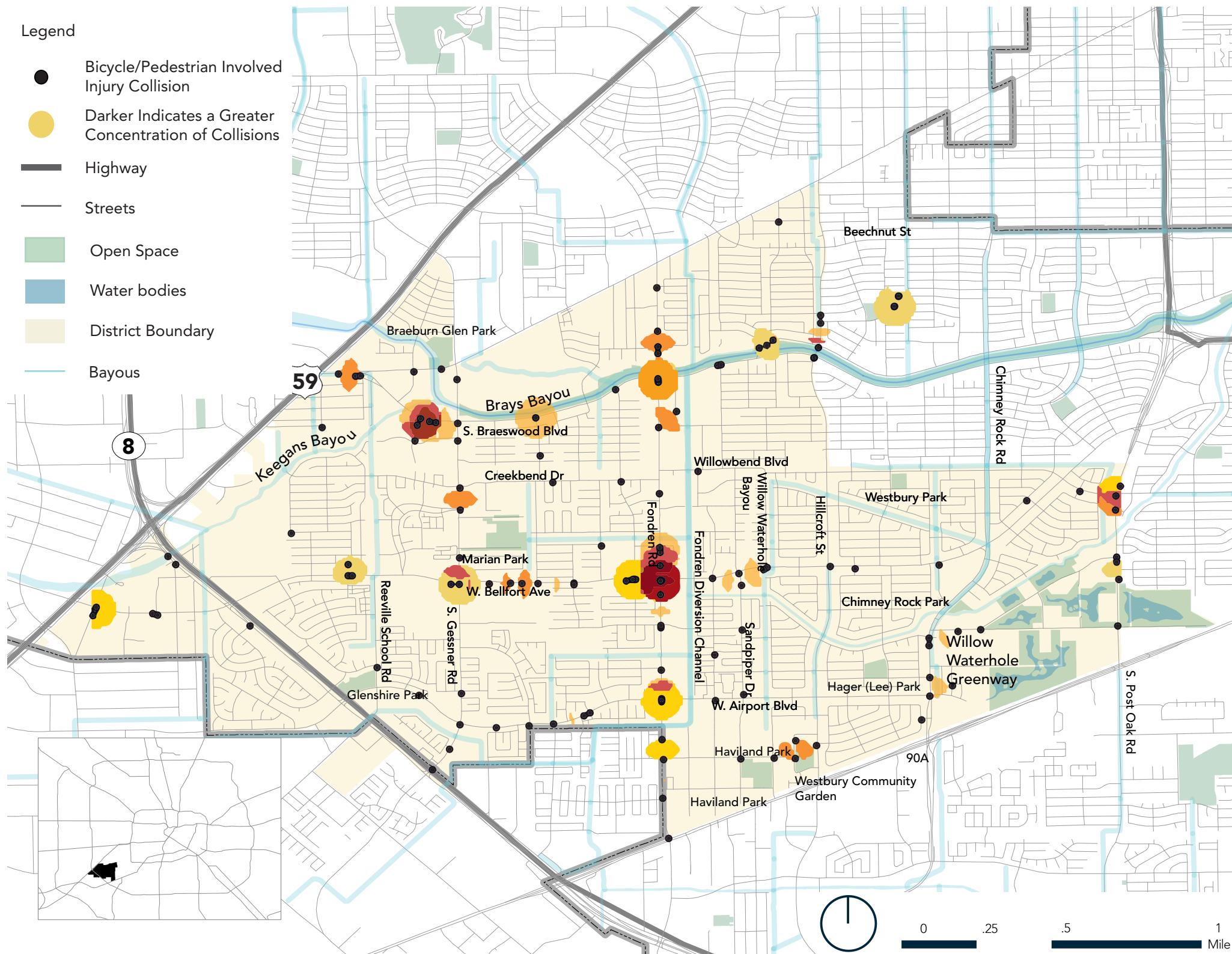
Figure 10 shows the location of all injury collisions, along with a heat map to indicate greater concentrations of collisions. To summarize, some of the higher concentration collision intersections include West Bellfort Avenue/Fondren Road, West Bellfort Avenue/Beltway 8, and Fondren Road/South Braeswood Boulevard.

High concentration of collisions also occur along Fondren Road between South Braeswood Boulevard and West Bellfort Avenue, and South Gessner Road between South Braeswood Boulevard and West Bellfort Avenue.

Figure 10: All Collision

Source: Brays Oaks Management District

SAFER TRANSPORTATION NETWORK CONTINUED



High concentrations of bicycle/pedestrian collisions have also occurred at or near the intersections of West Belfort Avenue/Fondren Road, Fondren Road/South Braeswood Boulevard (near the Brays Bayou Trail), and South Braeswood Boulevard/Keegan's Bayou Trail.

Although the concentration is not as great as all injury collisions, many bicycle/pedestrian collisions have occurred along West Belfort Avenue, and South Braeswood Boulevard, which parallels the Brays Bayou Trail and intersects the Keegan's Bayou Trail.

Figure 11: Bike - Pedestrian Collision

Source: Brays Oaks Management District

SAFER TRANSPORTATION NETWORK CONTINUED

STATISTICS ON COLLISIONS

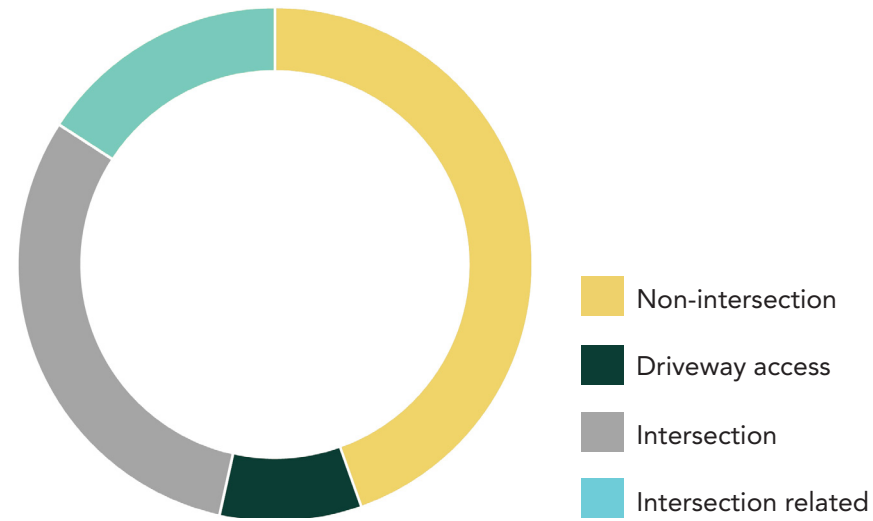


Figure 12: Collisions by Location

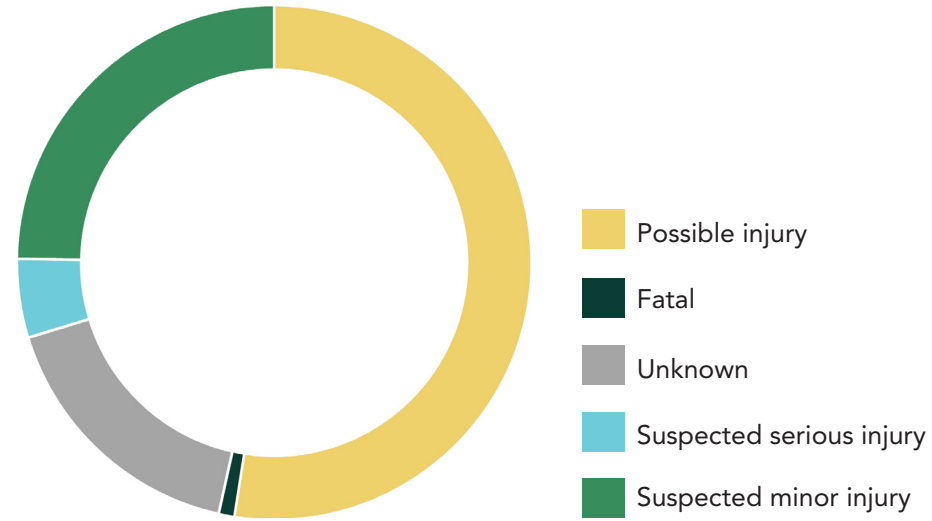


Figure 13: Collisions by Severity

There were a total of 2,642 injury collisions reported District-wide from 2016 to 2020. Among these 2,642 collisions, 1,399 collisions (53%) led to a possible injury and 653 collisions (25%) led to a suspected minor injury. There were 147 F+SI (Fatal and Serious injury) collisions; 121 collisions (5%) led to a serious injury and 26 collisions (1%) led to a fatality. There were 443 collisions reported as an unknown severity. It should be noted that this analysis focuses on the number of injury collisions but not on the number of injured parties (e.g. one collision could result in multiple injuries). Figure 12 illustrates the classification of all collisions based on severity (the most severe of which are Fatal and Suspected Serious Injury).

When evaluating collision location data for the BOMD Livable Centers study area, the most collisions occurred at non-intersection locations. 45% of all collisions (1187 collisions) occurred on at non-intersection locations whereas 31% (817 collisions) occurred at intersections. When only F+SI collisions are considered, 56% (83 collisions) occurred on at non-intersection locations whereas 24% (24 collisions) occurred at intersections. This classification by location is shown in Figure 13.

THE FOLLOWING INTERSECTIONS ARE MORE PRONE TO COLLISIONS



South Braeswood Boulevard and Fondren Road



South Braeswood Boulevard and Sapling Way



West Belfort Avenue and Fondren Road



SIGNAGE AND WAYFINDING

An off street network presents challenges for navigation in a community. Frequent and consistent signage along the off street network is key to making people feel comfortable. In addition to signage, frequent crossings of the bayou can help expand the network particularly in areas where there is a higher volume of bike and pedestrian traffic. In these areas the trail network should stay separate from vehicle travel as much as possible. Crossings should be spaced roughly .25 miles apart.

An off-street network also provides opportunities to create additional connections across the bayous without the expense of a vehicular bridge.



Existing signage on the streets indicating a bike lane.



Signage at the start of the Keegans Bayou Trail.

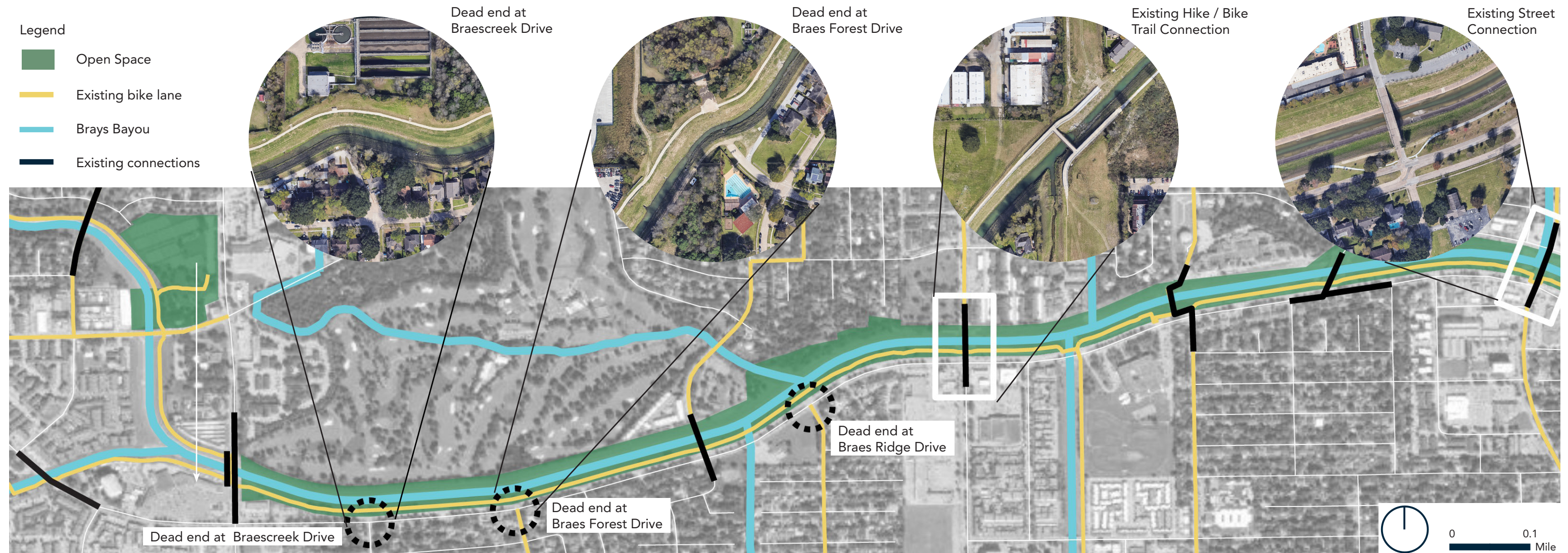


Figure 14: Connections across and along the Brays Bayou

Source: Brays Oaks Management District

BOULEVARD DESIGN

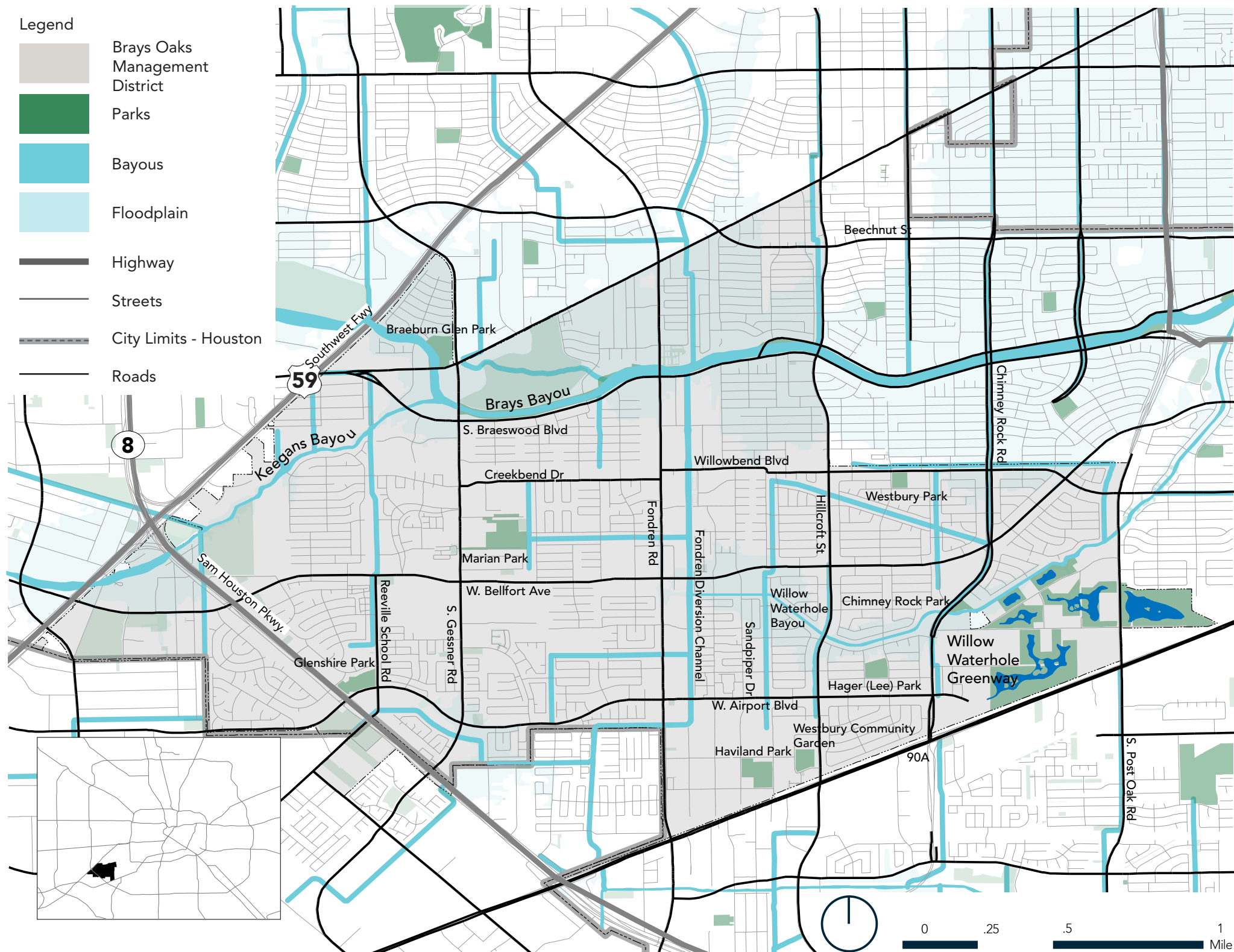


Figure 15: Existing Road Network

Source: Brays Oaks Management District

- West Airport Boulevard** is a four to six lane east-west divided roadway that provides access to residential development and commercial businesses. In 2017, the Brays Oaks District and Texas Department of Transportation (TxDOT) proposed to widen and extend West Airport Boulevard from Hiram Clarke Road to Farm Road 521. The project would construct additional travel lanes, bicycle lanes, pedestrian sidewalks and a raised median with dedicated left-turn lanes at selected intersections.
- West Belfort Avenue** is a four to six lane, east-west divided roadway with a posted speed limit of 20 mph (school zone area) to 35 mph. West Belfort Avenue provides a mix of commercial centers, access to residential neighborhoods as well as homes fronting the roadway.
- Braeswood Boulevard** is a four to six lane east-west divided roadway which connects Bissonnet Road in Westwood and Highway 610 and Post Oak Road - South loop and West loop. This road runs parallel to Brays Bayou and the Brays Bayou Greenway Trail.
- Chimney Rock Road** is a four lane north - south roadway with a posted speed limit of 30 mph.
- Creekbend Drive** is a four lane east-west undivided roadway with a posted speed limit of 30 mph. A bicycle facility is proposed between Gessner Road and Fondren Road.
- Fondren Road** is a four to six lane north-south divided roadway that provides access to residential development and commercial businesses. The posted speed limit is 35 mph. Sidewalks are provided along both sides of the roadway within the BOMD Livable Centers study area. In May 2019, a Federal Highway Administration (FHWA) Road Safety Audit was completed, recommending short term and medium to long term improvements to improve safety. This includes pedestrian phase timing at intersections, median improvements and straightening crosswalks, improved visibility crosswalks markings, and added bicycle facilities
- South Gessner Road** is a four lane north-south divided roadway with a posted speed of 20 mph in school zones, when children are present, and 35 mph on other segments of the roadway. Sidewalks are provided on both sides of the roadway. There are two schools located on the north and south ends of South Gessner Road within the BOMD Livable Centers study area; Valley West Elementary School and Gross Elementary School. At these locations, crosswalks and school related roadways signs are present.
- Hillcroft Avenue** is a four lane north-south divided roadway with a posted speed of 35 mph on other segments of the roadway. Sidewalks are provided on both sides of the roadway. The roadway mainly serves the residential community with some commercial and religious facilities along the roadway.
- South Post Oak Road** is a six lane east-west divided roadway, between Willowbend Boulevard and 90A in the BOMD Livable Centers study area. The posted speed limit is 40 mph.
- Riceville School Road** is a two lane north-south roadway with a posted speed of 35 mph. Sidewalks are provided on west sides for the majority of its length.

BOULEVARD DESIGN CONTINUED



The median on West Airport Boulevard.



The median on West Bellfort Avenue



The median on Fondren Road.



The median on Hillcroft Avenue.

BOULEVARD DESIGN CONTINUED

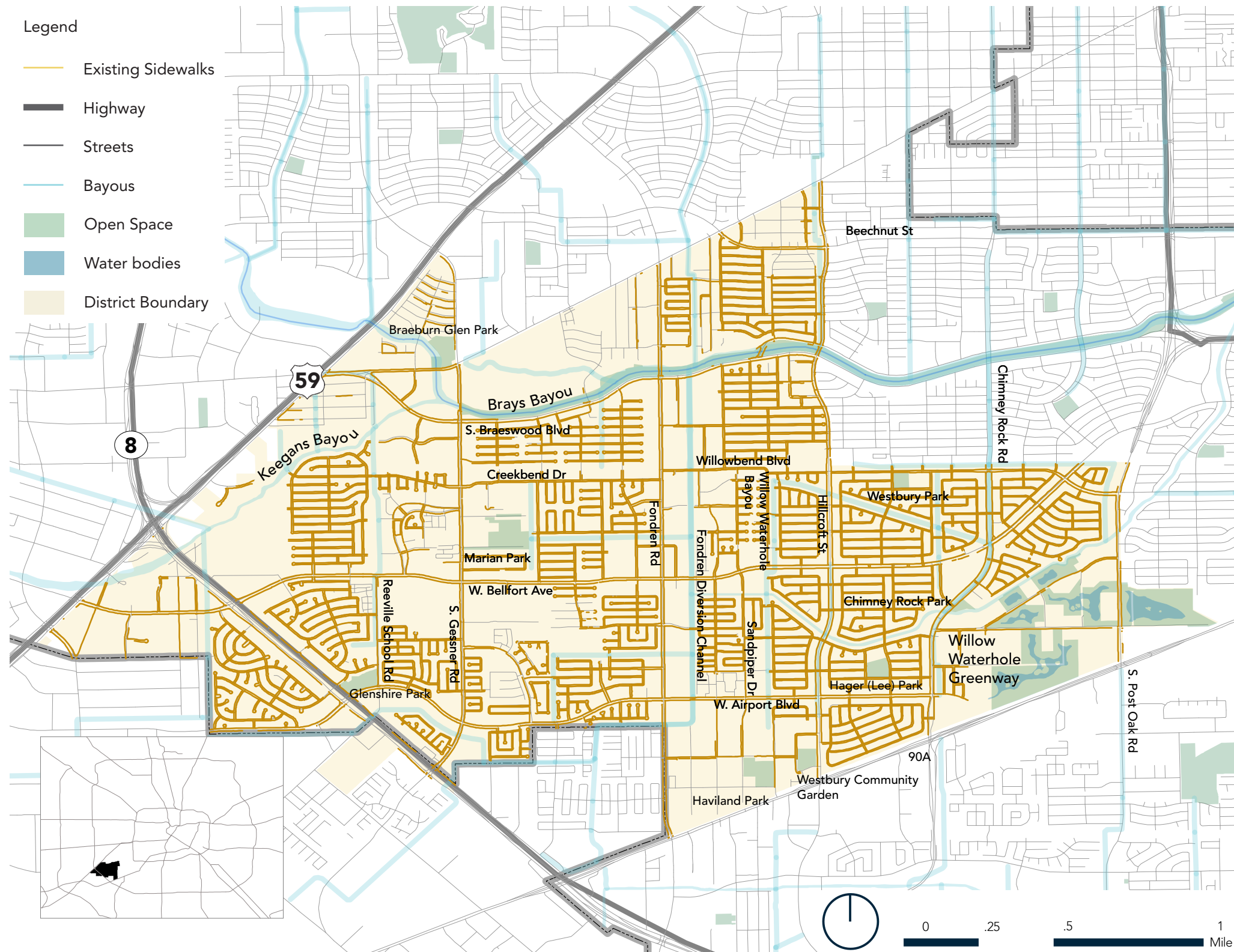


Figure 16: Existing Sidewalks

Source: Brays Oaks Management District

Walkability is defined as the ability to travel easily and safely between various origins and destinations without having to rely on automobiles or other motorized travel. The ideal “walkable” community includes wide sidewalks, a mix of land uses such as residential, employment, and shopping opportunities, a limited number of conflict points with vehicle traffic, and easy access to transit facilities and services.

In general, there are pedestrian facilities, transit stops and shelters along most of the project roadways. However, the condition varies and the width of most of the sidewalks are five feet wide, which is the bare minimum to allow for two people to walk together.



Sidewalks are present on nearly all streets in the district but the quality and maintenance of the sidewalks is poor in many places.

BOULEVARD DESIGN CONTINUED

Street design is a key determinant in a community's overall quality of life. Streets are the public spaces that connect our homes, schools, businesses, civic buildings, recreation areas, daily necessities, and virtually all other destinations. Within the past decade a significant shift has occurred which placed more emphasis on the design of facilities serving pedestrians, bicyclists, and transit users, a design approach also known as 'complete streets'.

In November 2013, Mayor Annise Parker issued an Executive Order to develop a Houston Complete Streets and Transportation Plan (HCSTP). The plan is meant to provide safe, accessible and convenient use by motorists, public transit riders, pedestrians, people of all abilities and bicyclists. The plan itself highlights six objectives:

1. Establish a menu of complete street types based on multi-modal classification,
2. Develop a forecast of street type citywide to complement and extend currently established plans to create the long range vision of complete streets,
3. Establish city standards to minimize obstructions in the public pedestrian travel ways,
4. Benefit from community input and thought rendered through reports such as Livable Center Studies and Scenic Houston Streetscape Resource Guide, and
5. Recognize the role of streets play in drainage and water quality.

The role of the six objectives is to help guide efforts and outline a specific methodology for the implementation of the complete streets along with seven factors that measure the success of the complete street projects.

1. Mode Share,
2. Pedestrian Accessibility,
3. Bicycle Access and Usage,
4. Transit Accessibility and Access,
5. Intermodal Indicators, and
6. Safety (All modes).

Defined by the Executive Memo, Complete Streets are "Public roadways that take into account all users, including people who are driving or riding in cars, using mass transit, riding bikes, walking, using wheelchairs, driving or riding in trucks, driving or being transported by emergency vehicles, and being served at their residence or property by other users. Complete streets do not mean that all streets are identical."

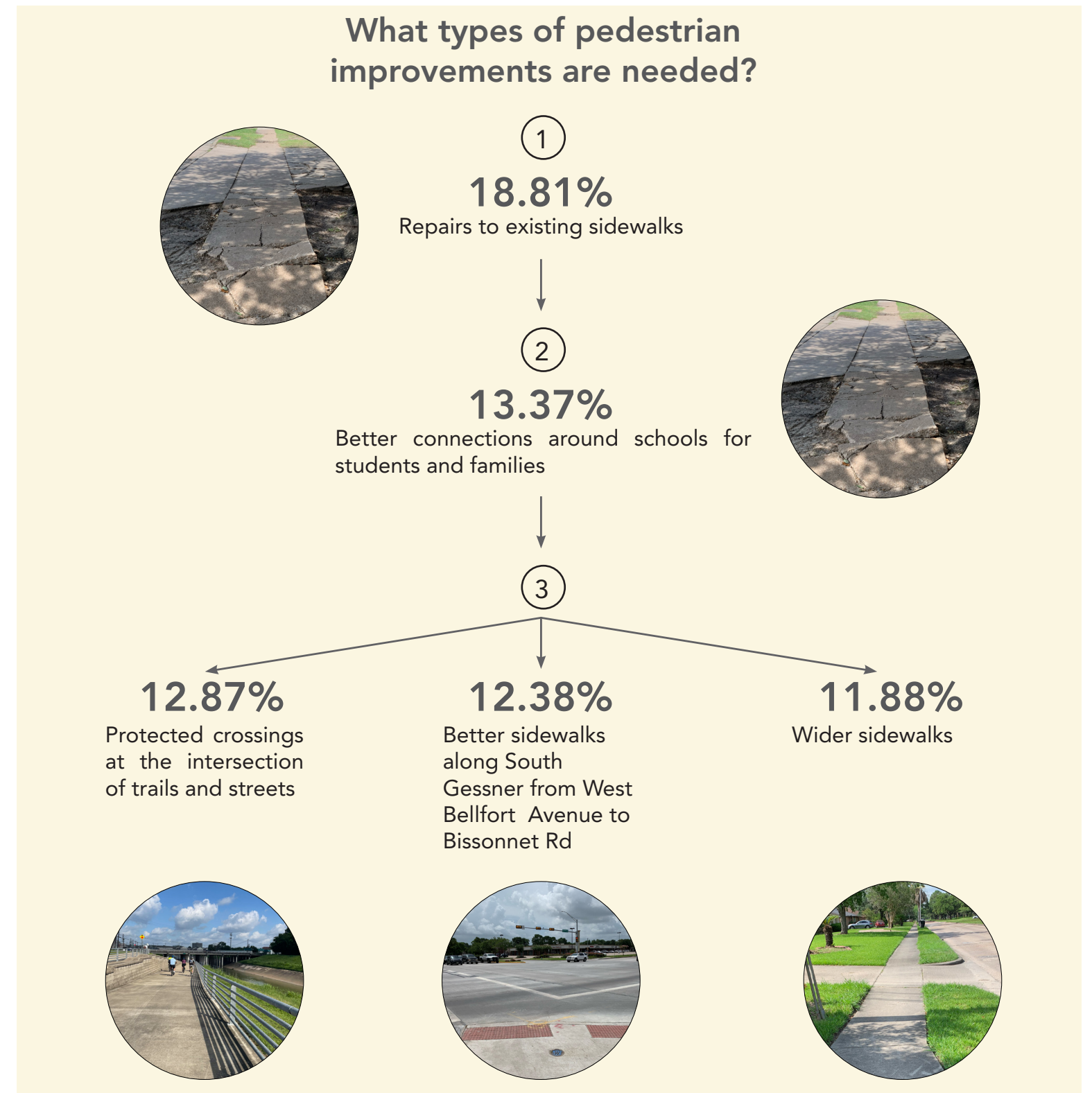


Figure 17: Survey Question

Source: Public Survey

BOULEVARD DESIGN CONTINUED

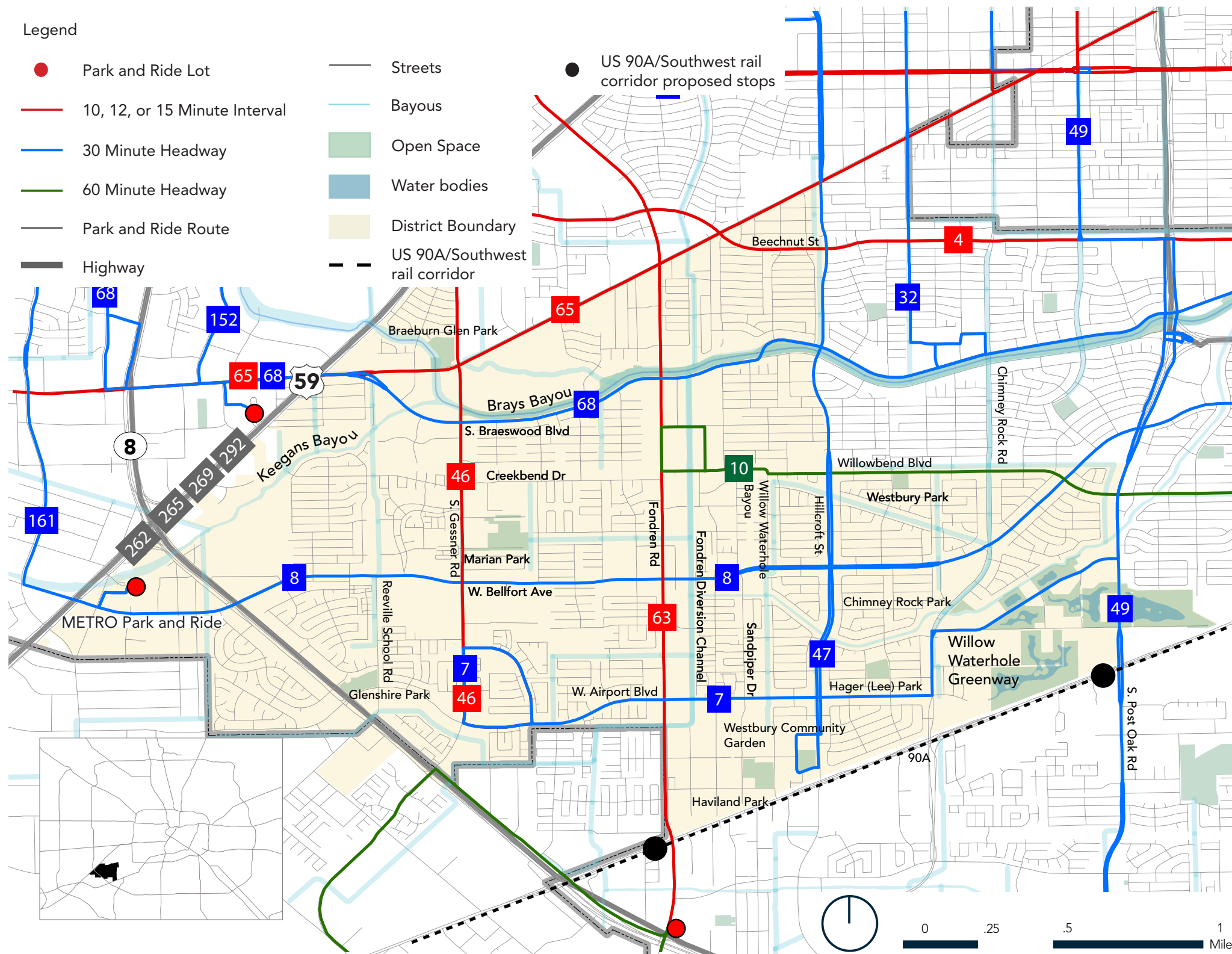


Figure 18: Existing Transit Service

Source: Brays Oaks Management District

West Belfort Park and Ride opened in 1993 with 1,203 spaces and expanded in 2003 to 1,828 spaces. This Park and Ride lot serves one of the busiest corridors in the Houston Region and is currently over capacity and experiences flooding during severe weather. METRO is planning for the construction of a 6-level parking garage on the site with roughly 3,000 parking spaces. Some of the opportunities for these proposed improvements include:

- Pedestrian and bicycle connections to the Keegans Bayou Trail,
- Stormwater improvements and flood mitigation, and
- Transit Oriented Development.

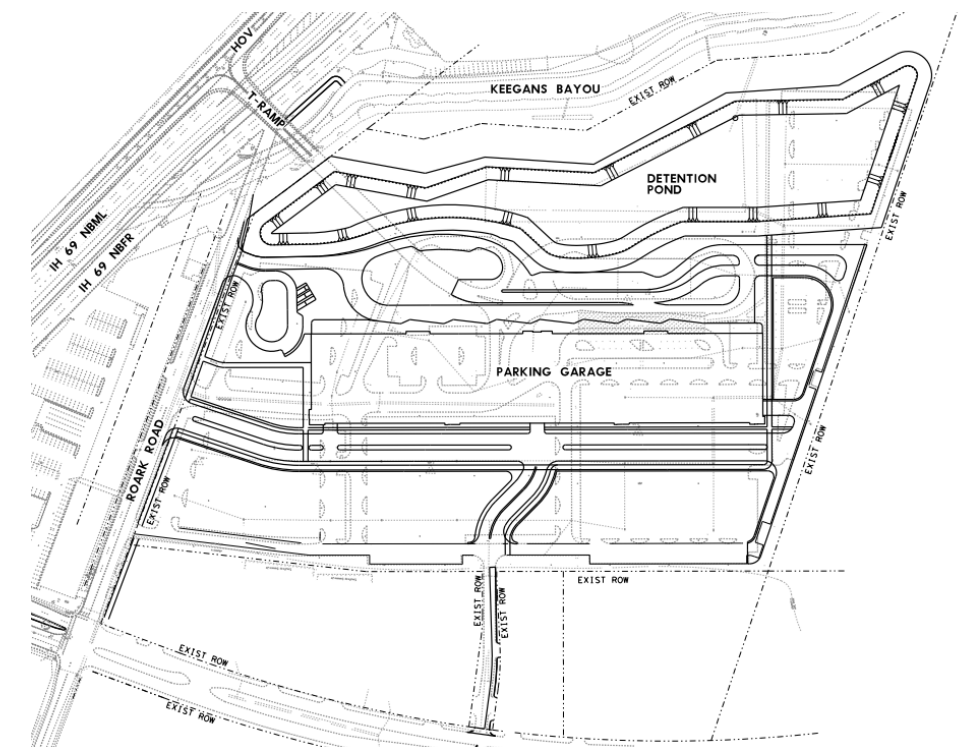


Figure 19: West Belfort Park and Ride Design Proposal

The initial design from METRO shows the addition of a garage and detention pond on the site.

BOULEVARD DESIGN CONTINUED



A bus stop with a shelter.



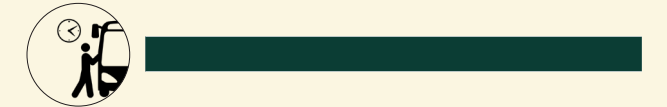
A bus stop without a shelter.

What types of transit improvements are needed and where?

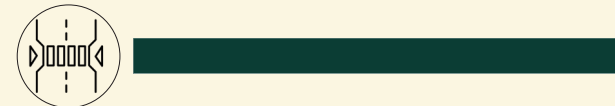
1. Improvement in bus connections



2. Total mobility: bus to bike to walking



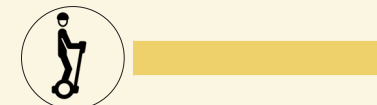
3. Traffic calming measures



4. Shorter bus rides on popular routes



5. Improve micro and macro mobility



6. Re-position stops that are difficult to access



7. More park and ride opportunities



8. Improvement in bus shelters



Figure 20: Survey Question

Source: Public Survey

OPPORTUNITIES AND CHALLENGES



Activated Bayous - Current development patterns along the bayous predominantly include the rear of buildings presenting a challenge to placemaking. There is an opportunity to activate key segments to enhance the usability of the network.

Multifamily Quality and Design - A number of larger multi family developments within the district are aging and in need of repair. These large complexes break up the grid of streets and require people to walk around. They also limit the visibility to the interior of the complex and quality and maintenance can suffer.

Diverse Housing Opportunities - There is an opportunity to diversify the housing market with the addition of new housing types such as mixed-use and transit oriented multifamily and alternative types of for-sale products.

Neighborhood access - Improving the livability of neighborhoods means expanding access to quality public spaces, neighborhood centers, and amenities.

Support and expand on the livability of neighborhoods by enhancing access and usability of public spaces, expanding housing choice, and investing in mixed use and transit supportive developments.



ANALYSIS: LIVABLE NEIGHBORHOODS CONTINUED

BACKGROUND

Southwest Houston is coming full circle. An area that thrived with new single-family homes and top tier retail development from the 60s to the early 80s is coming back to life in a big way. After a long period of uncertainty, major new education and civic projects that are transforming the area will be constructed over the next few years.

Houston Baptist University Expansion

Houston Baptist University, located immediately north of the Brays Oaks District, is starting construction on a major expansion and redevelopment project that is expected to have a huge impact on Southwest Houston. Infrastructure for the project will be funded with the help of 380 financing by the recently enlarged TIRZ 20 and the City of Houston. The initial phase of the project calls for extension of the former dead end street off Highway 59, often called "the road to nowhere", to connect with the campus street network at an attractive fountain centered circle. Subsequent phases include remodeling of the former Wellness Center to house all athletic office and a new fitness facility to be called the Bradshaw Fitness Center. To the north of this building, plans call for construction of a 6,000 seat basketball arena and special event center. At the south corner of Highway 59 and Fondren, the aging 25 acre shopping center, often called the "Loehmann's Center", will be demolished and redeveloped as a beautifully landscaped mixed-use complex that will include upscale retail and restaurant space, professional office space, the HBU graduate school and student housing. The complex will be leased to the developer or other commercial entity who will operate the facilities. Total cost of all these horizontal and vertical improvements is expected to be well over \$180 million.

In addition, HBU is constructing a football stadium at the south end of the campus for its new entry in the Southland Conference. This project is being financed by university funds. Combined, these new HBU projects are expected to greatly enhance the image of Southwest Houston.

Houston Community College

With the assistance of the Brays Oaks District and the City of Houston, HCC has acquired 12 acres of land at West Belfort and Riceville School Road, immediately west of Welch Middle School, from HISD. HCC plans to build a new Workforce Development Campus on the site which will offer a number of industrial, medical and other programs in fields where there is strong demand for trained workers in the Houston area. Thus, the center will provide many high school graduates, who might otherwise land in low paying unskilled jobs, opportunities to become productive members of society.

Willow Waterhole Greenway

With the creation of the Willow Waterhole Detention Basin that is being excavated by the Harris County Flood Control District on a 291 acre site in the southeast corner of the Brays Oaks District, a beautiful park with many recreational and aesthetic amenities is being created for the benefit of Southwest Houston residents. Initial improvements were made possible through a \$400,000 grant to the Houston Parks and Recreation Department from the Texas Parks and Wildlife Department in 2000. In 2001, a new 501(c)(3) organization, the Willow Waterhole Greenspace Conservancy, was created to oversee future improvements. In 2012, the Conservancy received a \$400,000 federal grant to fund additional amenities, including parking, trails, signage, educational outreach, habitat restoration and plantings.

Levitt Pavilion, Houston

The Levitt Foundation and Levitt Pavilions organizations headquartered in Los Angeles have selected the Willow Waterhole Greenway as its Houston area site for an outdoor entertainment pavilion. The venue will be the tenth such facility in the U.S.



Houston Baptist University

Source: Houston Baptist University's official website

Once completed, the pavilion will offer 50 free top name family music events a year. Operating expenses up to \$5 million will be underwritten by the Levitt Foundation. Capital costs of \$12 million are being raised by a local affiliated foundation with the support of the City of Houston and other entities. This project promises to be a major entertainment addition for Southwest Houston residents.

Westbury Christian School Athletic Complex

Westbury Christian School acquired the former Westland YMCA on Fondren in 2011. The property is a 15 acre tract which had an existing building with a weight room and basketball court that is undergoing remodeling to accommodate a locker room, golf room, cardio room and community meeting room. Plans call for construction of a 1,500-2,000 seat football/soccer/track stadium, a baseball field with a soft ball field on the site. Total costs, including a \$2 million reserve for future expansion, are estimated to be \$12 million. A capital fund raising campaign is underway with \$3 million already raised.

NEIGHBORHOOD ACCESS

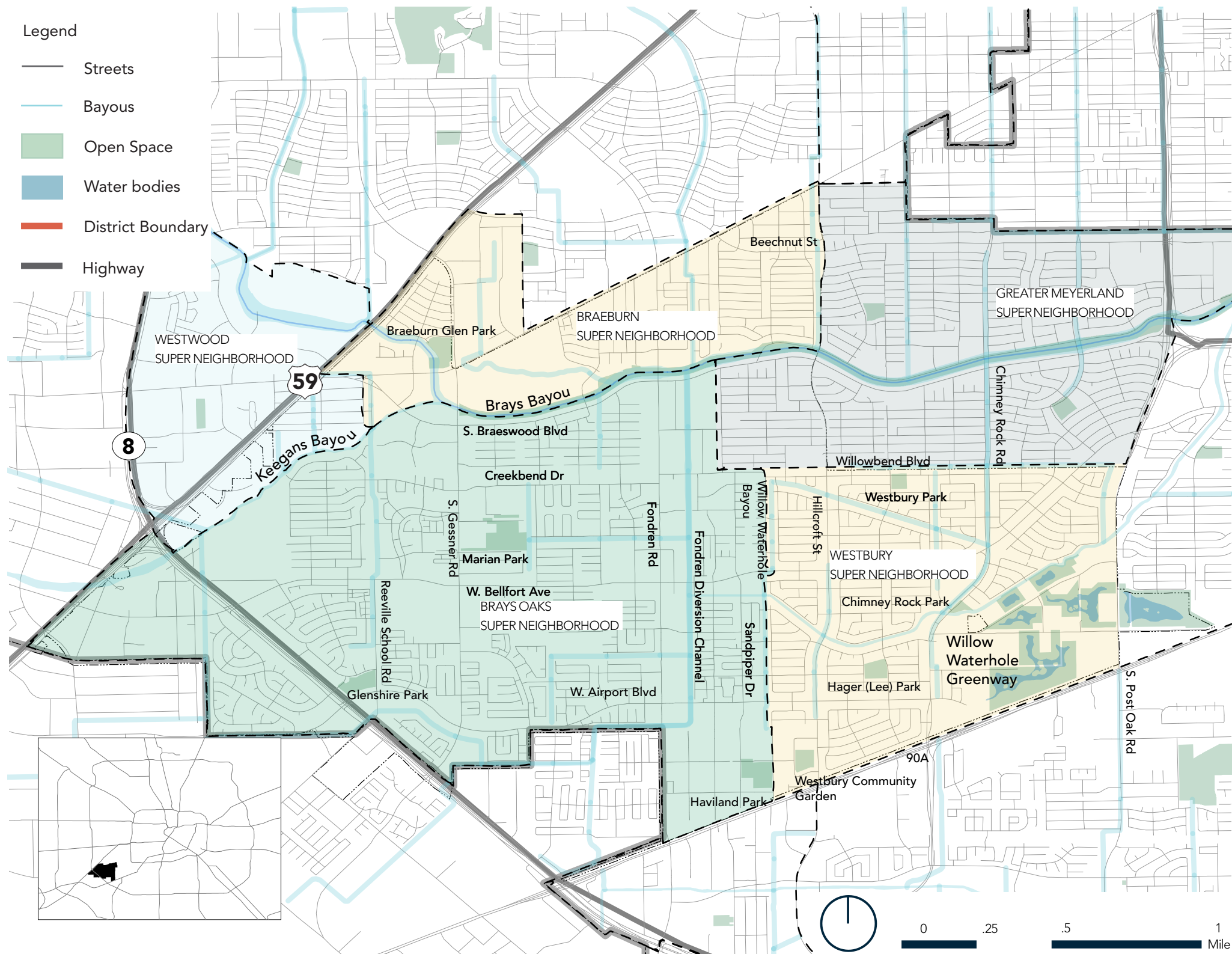


Figure 21: Super Neighborhoods within the Study Area

Source: Brays Oaks Management District

The Brays Oaks Management District includes three different super neighborhoods. Super neighborhoods are recognized by the City Government while individual neighborhoods are determined by development patterns, trends and HOA's.

SN#30 Braeburn Super Neighborhood

The Braeburn Super Neighborhood is located between Brays Bayou and Bissonnet in southwest Houston. Braeburn is a group of subdivisions along Brays Bayou, west of Hillcroft Avenue and south of the Sharpstown community.

Bissonnet is the commercial corridor and northern boundary of the Braeburn Super Neighborhood. Both sides of this corridor consist of high density residential developments and commercial strip centers. Gessner is the major thoroughfare on the western sector of the super neighborhood as well as Braeburn Glen Subdivision. One of the subdivisions, Brae Acres, is known for the large single family lots.

The Braeburn Super Neighborhood includes the following neighborhoods: Braeburn Valley Garden, Bonham Acres, Robindell, Braes Timbers, Larkwood, and Braeburn Terrace.

SN#36 – Brays Oaks Super Neighborhood

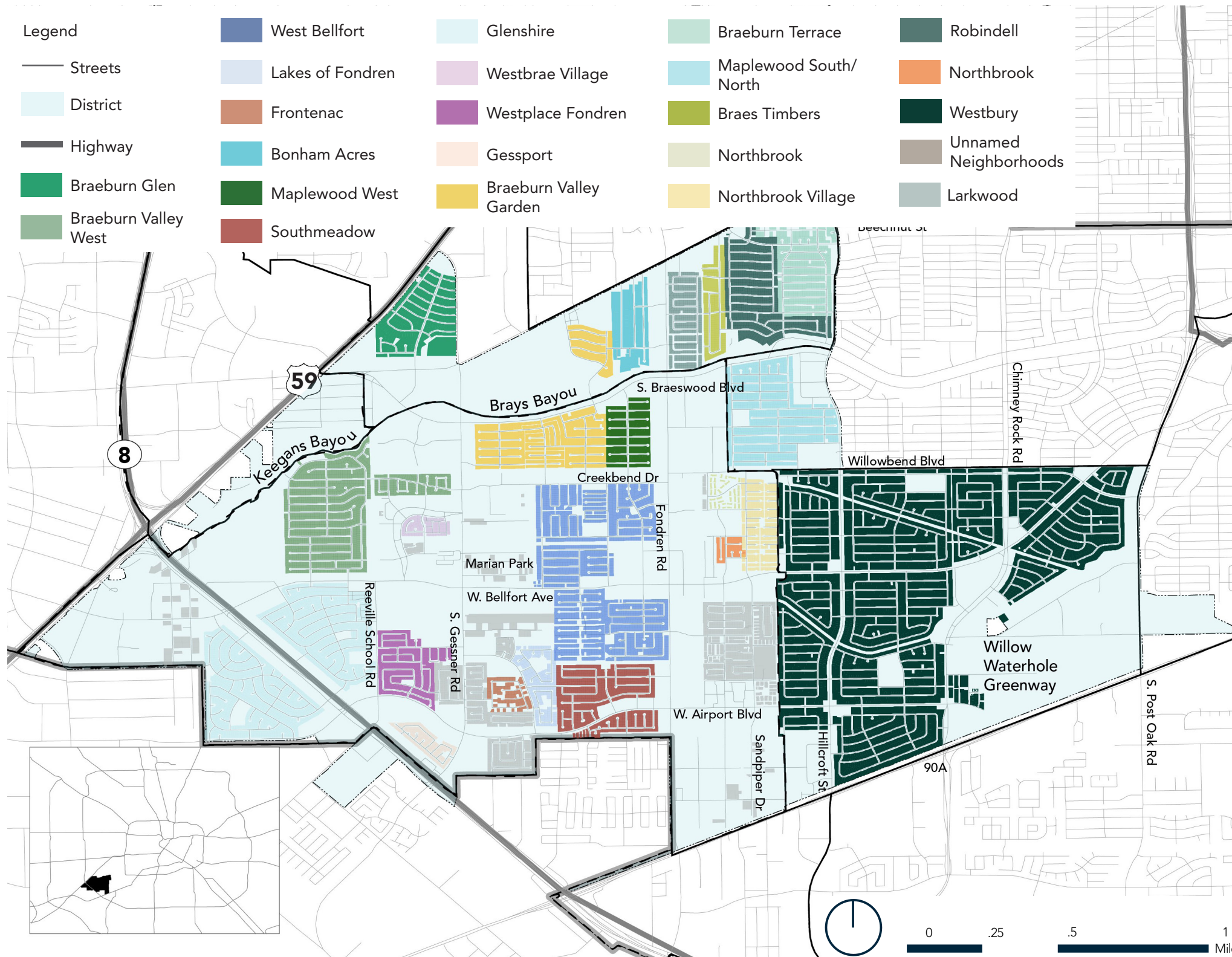
The neighborhood is roughly about eight square miles bounded by Braeswood on the north, US 90A on the south, Braewick ditch on the east and U.S 59 on the west of the part of oil tycoon Walter Fondren's ranch, Brays Oaks is one of Houston's most accessible communities with a mixture of families, culture and commercial businesses this neighborhood has become a popular place to live as well as work.

In the 1940s, developers turned undeveloped land in the Brays Oaks area into a new attractive location for young professionals. In the late 1970s and early 1980s, the area begins to further transform with the mixture of apartment complexes that sprang up beside residential subdivisions. Many commercial businesses begin to appear along the neighborhood's major corridor, Fondren. Restaurants and strip malls followed the same economic stream into the neighborhood. The outlook seemed promising to the predominantly Jewish area.

By the mid 1980's, the real estate market begins to suffer from the Houston oil bust. Property values begin to decline and many of the apartment complexes started to deteriorate as management changed. Turnover in the residential areas also led to merchants leaving retail spaces along the Fondren strip vacant.

By the early 1990s, apartment owners and other residents began a counter offensive of their own. In several high-profile cases, homeowners in the Southmeadow subdivision sued the owners of the West Fondren and Village of the Green apartments for negligence contributing to constant criminal activity. The homeowners collected a multi-million dollar settlement and used it to buy and raze both properties. By the mid 1990s, property values began to rebound.

NEIGHBORHOOD ACCESS CONTINUED



The Brays Oaks Super Neighborhood includes the following neighborhoods: Glenshire, Westbrae Village, Westplace Fondren, Braeburn Valley West, Gessport, Frontenac, Southmeadow, West Belfort, Maplewood West, Northbrook, and Northbrook Village.

SN#37 – Westbury Super Neighborhood

Westbury is located in the southwest part of Houston; north of US 90A, west of South Post Oak Road and the 610 loop and adjacent to the Fondren Southwest and Meyerland neighborhoods.

Recently, Westbury has experienced a rebirth of sorts as the area has become attractive to buyers forced out of pricier markets such as the Heights and Montrose. Westbury was named as the 2007 “Best Hidden Neighborhood” by the Houston Press.

The Westbury Super Neighborhood includes the Westbury neighborhood.

SN#31 – Greater Meyerland Super Neighborhood

Meyerland Area is found on both sides of Brays Bayou at the southwest corner of Loop 610. Its many neighborhoods include Meyerland, Marilyn Estates, Barkley Square, and Maplewood. Only a small portion of this super neighborhood is within the boundary of the Brays Oaks Livable Center Study Area with Maplewood South neighborhood.

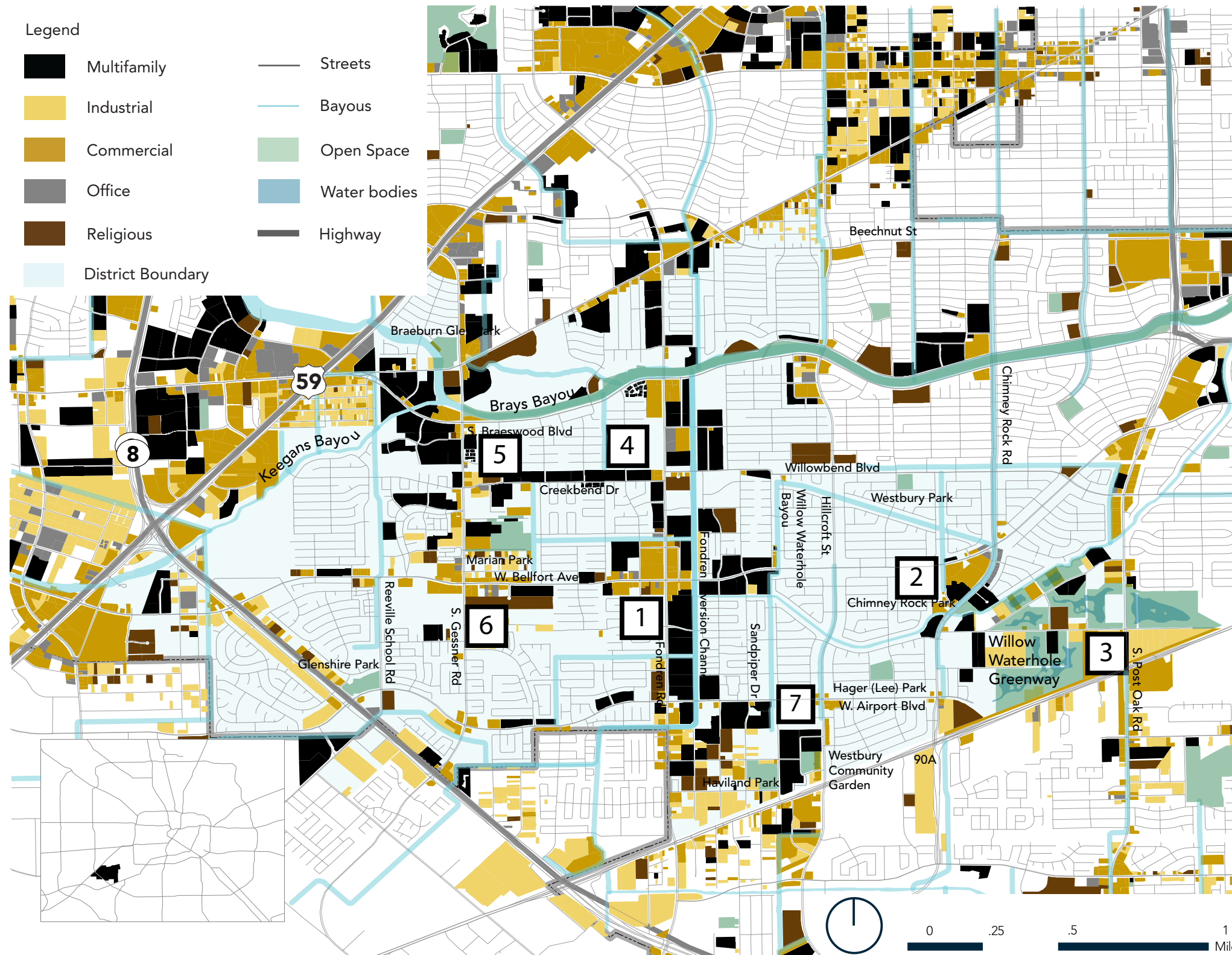
SN#29 – Westwood Super Neighborhood

The Westwood Super Neighborhood is composed of the area in southwest Houston along US 59 and Beltway 8. It is flanked on the north by the Sharpstown area; on the south by the Greater Fondren Southwest area; and on the west by the Alief area (Beltway 8). Only a small portion of this super neighborhood is within the boundary of the Brays Oaks Livable Center Study Area.

Figure 22: Neighborhoods within the Study Area

Source: Brays Oaks Management District

NEIGHBORHOOD ACCESS CONTINUED



Regional Centers have been identified through an analysis of land use and location along major corridors. Centers identified as part of this study include:

1. Fondren SW Village Mall - The Village Mall is a 305,000 square foot grocery anchored complex providing an important commercial center for the area,
2. Westbury Square - Founded in 1960, it initially was known as the "premier" shopping center for the area. However in 1970 with the galleria opening, the center began to decline leaving vacant buildings. There is a strong desire to see this site revitalized,
3. Willow Waterhole Greenway - Willow Waterhole Greenway is a 290 acre greenway offering a recreational center for the region with opportunities for expansion and added attractions such as the anticipated Levitt Pavilion, Houston,
4. Fondrenwood Shopping Center - The Fondrenwood Shopping Center provides a retail oriented center just below the popular Brays Bayou Trail,
5. Braeburn Country Club Area - Located at the intersection of the Brays and Keegans Bayous the Braeburn Country Club area is home to a Fiesta Market at the intersection of South Gessner Road and South Braeswood Boulevard. The center attracts people for recreational and shopping needs,
6. West Belfort Avenue and South Gessner Road - The center at the intersection of West Belfort Avenue and South Gessner Road is a smaller center that includes a Walmart neighborhood market and series of neighborhood serving strip centers with retail services and restaurants, and
7. West Airport Boulevard and Hillcroft Avenue - This smaller neighborhood serving center is located at one of the gateways to the district from Highway 90A.

Figure 23: Potential centers within the Study Area

Source: Brays Oaks Management District

NEIGHBORHOOD ACCESS CONTINUED



1. Fondren SW Village Mall



2. Westbury Square



3. Willow Waterhole Greenway



4. Fondrenwood Shopping Center



5. Braeburn Country Club



6. West Belfort Avenue and South Gessner Road



7. Airport Boulevard and Hillcroft Avenue

NEIGHBORHOOD ACCESS CONTINUED

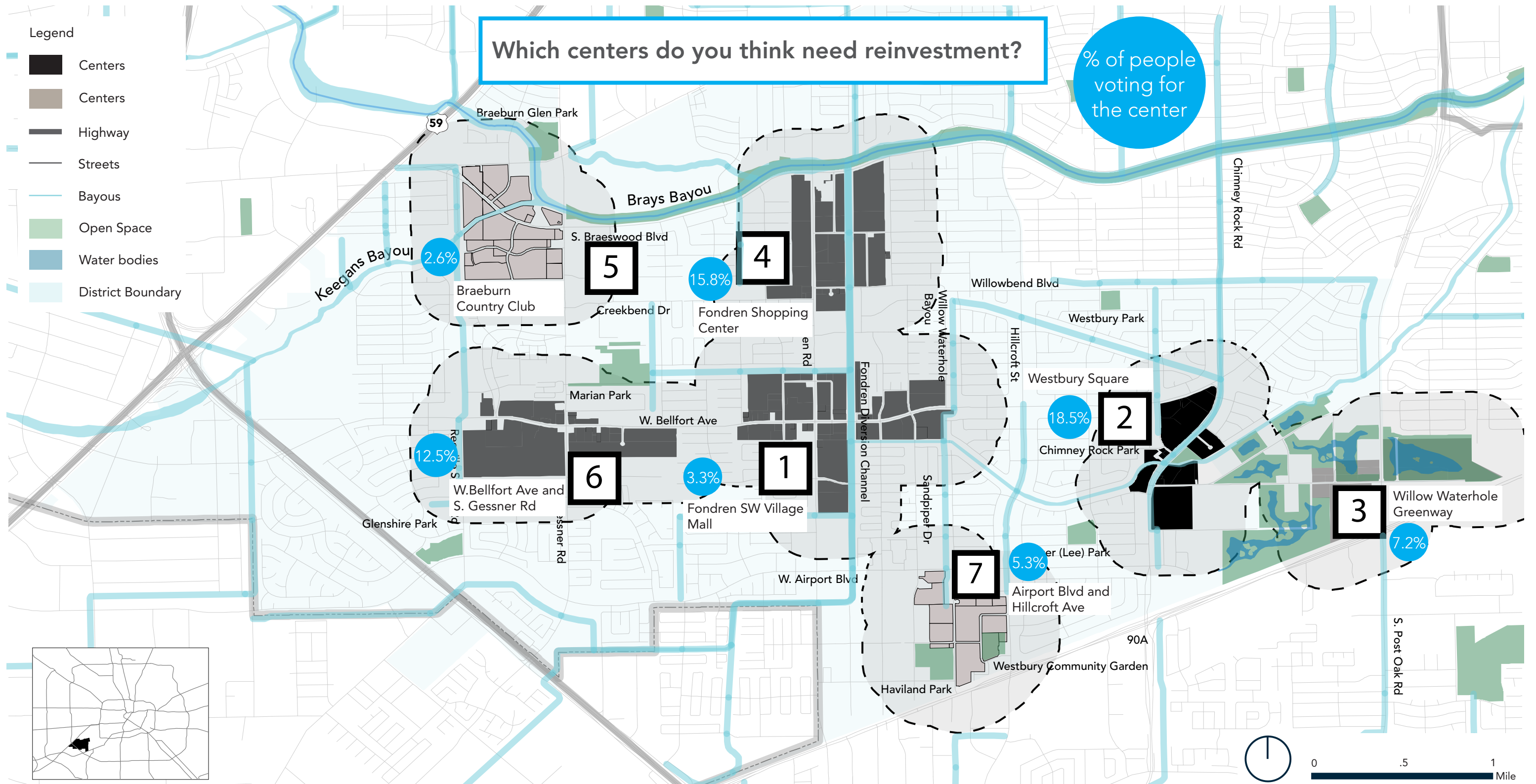


Figure 24: Centers

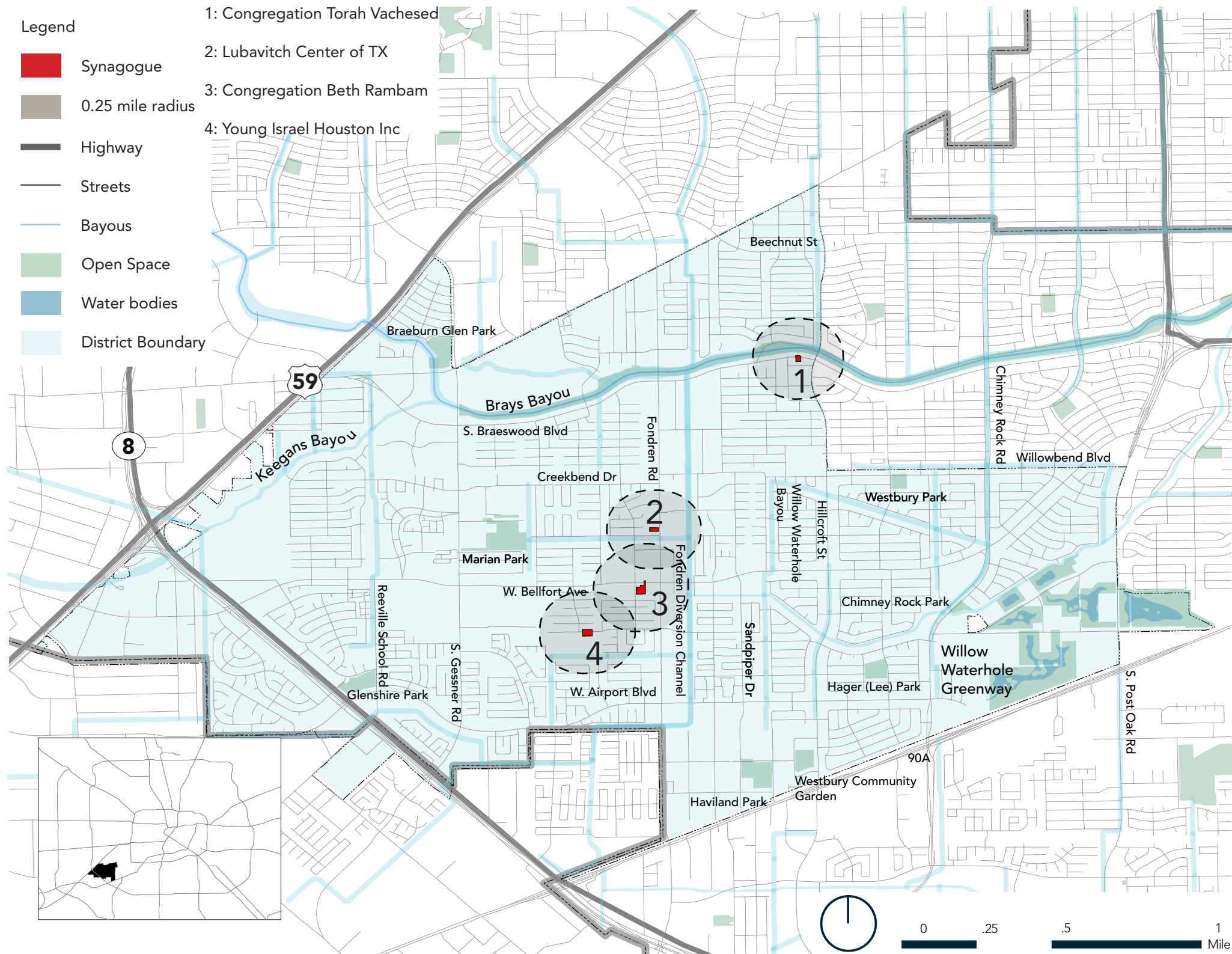
Source: BOMD, Public survey

NEIGHBORHOOD ACCESS CONTINUED



Parking and retail in Fondren SW Village Mall is a potential site for future popups and tech urbanism.

NEIGHBORHOOD ACCESS CONTINUED

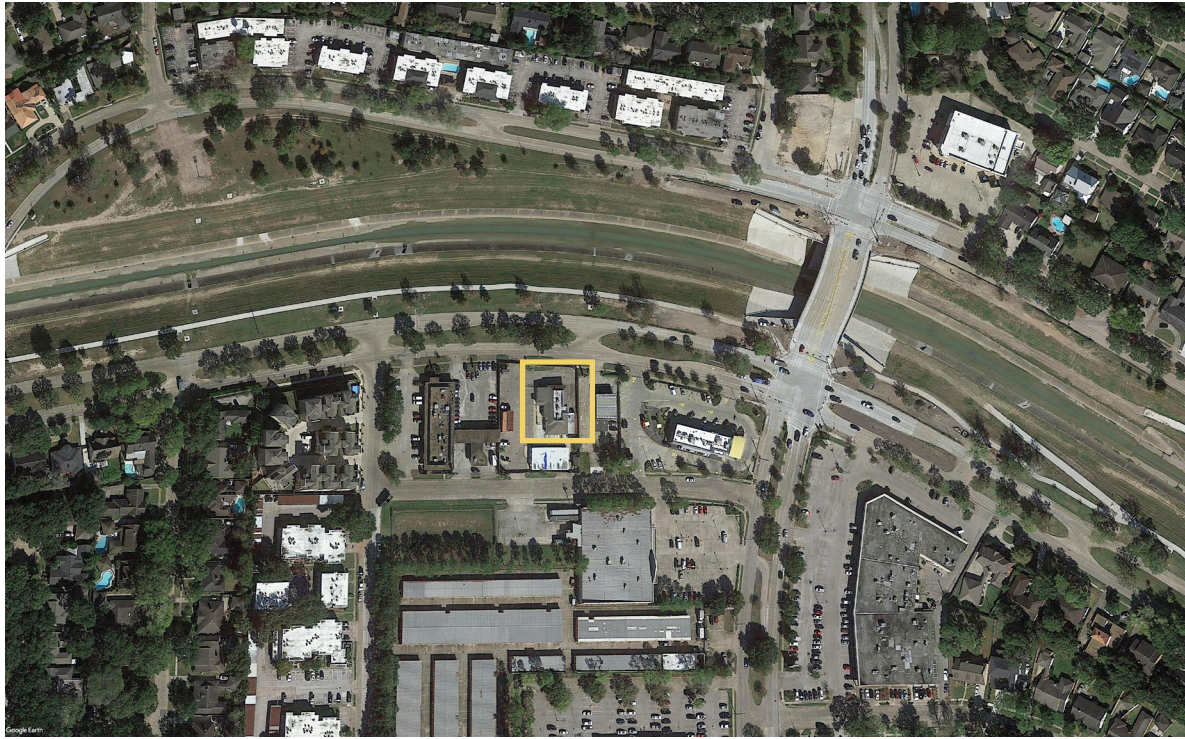


There are four different Orthodox Jewish Synagogues in the community. The Orthodox Jewish community has demonstrated a demand for new homes at a variety of price points that are within walking distance to Jewish Temples. New housing located central to the district and at the intersection of Fondren Avenue and Bellfort Avenue would meet a growing demand in the district.

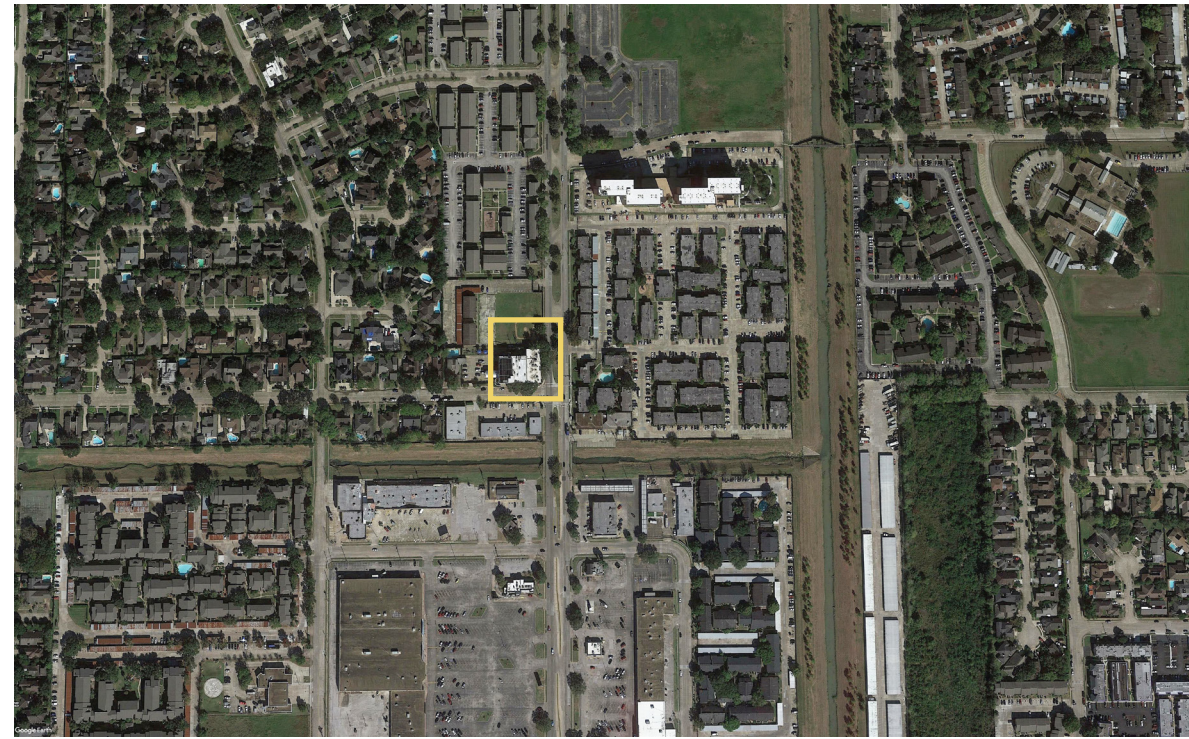
Figure 25: Orthodox Synagogues within the Study Area

Source: Brays Oaks Management District

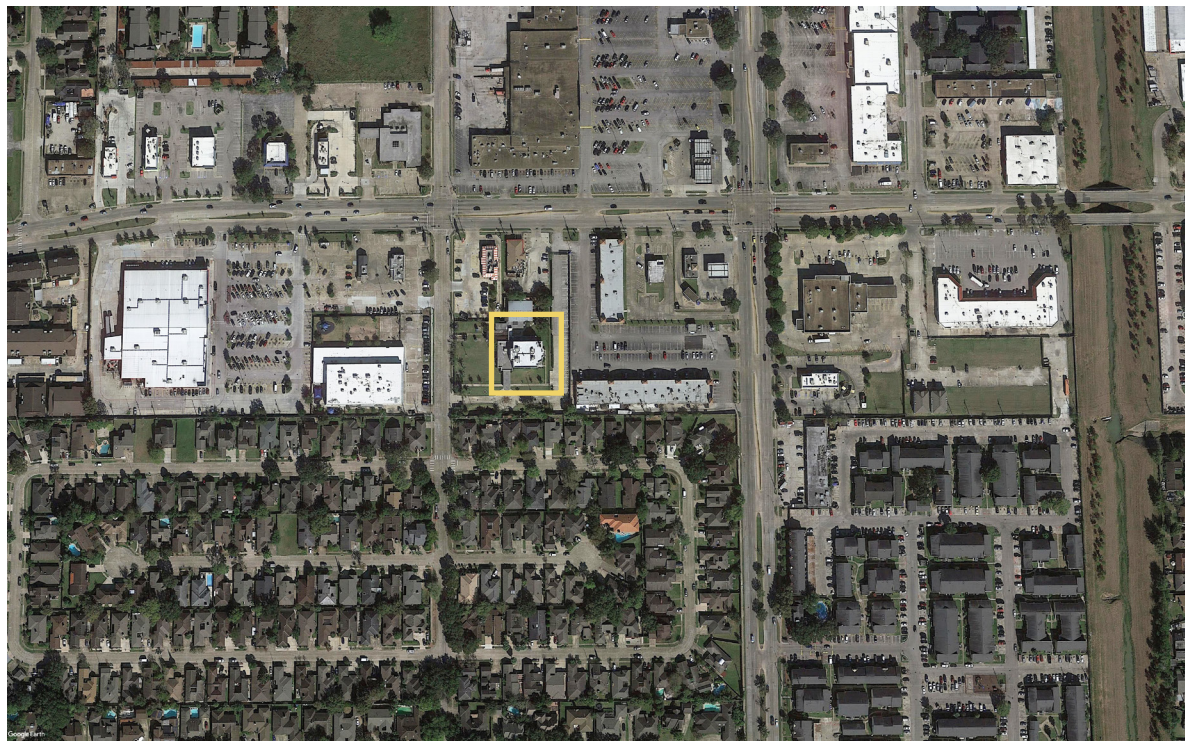
NEIGHBORHOOD ACCESS CONTINUED



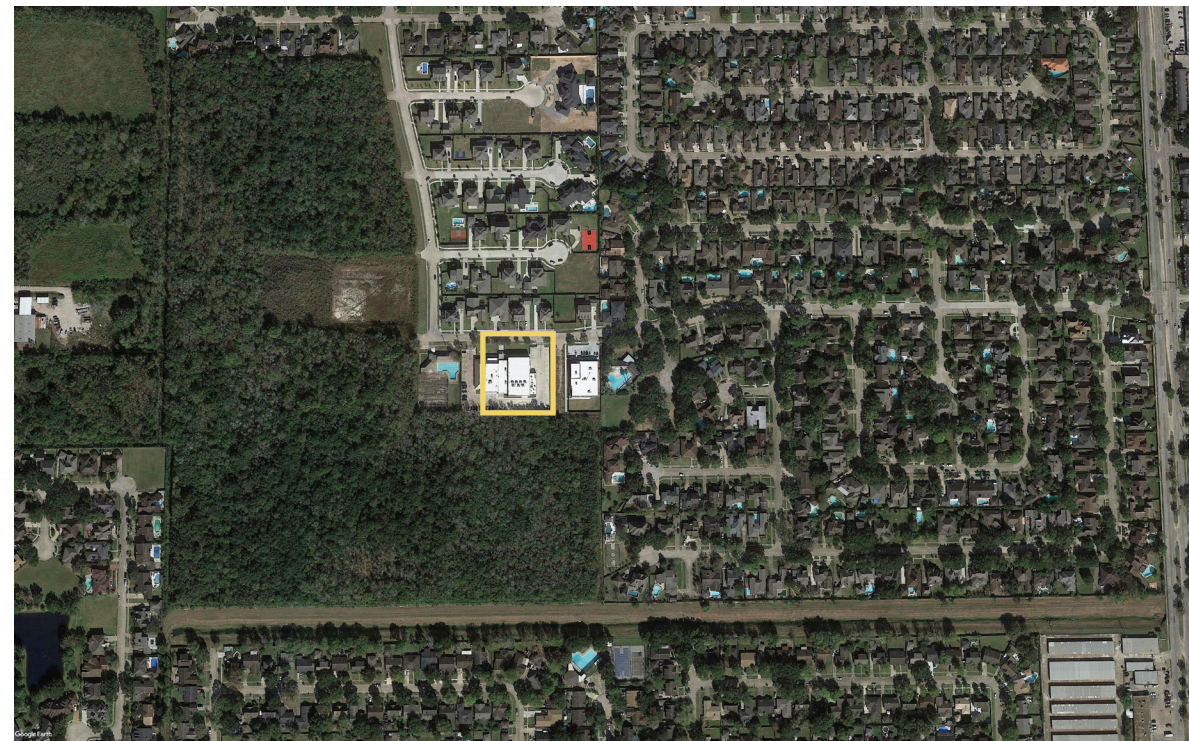
Congregation Torah Vachesed



Lubavitch Center of TX



Congregation Beth Rambam



Young Israel Houston Inc

NEIGHBORHOOD ACCESS CONTINUED

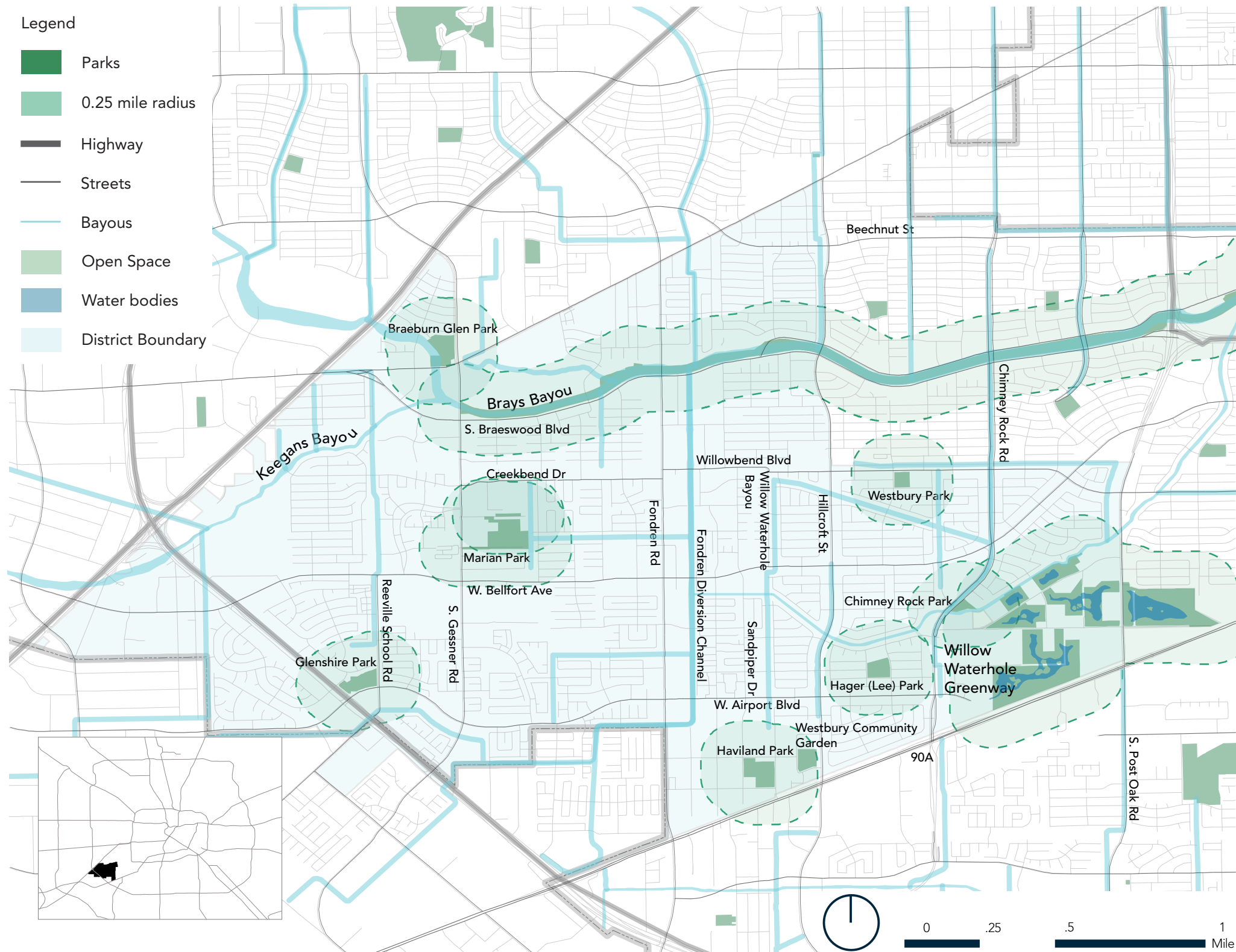


Figure 26: Parks within the Study Area

Source: Brays Oaks Management District

A key quality of life factor is access to parkland and areas for recreation. The District recently completed a Parks Master Plan in 2020 and currently has 11 public parks, owned and operated by the City of Houston and Harris County, totaling 488.79 acres of park and recreation space. Recommendations include improvements to existing facilities, connecting existing and future parks with a comprehensive trail system, and acquiring additional land for future park development. The Brays Oaks Management District should focus on developing neighborhood and community sized parks for its residents. The District should encourage the development of mini parks by home owner associations and multi-family complexes.

The District's existing parks are generally located around the periphery of the District, most likely due to their development using previously available and vacant lands. Their location under serves the District's largest concentration of residents, which is located along Fondren Road. Analyzing population density, while considering existing level of service radii, clearly suggests a need for park development within this corridor.



Glenshire Park



Willow Waterhole Greenway

NEIGHBORHOOD ACCESS CONTINUED

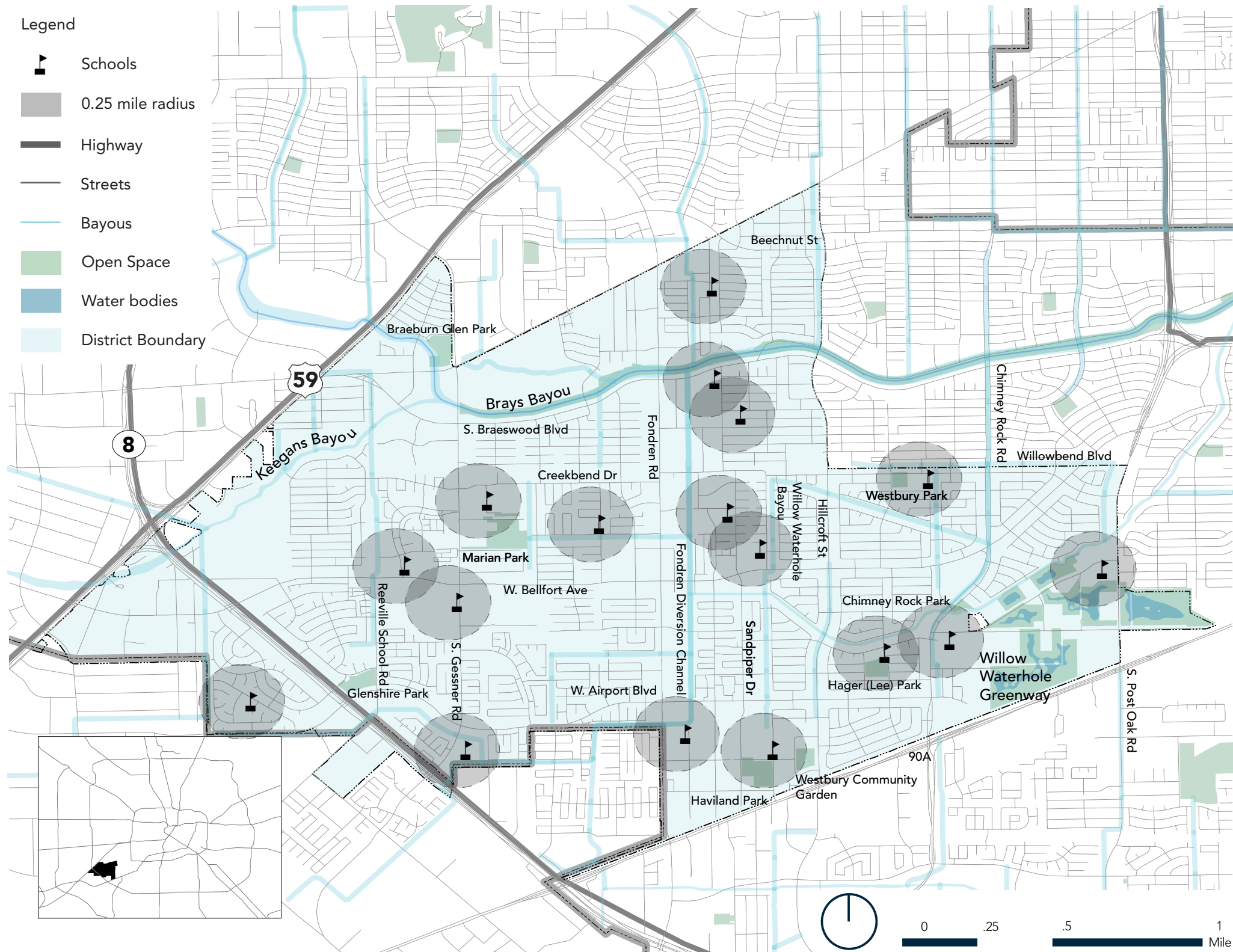


Figure 27: Schools within the Study Area

Source: Brays Oaks Management District

The majority of the District's HISD public schools are exemplary or recognized. Of the 18 elementary and middle schools located within the District, four are exemplary and seven are recognized. The District also has excellent private schools.

Walking conditions around major community destinations such as religious centers, schools, and community centers are poor.

Safe access to schools should be prioritized from area neighborhoods. Many schools are located along the extensive system of bayous which provides an opportunity for safe off-street connections. However, connectivity to nearby schools is poor. Similarly, many people have to exit schools onto the street before reaching the bayou trails because there is no direct connection.



There is a poor connection between the Bayou and Fondren Middle School.

ACTIVATED BAYOUS

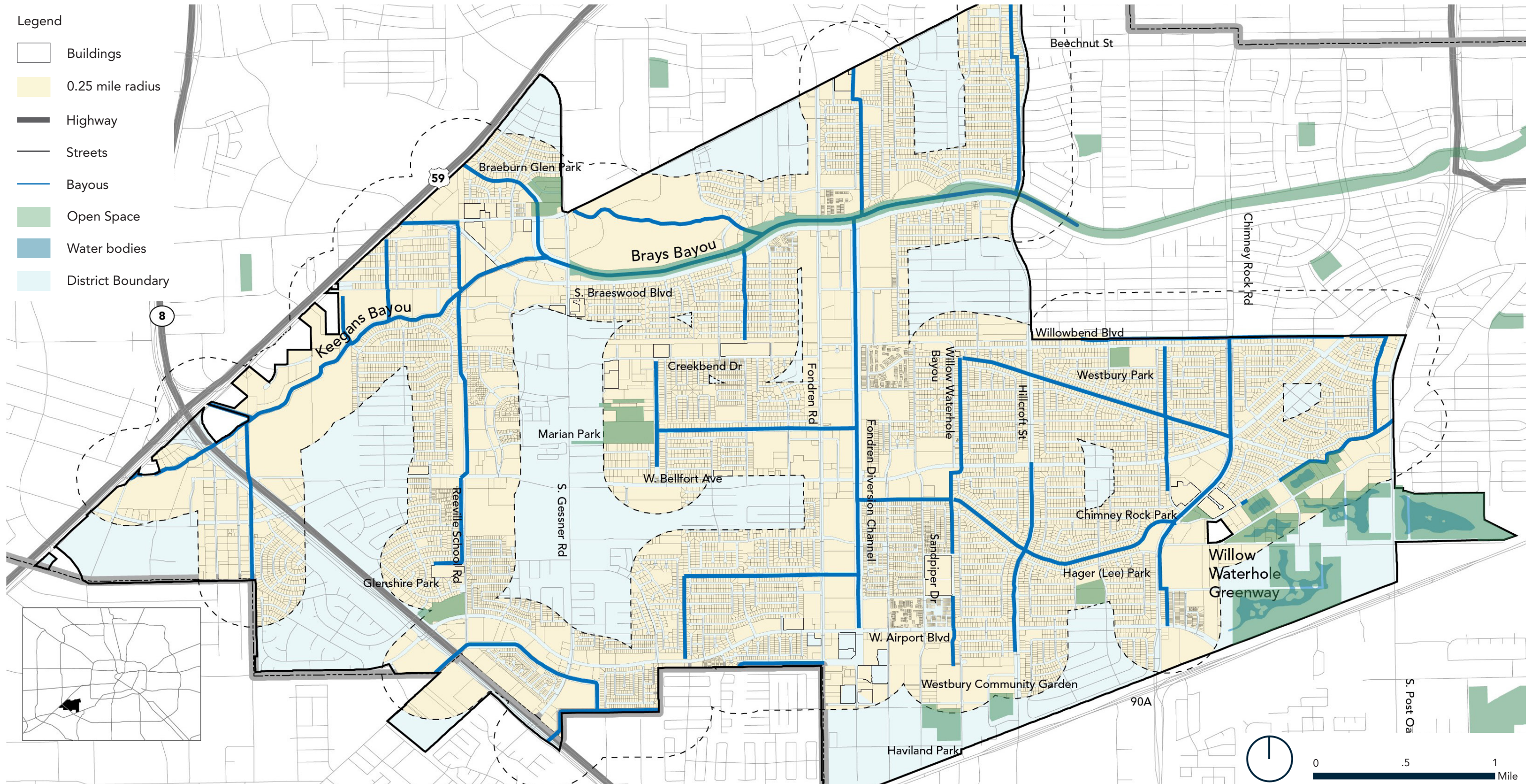


Figure 28: Buildings within Bayous Buffer Zone

Source: Brays Oaks Management District

ACTIVATED BAYOUS CONTINUED



Activating bayous and drainage areas in the study area has a large impact on the percent of people and residences located within walking distance of a greenspace and potential off-street transportation network.

DIVERSE HOUSING OPPORTUNITIES

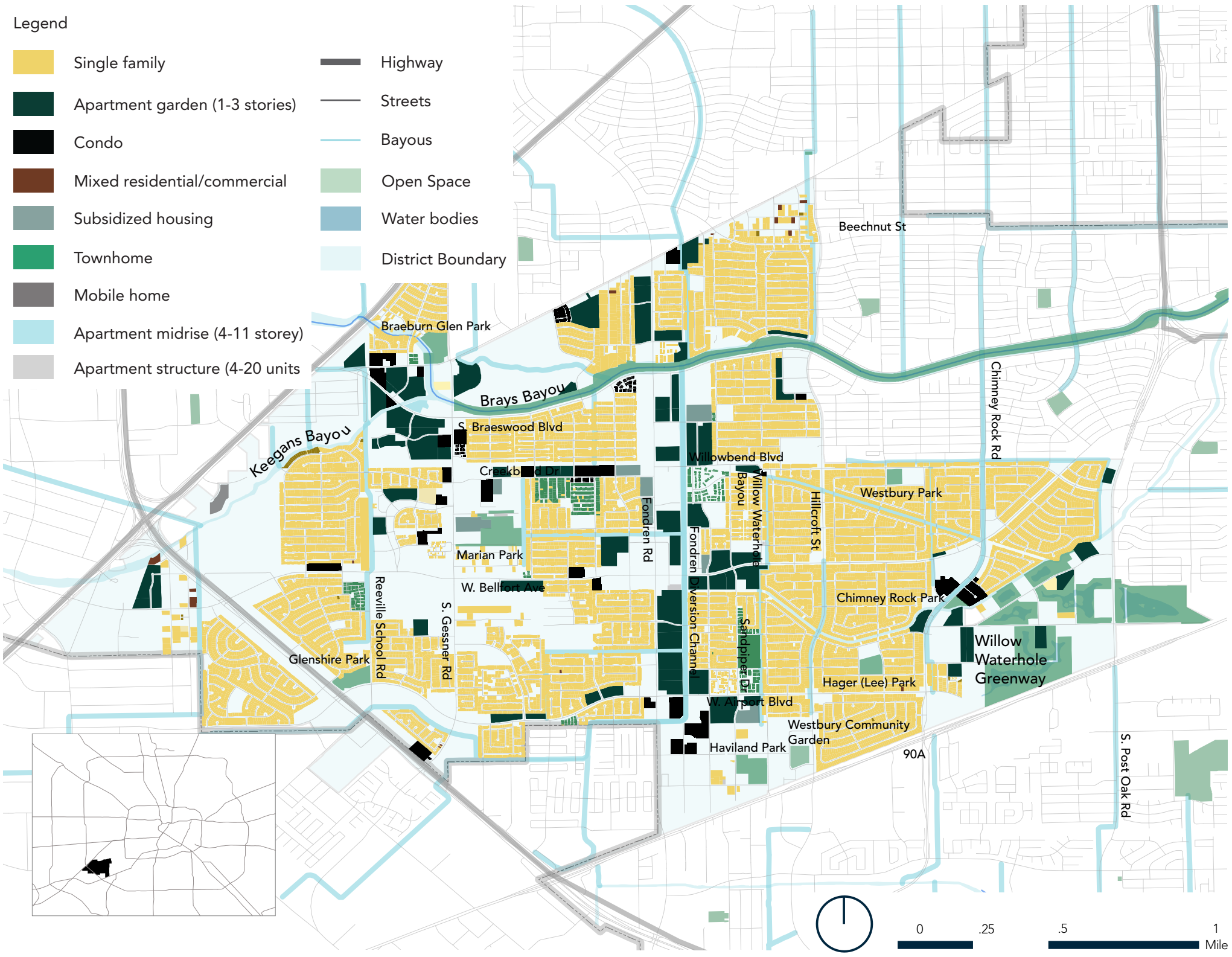


Figure 29: Residential Typologies

Source: Brays Oaks Management District

The most prevalent housing type is single-family and demand for an additional 1,311 homes single family is currently demonstrated through 2030. Homes are currently under construction in the \$500s and selling according to realtors and developers. Findings and recommendations from the Brays Oaks Livable Centers Market Assessment include:

- Demolition of homes that have flooded and been left vacant. Infill development of new homes, and
- Homes built near Jewish temples will sell in this market if they are walkable to the temple. From starter homes to over \$500k.

Alternative ownership opportunities like townhomes, patio homes or condos are less common in the district. Incremental development of attached townhomes or patio single family homes on vacant or re-developable sites (including infill sites) preferably in pricing from \$200k to \$400k is a recommended approach to supplying more ownership opportunities in the district. Homes priced to attract younger families and single professionals as well as first time homebuyers should be priced from \$150,000 to \$250,000. Townhomes and or duplexes may be more cost effective to this market.

After single family the next most prevalent housing type is multifamily. Forecasted demand for multifamily results in 584 units by 2025 and an additional 956 units by 2030.



A typical single family home.



A typical apartment complex.

MULTIFAMILY QUALITY AND DESIGN

There are 15,032 multifamily units in the district. Of these, 6,320 (42%) are Class B and the remaining units are Class C. Vacancy is at 9.3% overall with rents at \$1.03 psf.

There are 2,019 designated Affordable units (13.4%) in this market. There are no Active Adult (age restricted) units.

Only four properties have been built since 2000. The latest was 2009.

There is demand to justify a new Class B+/A apartment project of 100 units by 2025 (phase 1). Rents in this area currently range from \$0.98psf to \$1.12psf on average by unit. For a Class A to be feasible the rents would need to be higher. The market assessment report recommends locating new units within walking distance of a Jewish temple or amenities such as hiking trails, lakes, outdoor theater, etc.



A typical apartment complex.

What could be done to improve housing in the district?

Adopt more regulations regarding housing
17.4%

Information about the flooding history of the houses and apartments is available
15.3%

Include low-medium income households and retired households in the decision making process
13.9%

More mixed housing including high-rise, mid-rise, low-rise density
7.6%

More opportunities to own a house than rent
13.2%

Revitalize existing apartment complexes
27.2%

More opportunities to rent a house than own = **1.4%**

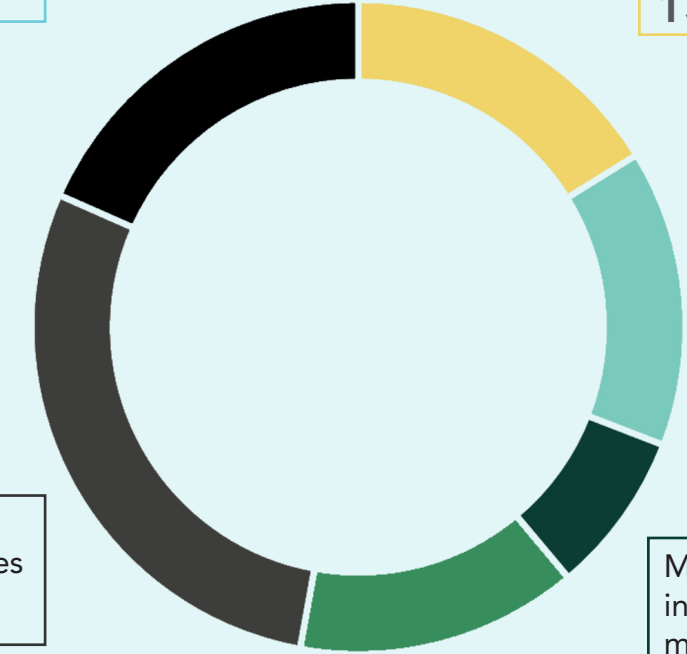


Figure 30: Survey Question

Source: Public Survey

OPPORTUNITIES AND CHALLENGES



Age of Infrastructure - The majority of utility infrastructure in the District is greater than 30 years old. Efforts to update and improve infrastructure should be coordinated with re-development efforts.

Catalytic Redevelopment - Redevelopment of vacant and underutilized land located in areas with high accessibility and amenities provide an opportunity to catalyze more incremental development and improvement of existing buildings along key corridors.

Design and locate re-development and placemaking activities that are supported by and complementary to existing and planned stormwater, transportation, and utility infrastructure capacity.



ANALYSIS: EFFICIENT INFRASTRUCTURE CONTINUED

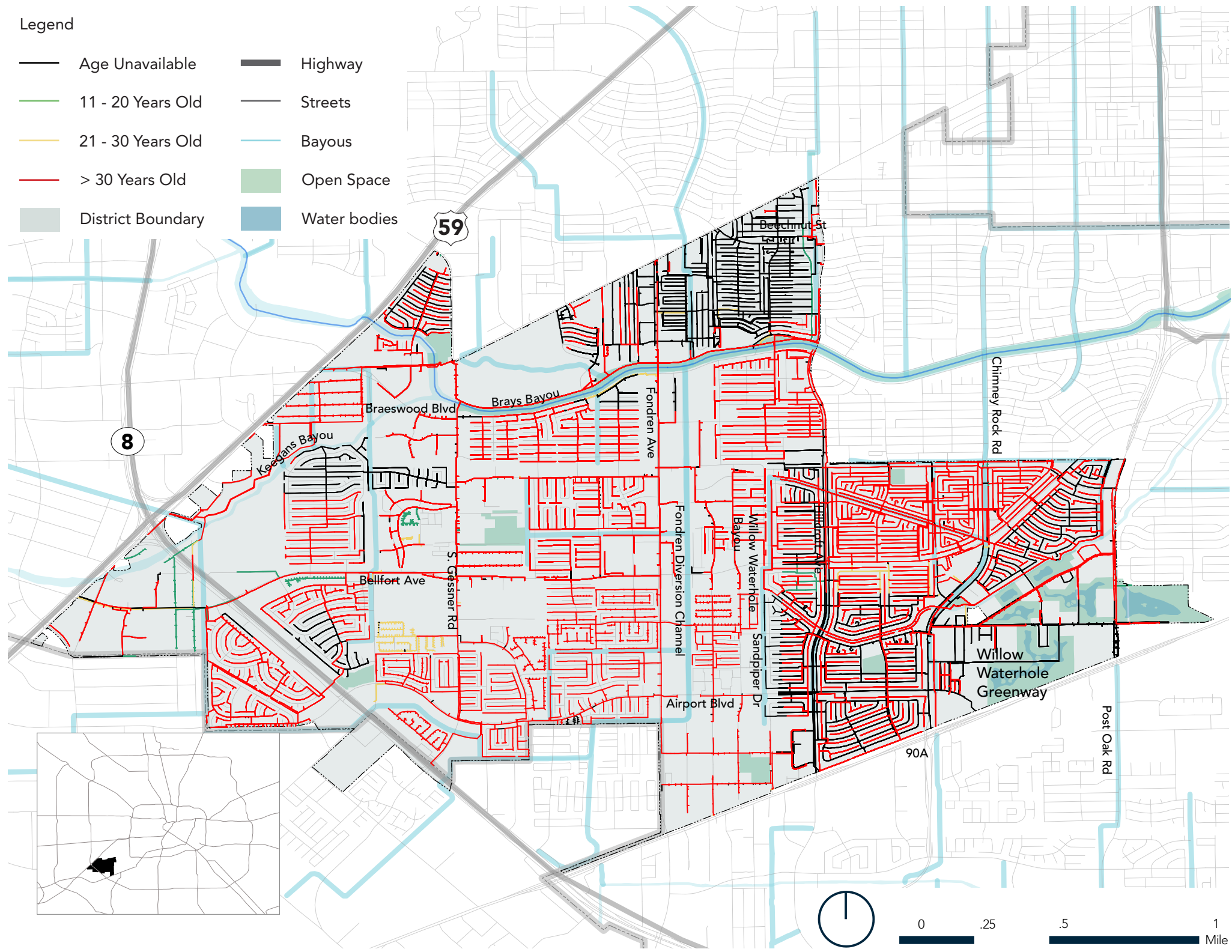
BACKGROUND

The district is located within the larger Brays Bayou watershed. In the Brays Bayou watershed 205,450 people are vulnerable, while in the Buffalo Bayou watershed 17,675 are vulnerable by living in the 100 year floodplain. Almost 30% of people who live in the Brays Bayou watershed are vulnerable to frequent flooding. This is the largest number and percentage of people throughout Harris County.

As new drainage infrastructure is built the district and community has an opportunity to continue to co-locate drainage improvements with community assets like the Willow Waterhole Greenway. It set a new bar for combining flood management with urban design, so the detention ponds feel at once natural and artificial at the same time, serving multiple roles as a functional utility during intense storm events, as a place of recreation and play for the community, and as a setting for nature to thrive.



AGE OF INFRASTRUCTURE



SANITARY SEWER AGE AND LOCATIONS

The total linear miles of sanitary sewer lines are **316 miles**.

The percentage of sanitary sewer lines:

- 11-20 years: **2%**,
- 21- 30 years: **2%**,
- > 30 years: **65%**, and
- Age unknown: **31%**.



Sanitary sewer line as seen in the study area.

Figure 31: Sanitary Sewer

Source: Brays Oaks Management District

AGE OF INFRASTRUCTURE CONTINUED

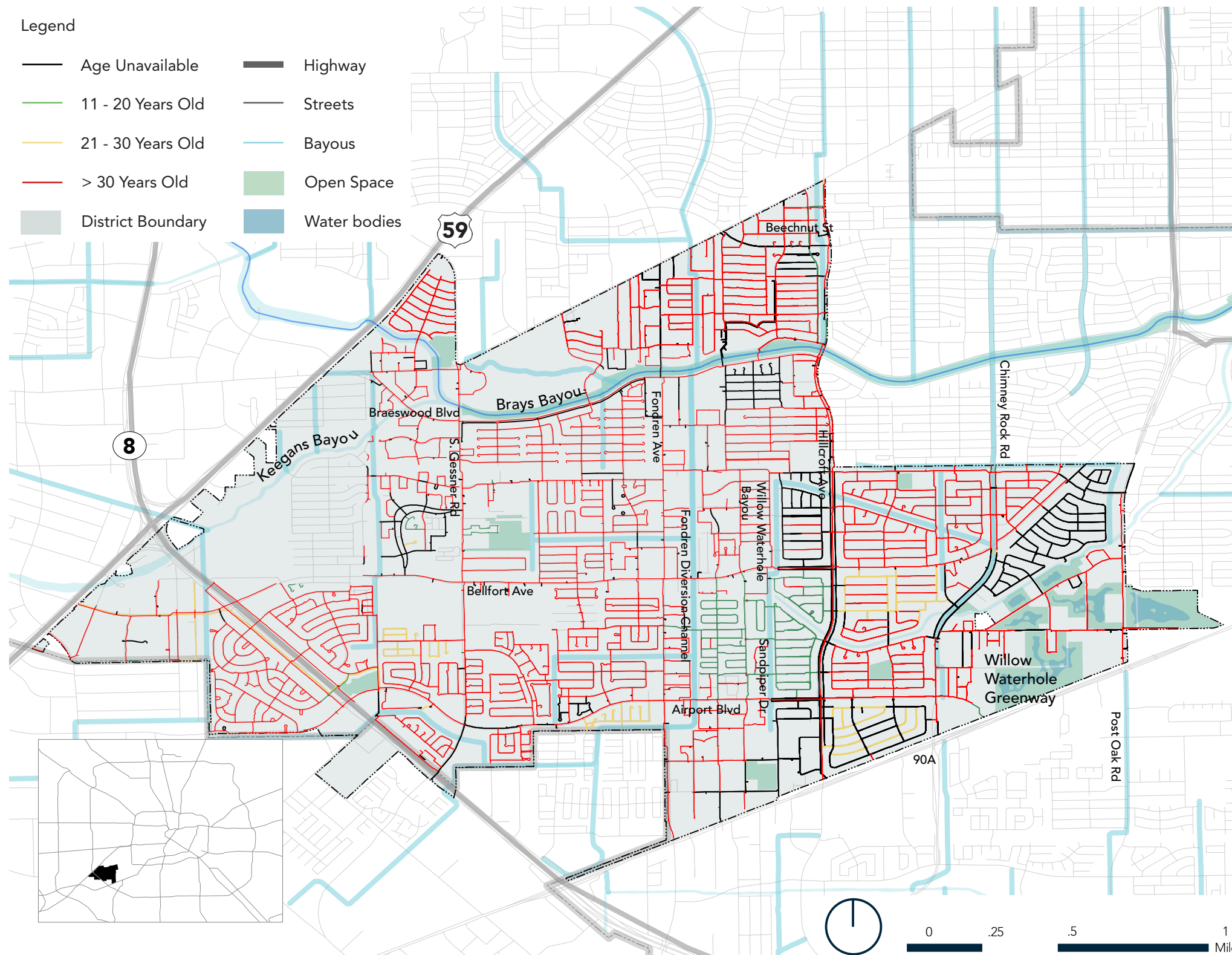


Figure 32: Waterline

Source: Brays Oaks Management District

WATER LINE AGE AND LOCATIONS

The total linear miles of water lines are **248 miles**.

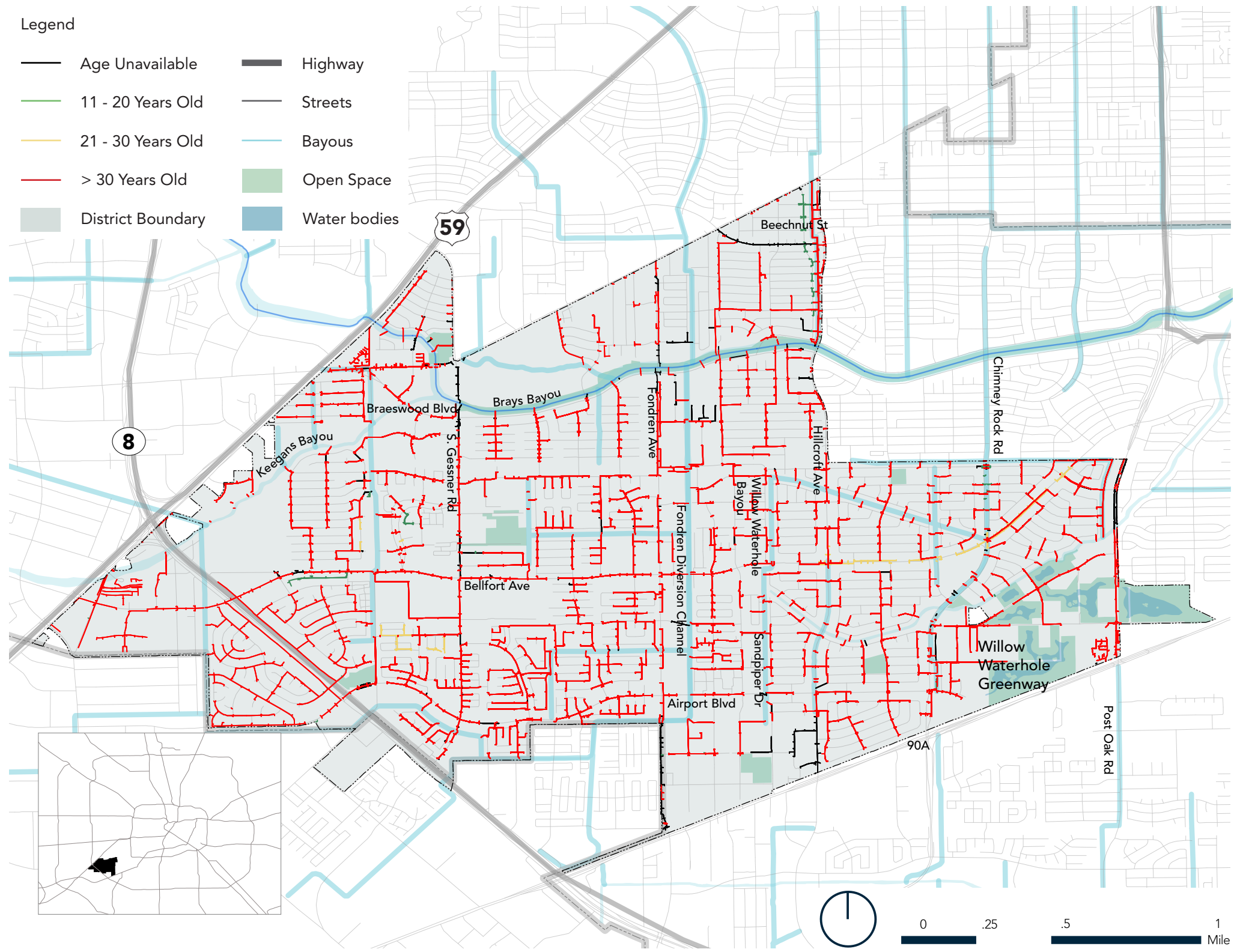
The percentage of water lines:

- 11-20 years: **6%**,
- 21- 30 years: **4%**,
- > 30 years: **71%**, and
- Age unknown: **19%**.



An example of garbage disposal challenges along the bayou.

AGE OF INFRASTRUCTURE CONTINUED



STORM SEWER AGE AND LOCATIONS

The total linear miles of storm sewer lines are **248 miles**.

The percentage of storm sewer lines:

- 11-20 years: **2%**,
- 21- 30 years: **2%**,
- > 30 years: **88%**, and
- Age unknown: **8%**.



Storm sewer line as seen in the study area.

Figure 33: Storm Sewer

Source: Brays Oaks Management District



VACANT AND UNDERUTILIZED LANDS

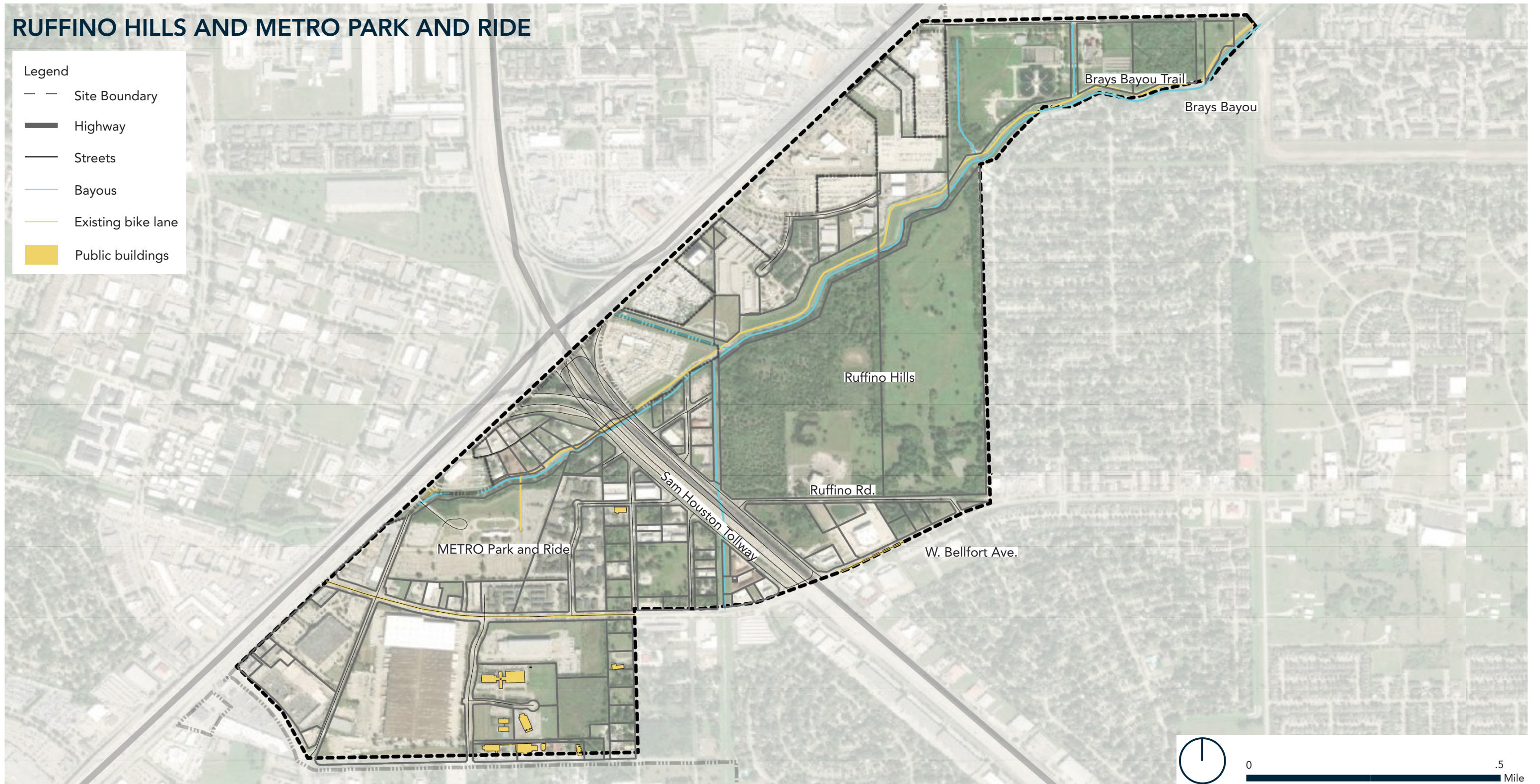


Figure 34: Ruffino Hills and METRO Park and Ride

Source: Brays Oaks Management District

VACANT AND UNDERUTILIZED LANDS CONTINUED

The Ruffino property provides an opportunity to enhance Keegans Bayou from a storm water and drainage perspective in addition to creating a recreational amenity for the region similar to the example of the Willow Waterhole Greenway. The redevelopment of this site can also tie in to the potential for a catalytic redevelopment of the METRO Park and Ride facility located south and west of Ruffino. Expanding access to the site to connect these two locations is key to the success of the area.



An aerial view of Ruffino property.

Source: houstononevoice.org

VACANT AND UNDERUTILIZED LANDS CONTINUED

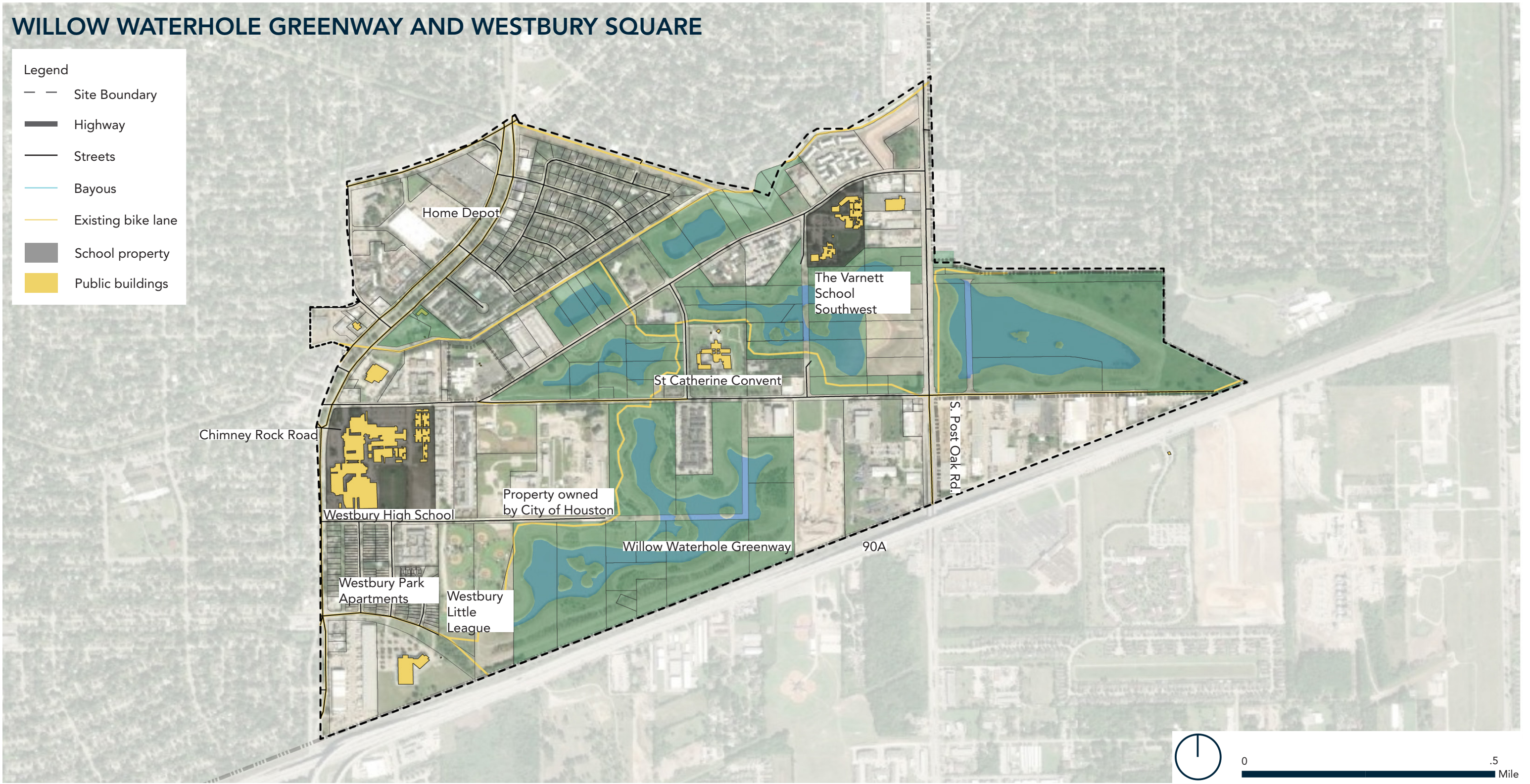


Figure 35: Willow Waterhole Greenway and Westbury Square

Source: Brays Oaks Management District

VACANT AND UNDERUTILIZED LANDS CONTINUED

The Willow Waterhole Greenway and adjacent areas represent an opportunity for a catalytic redevelopment within the Brays Oaks study area that can achieve many of the goals identified within this document. It has access to the Medical Center and Rice University and is a direct drive to the Galleria/Uptown neighborhoods for shopping and office uses. It has excellent access to the greater region by way of highways and a planned connected greenway trail system. The anticipated regional attraction of the Levitt Pavilion, Houston adds more potential to the site.

A plan for the site that organizes the goals and takes advantage of available resources has the potential to catalyze a mixed use development within the study area. This site has the potential to meet the criteria identified in the market study for new multifamily development.



Lakes and a pedestrian path at Willow Waterhole Greenway.

OPPORTUNITIES AND CHALLENGES



Community Gateways - There is an opportunity to continue to build on and implement the gateways identified in the Brays Oaks Streetscape Master Plan. The branding and wayfinding could retain an element of consistency at all levels including neighborhood entrance signs and directional signs.

Placemaking - Art installations and community gathering places along the bayous are an opportunity for placemaking.

Build on unique community assets and experiences in the district to promote local wealth and prosperity.



ANALYSIS: PROSPEROUS COMMUNITY CONTINUED

Consistent branding, signage and wayfinding present an opportunity to expand placemaking initiatives and attract more people to the bayous and drainage network as a gathering place and recreational opportunity. The Streetscape and Wayfinding Master Plan proposed landscape characteristics and components within the District boundaries including right-of-way design from major thoroughfares, landscape elements, paving, signage and environmental graphics. The plan is a resource that can be used and expanded as additional public improvements are anticipated including improvements located along the network of drainage channels.



GATEWAYS

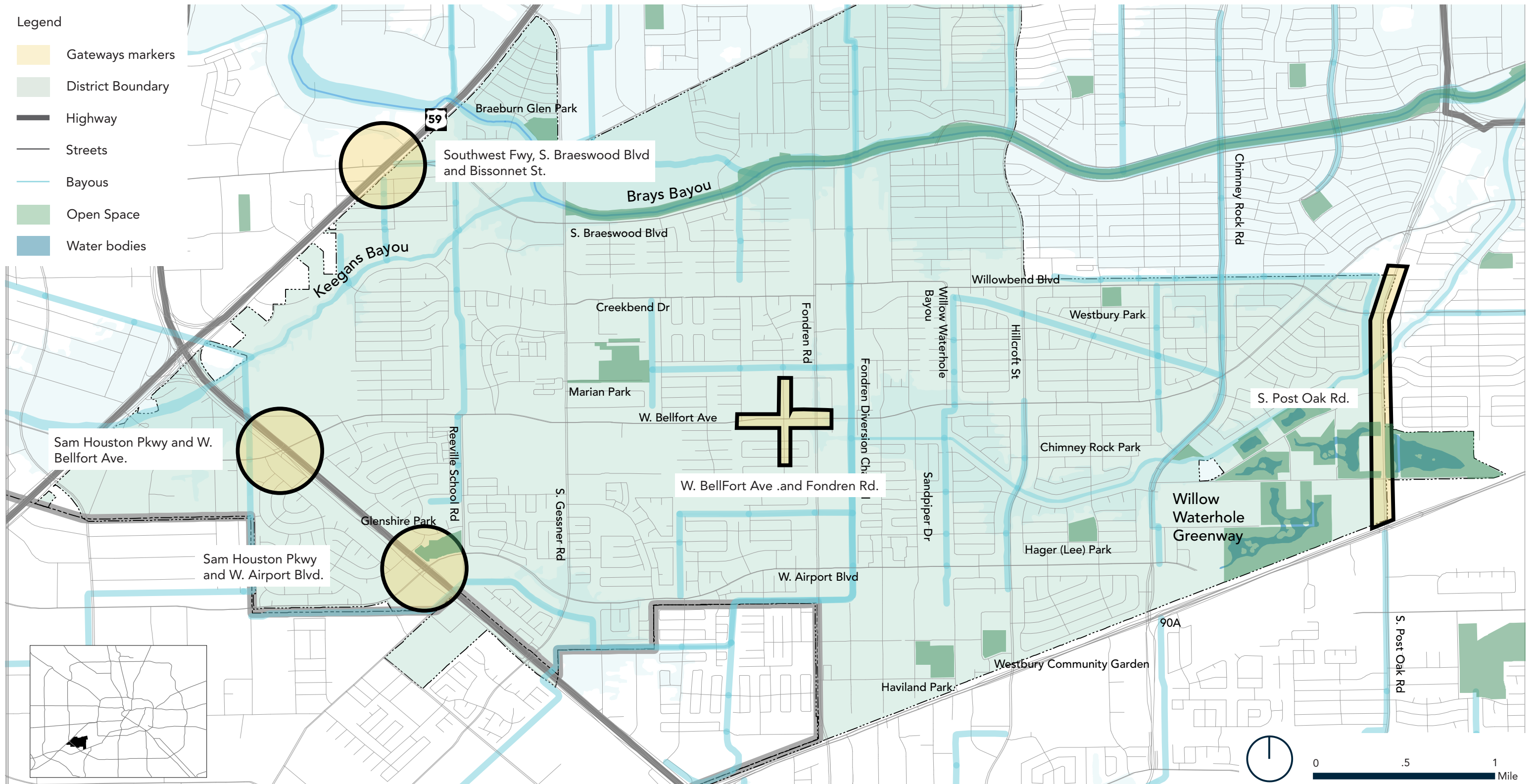


Figure 36: Neighborhood Gateways

Source: Brays Oaks Management District

GATEWAYS CONTINUED

The gateways for Brays Oaks Livable Centers Study area are listed below:

- Southwest Freeway, South Braeswood Boulevard and Bissonnet Street,
- Sam Houston Parkway and West Bellfort Avenue,
- Sam Houston Parkway and West Airport Boulevard,
- West Bellfort Avenue and Fondren Road, and
- South Post Oak Road.



Intersection at West Bellfort Avenue and Fondren Road is an opportunity for placemaking.



Intersection at Sam Houston Parkway and West Bellfort Avenue is a good location for gateway markers.

PLACEMAKING



There are instances of public art work in the study area.



Wooden sculptures are displayed at the Willow Waterhole Greenway.



Property formerly owned by Shell to be the site for the upcoming Levitt Pavilion in City of Houston.



Community initiatives to encourage planting in the neighborhood.



Seating arrangement at Westbury Community Garden.



Turkish house is used for community gatherings and functions.



The Hindu temple: Texas Natdhwara Shree Nathji Haveli is an important place of workshop for the Indian community of the site. There are several other religious places in the study area.

PLACEMAKING CONTINUED



Westbury Community Garden is a prominent community park within the study area.



Cool Runnings is a popular Jamaican restaurant. The study area has a diverse range of restaurants of different cuisines.

What are potential opportunities to strengthen the community socially, economically and culturally?

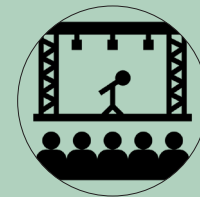
More community parks



An international food festival with diverse cuisine



Levitt Pavilion, Houston



Opportunities for local markets and businesses



Locally owned community centers and shopping centers



More places for urban farming



Figure 37: Survey Question

Source: Public Survey



CHAPTER 2

CONCEPT PLAN AND RECOMMENDATIONS

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RECOMMENDATIONS

The analyses performed in the Needs Assessment provided context and direction for this Concept Plan and Recommendations chapter. The four plan goals: **1) Connected Networks, 2) Livable Neighborhoods, 3) Efficient Infrastructure, and 4) Prosperous Communities** informed the conceptual ideas and each of the recommendations came from specific analytical findings, direction from the diverse stakeholder group, and from feedback received from the public workshops, and surveys. These recommendations will help to guide future investments and development in a way that supports the goals of the community for existing and future residents. There are three types of recommendations, but they should be understood in the aggregate as each recommendation informs the execution of the others. In the end, these policy based, project based, and catalytic site recommendations work together to connect the community, improve the District's livability for residents, ensure comprehensive sustainability, and advance the prosperity of the Brays Oaks Management District.



The public workshops provided direction for the recommendations development.

Policy Based

Recommendations that are not material projects but that are within the scope of work of the Brays Oaks Management District.

Policy based recommendations can shape future decision making and improve the quality of life for the community. They also work in conjunction with the project based and catalytic site recommendations.

Policy Based Recommendations:

- A1. Sidewalk Assessment**
- A2. Bus Shelter Improvements**
- A3. Signage and Wayfinding**
- A4. Infill Development Program**
- A5. Bayous as Great Places Campaign**
- A6. Multifamily Improvement Program**
- A7. Low Impact Development Drainage Improvement Partnerships**
- A8. Public Utility Assessment**

Project Based

Recommendations that are tangible, material projects that can be implemented within the community.

Common project types are roadway and infrastructure improvements, trails and recreation improvements, and new urban development.

Project Based Recommendations:

- B1. Intersection Safety**
- B2. Road Diets**
- B3. Greenway Loop**
- B4. Utilize Medians**
- B5. Trail Connectivity and Improvements**
- B6. Utilize Easements**
- B7. Neighborhood Connectivity**

Catalytic Sites

Recommendations that provide the framework for realizing many of the project and policy based goals within specific areas of the District.

Specifically, the catalytic site recommendations pull from a kit-of-parts that can be tailored for each context. While overarching themes exist throughout the study area, the three catalytic sites have unique contexts that should be acknowledged and taken into consideration when planning and designing.

Catalytic Site Recommendations:

- C1. Ruffino Hills and METRO Park and Ride**
- C2. West Bellfort Avenue and South Gessner Road**
- C3. Willow Waterhole Greenway and Westbury Square**

RECOMMENDATIONS CONTINUED

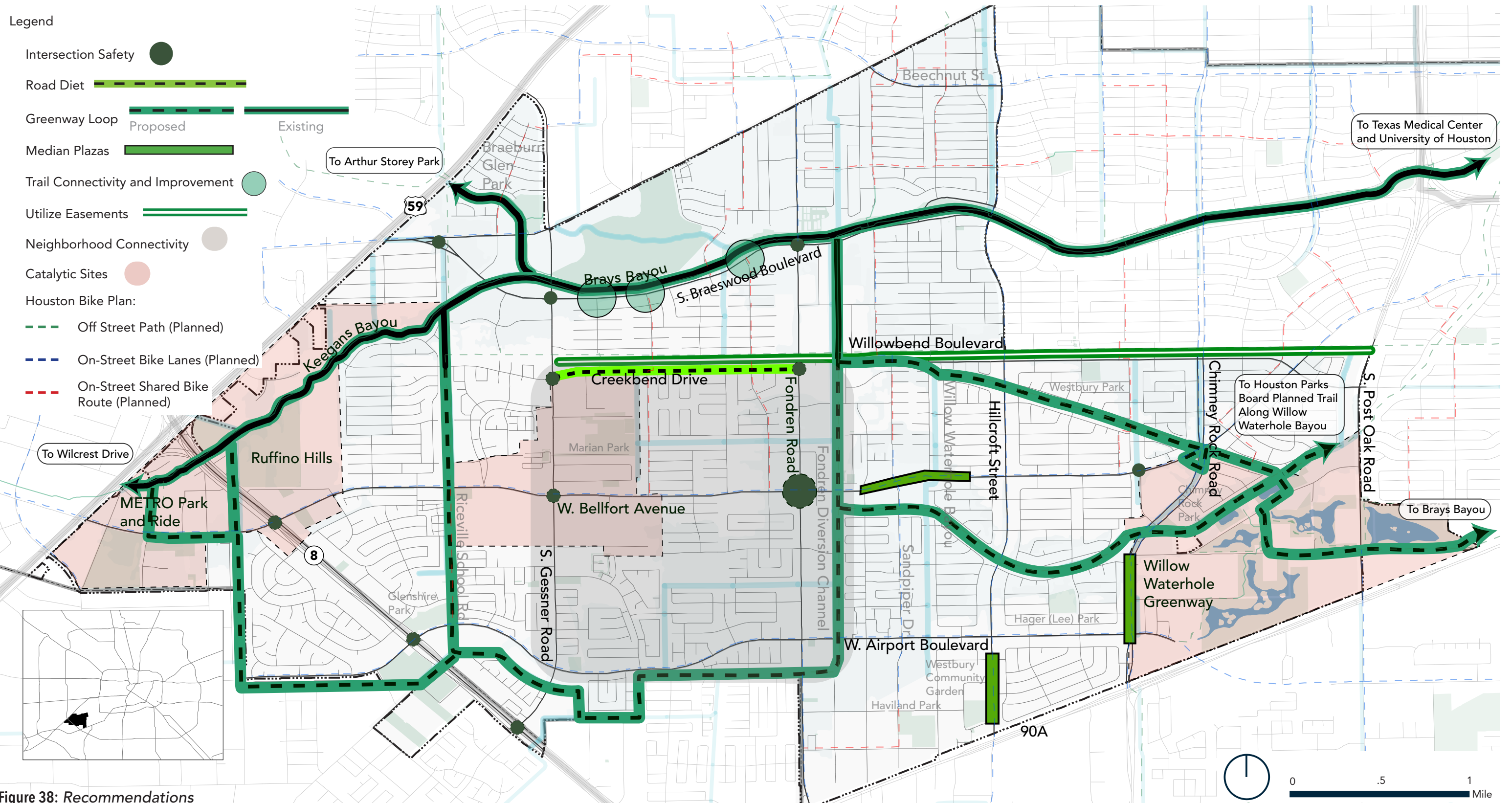
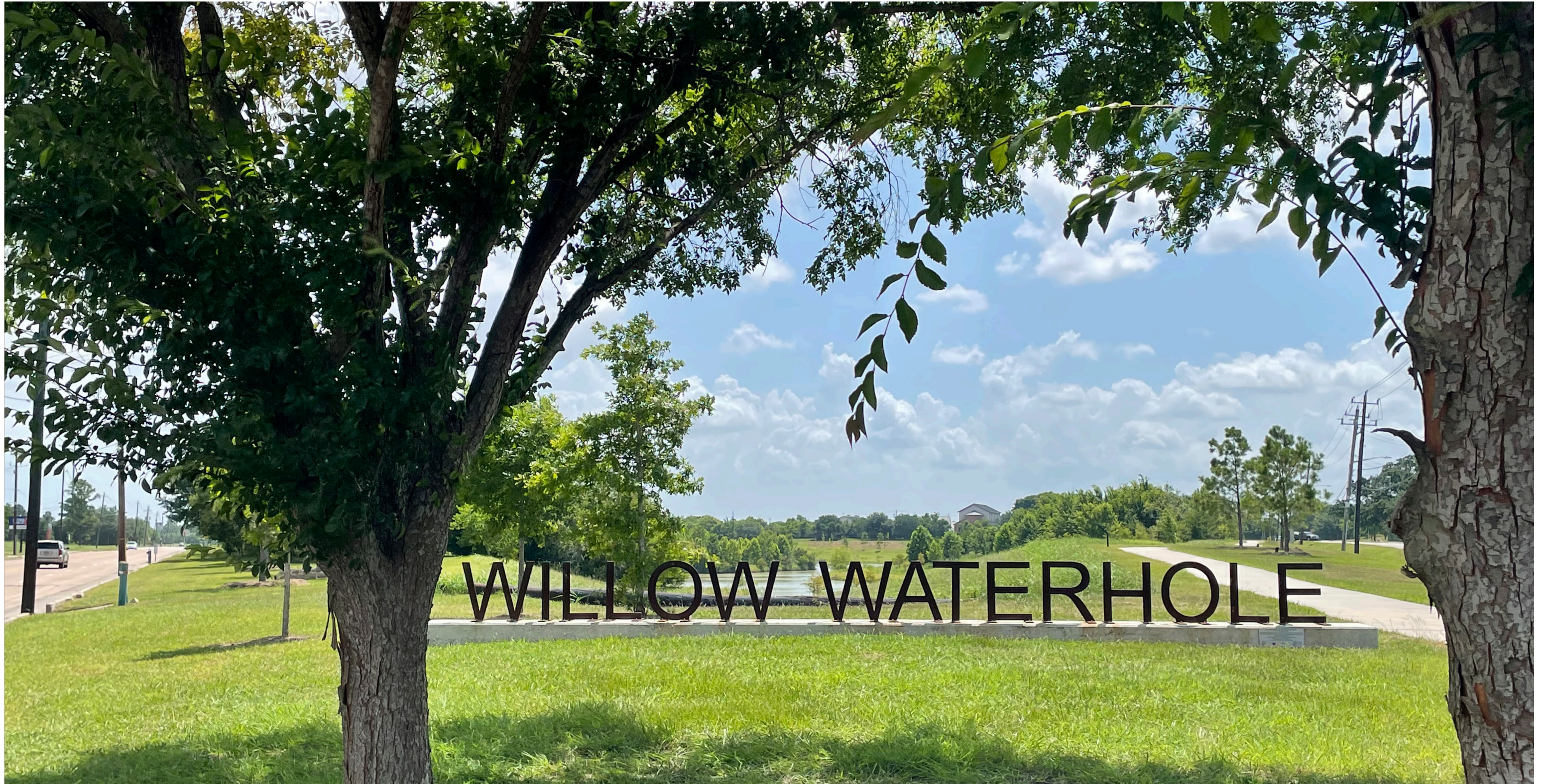


Figure 38: Recommendations

POLICY BASED RECOMMENDATIONS



Willow Waterhole Greenway is a site that has the opportunity to implement many of the project and policy based recommendations.

POLICY BASED RECOMMENDATIONS CONTINUED

A survey was conducted during the second round of public outreach for the concept plan and recommendations. Results from the survey are included throughout this chapter.

The Brays Oaks Livable Centers Study has identified several policy based recommendations. Which policies do you believe would be most impactful? (Drag the policies in order with the most impactful policy as 1 and the least impactful as 8.)

A Sidewalk Assessment is the policy people believed would be most impactful.

Rank | Policy Type

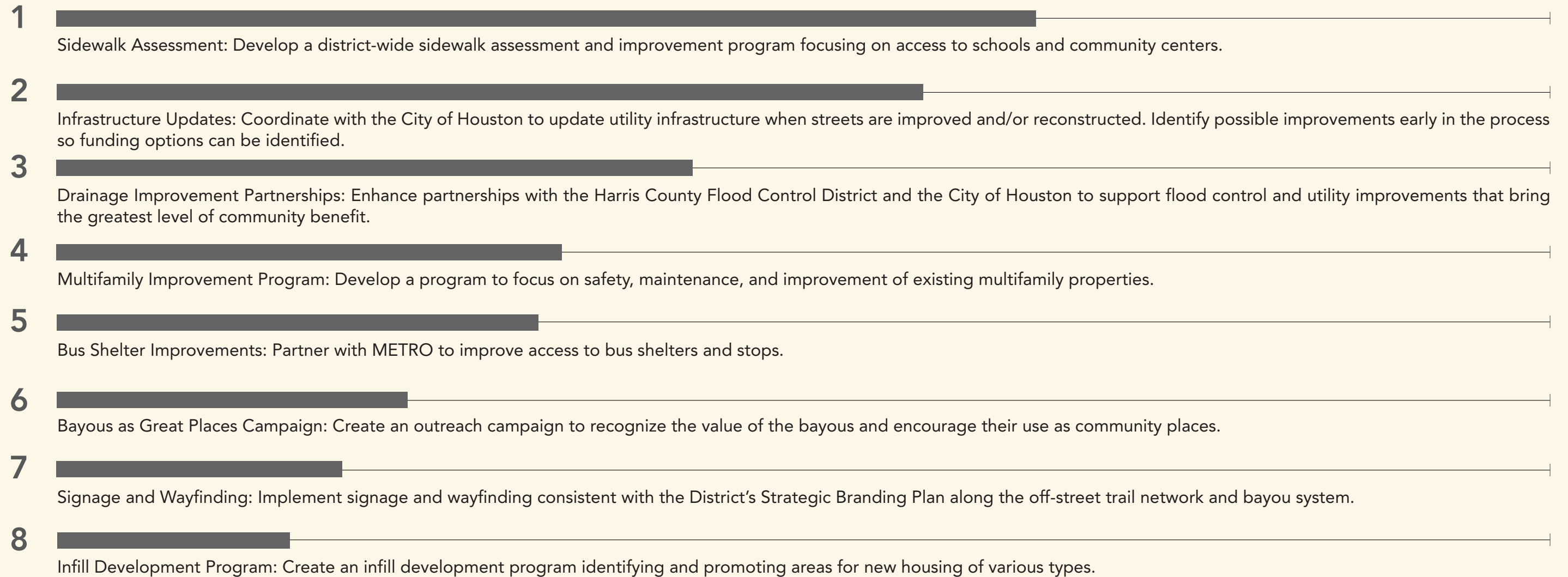


Figure 39: Survey Question - Policy Based Recommendations

POLICY BASED RECOMMENDATIONS CONTINUED

A1

Sidewalk Assessment



Source: Mariana Gil, WRI Brasil

A connected sidewalk network can improve individual access and mobility for everyone in the community.

The Needs Assessment showed many sidewalks in the District need repairs and to be better connected to one another. Therefore, it is recommended to develop a district-wide sidewalk assessment and improvement program focusing on access to schools and community centers.

A2

Bus Shelter Improvements



Source: Houston Streetwise

Well-designed bus shelters provide shelter from the elements while also enabling direct access to transit vehicles.

Survey respondents communicated their desire for the District's bus stations to be upgraded with better shelters and that they be re-positioned with safer access to pedestrian networks. It is recommended that the District partner with METRO to improve access to bus shelters and stops.

A3

Signage and Wayfinding



Source: Avid Trails

Good signage and wayfinding is key for providing necessary information to the public and improving overall safety for trail users.

The team site visit showed bicycle routes have limited or no signage. Not only is this inconvenient, but it's also dangerous, especially at busy intersections. It is recommended to implement signage and wayfinding consistent with the Brays Oaks Management District Strategic Branding Plan along the off-street trail network and bayou system.

A4

Bayous as Great Places Campaign



Source: Edgar Johnson

Bayous activated with trails and other amenities provide public spaces where the community can travel and recreate.

Bayous are often overlooked as places where people can recreate or commute by active transportation. Given this untapped resource, it is recommended that the District create an outreach campaign to recognize the value of the bayous and encourage their use as community places throughout the year.

A5

Infill Development Program



Source: Google Earth

Undeveloped parcels provide an opportunity for new development to be more fiscally and environmentally sustainable.

The District has many undeveloped/underdeveloped parcels, especially at major intersections, that could enable infill housing and economic development. Therefore, it is recommended that the District create an infill development program identifying and promoting areas for new housing of various types.

A7

Low Impact Development and Drainage Improvement Partnerships



Source: Houston - Galveston Area Council

This photo shows the flow paths within the Brays Oaks Management District boundary.

Nearly 30% of people living in the Brays Bayou watershed are vulnerable to frequent flooding. It is recommended the District enhance partnerships with the Harris County Flood Control District and the City of Houston to support flood control and utility improvements that bring the greatest level of community benefit.

A6

Multifamily Improvement Program



Source: Standard Communities

Improving the overall maintenance around multifamily properties can positively impact surrounding neighborhoods.

The Needs Assessment market analysis discovered that Brays Oaks has no Class A multifamily residential units despite having demand for them within the activity centers. It is recommended the District develop a program to focus on safety, maintenance and improvement of existing multifamily properties.

A8

Public Utility Assessment



Source: DCWater.com

Public utility improvements are less expensive when done in conjunction with roadway reconstruction projects.

The majority of the District's utility infrastructure is greater than 30 years old. It is recommended to coordinate with the City of Houston to update utility infrastructure when streets are improved and/or reconstructed and to identify possible improvements early in the process, so funding options can be identified.

B1 INTERSECTION SAFETY



Source: TJKM

Implementing intersection safety improvements can benefit multiple modes of transportation users and have significant ramifications for transportation equity within the community.

Current roads within the District are designed for the automobile which can lead to barriers for other modes of transportation. The overall automobile-oriented design is particularly problematic at intersections where pedestrians have to cross wide roadways and bicycle infrastructure often disappears. Improving the safety for all modes of transportation at intersections has disproportionately positive impacts for the entire transportation network.

Challenge

The current automobile centric design allows for higher speeds, increased rates of serious injuries, fatalities, and less use of mass transit, bicycle, and walking.

Opportunity

The Brays Oaks community is aware of the issues and wants different modes of transportation. Garnering public support is essential for recommended changes to be implemented.

Failed to control the speed	34%
Disregard stop and go signal	12%
Failed to yield right of way - private drive	8%
Driver inattention	7%
Failed to drive in single lane; failed to stop at	6%
Failed to yield right of way - turning left	5%
Failed to yield right of way - open intersection	4%
Pedestrian failed to yield right of way to vehicle	4%
Failed to drive in a single lane	4%
Failed to control speed; failed to yield right of	3%

There were over 2,642 collisions between 2016-2020 in the District. (53% led to a possible injury).

The highest number of collisions (582 collisions) were observed in 2019.

There were over 175 collisions at the intersection of Bellfort Avenue and Fondren Road.

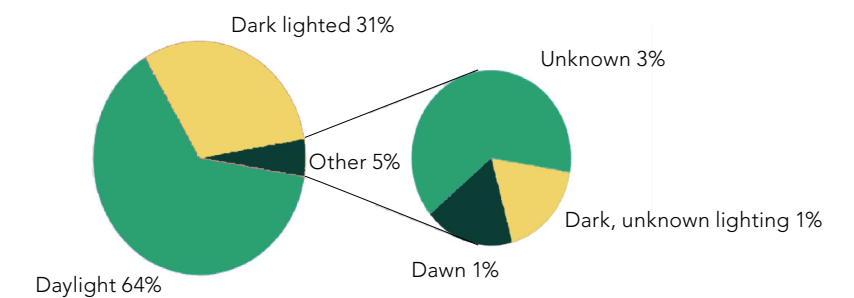


Figure 40: Lighting Condition During a Collision and Cause

INTERSECTION SAFETY CONTINUED

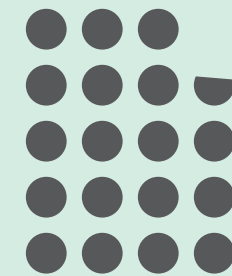


The existing intersection at Hillcroft Avenue and S. Braeswood Boulevard is auto-oriented and should be redesigned to be safer for all modes of transportation.

Which types of safety improvements do you believe would be most effective at high collision intersections like Fondren Road and Belfort Avenue? (select all that apply)

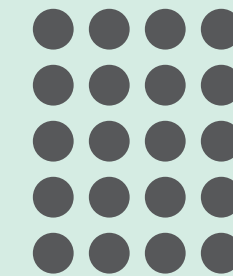
21.3% percent of people believed pedestrian refuge islands would be most effective at high collision intersections.

Types of Safety Improvements



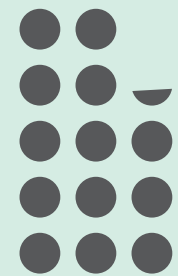
18.7%

Traffic Calming



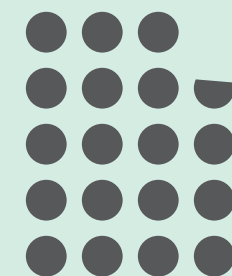
20%

Pedestrian Head-Start Walk Signal



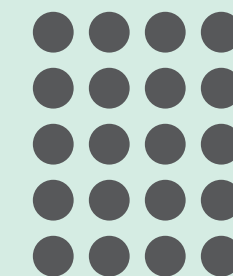
13.3%

Limit Right Turns on Red



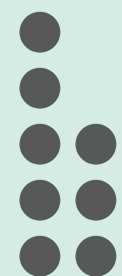
18.7%

Curb Extensions



21.3%

Pedestrian Refuge Islands



8%

Other

Figure 41: Survey Question

INTERSECTION SAFETY CONTINUED



Source: Housedems.ct.gov

Highly visible and raised crosswalks require motorists to enter intersections more carefully.



Source: NACTO

Median refuge islands help to reduce long crossing distances.

In a Vision Zero Policy environment, every location where people are injured or die due to traffic crashes is important. This includes people walking through parking lots, bicyclists riding on sidewalks, buses turning, motorists changing lanes, as well as intersections. Analysis of the frequency of crashes shows that intersections are an important area of the transportation network to design and plan solutions.

The Federal Highway Administration provides a safe systems approach to traffic engineers to use a data driven process that isolates locations by the types of collisions reported and the likely factors contributing to the crash. The Brays Oaks Livable Centers Study focused improvements on major roadways and connections where low- and high-comfort bicycle facilities are proposed. The goals of these improvements are to provide safe access for all modes of transportation, improve the character and identity of the place thereby improving economic opportunity, improve the transportation efficiency of the intersection, and integrate traffic calming designs and transit amenities.



Source: City of Austin

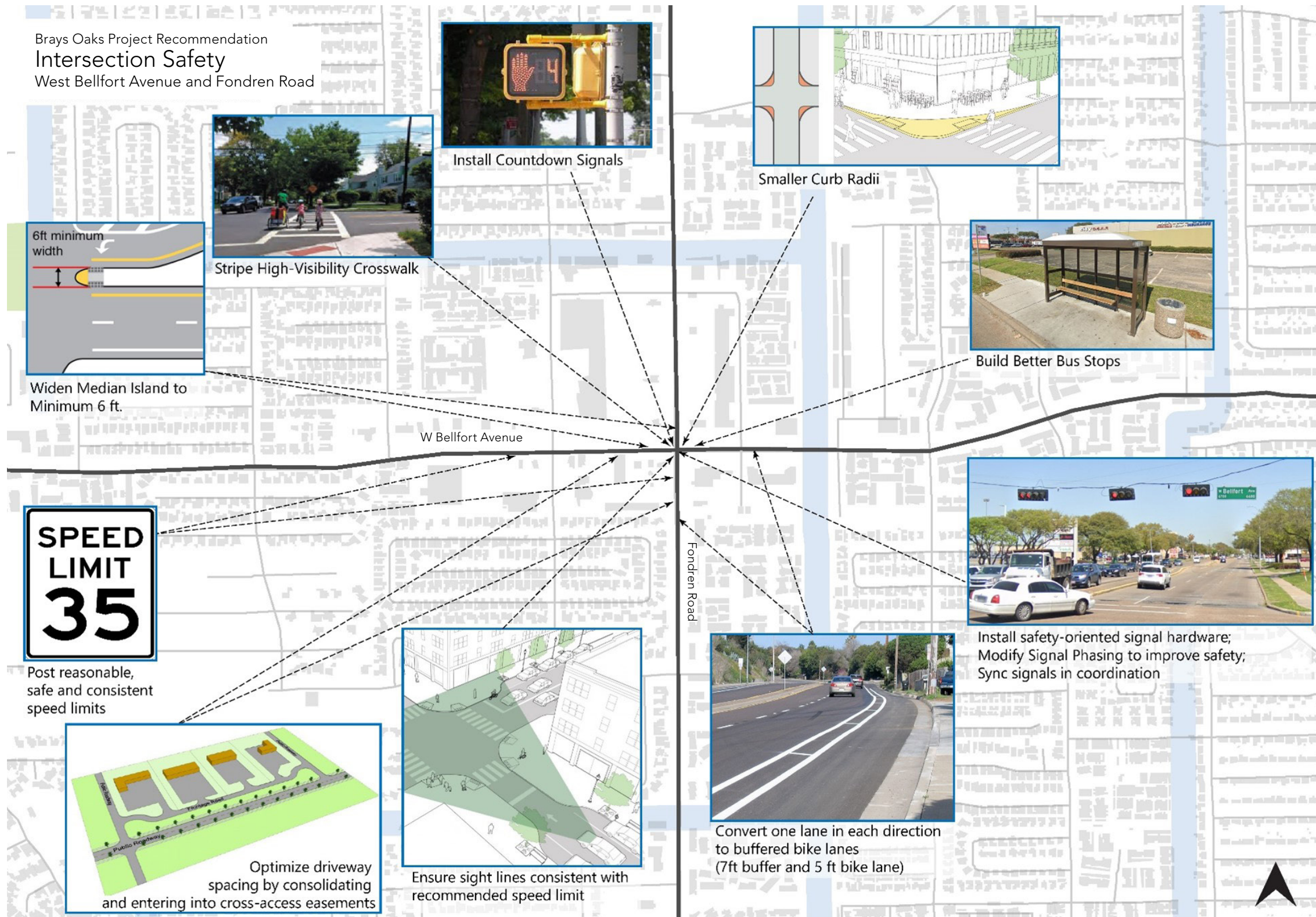
Implementing curb extensions helps slow the speed of turning motorists and shorten the crossing distance for pedestrians.



Source: Longbeach.gov

Installing pedestrian head-start walk signals gives priority to people walking.

INTERSECTION SAFETY CONTINUED



As stated, there are many types of intersection improvements and each context determines which improvements are most appropriate. This figure shows a variety of possible changes as a kit-of-parts that can be applied to improve the intersection's safety for pedestrians, bicyclists, transit users, and motorists.

Figure 42: Intersection Safety Kit-of-Parts

B2 ROAD DIETS



Implementing a road diet on Creekbend Drive would improve active transportation connectivity and improve safety for all users.

Source: TJKM

A road diet is the implementation of an alternate road design that reduces the number of travel lanes and/or the width of the roads. Also known as lane reductions or road channelization, road diets have the potential to achieve systemic improvements while creating a safe environment for pedestrians, bicyclists and users of all modes of transportation.

Challenge

On-street parking is currently allowed between the hours of 11pm to 6am along Creekbend Drive from Braescreek Drive to Sandy Shoals Drive. A Parking Occupancy Study would help determine the capacity of the parking, areas of high usage, and help provide recommendations on where parking should be located.

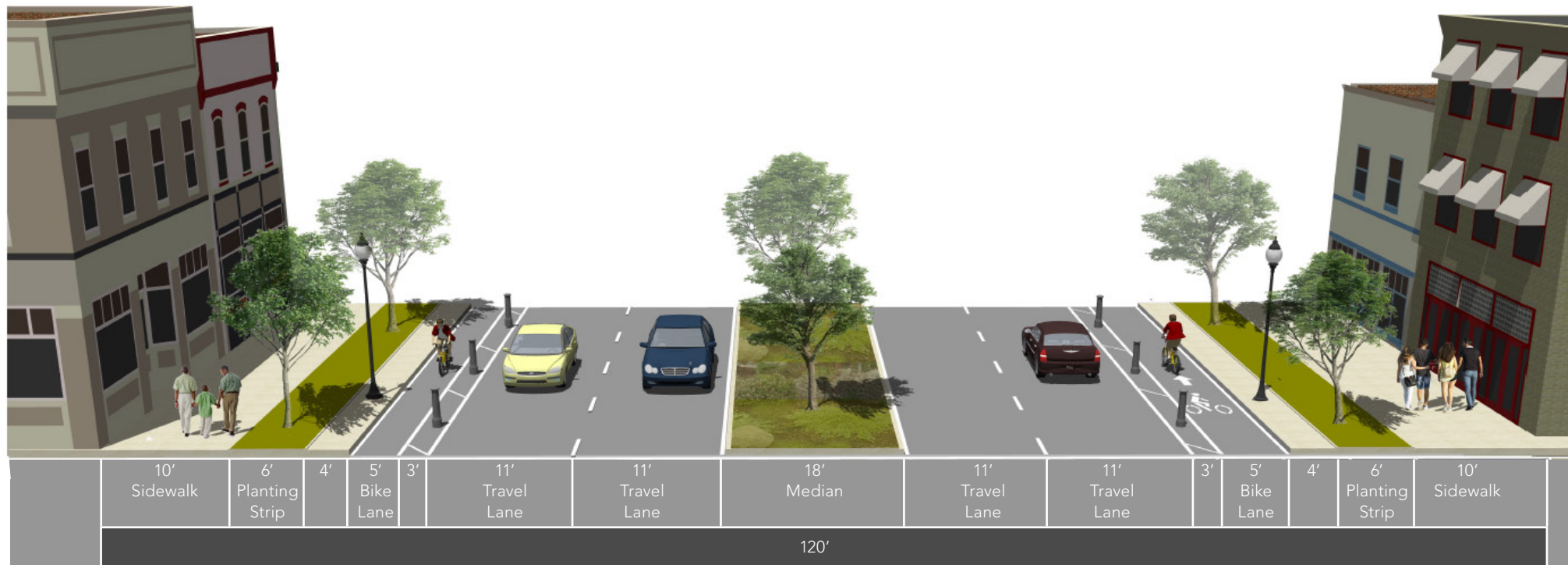
Opportunity

The Brays Oaks community is aware of the issues and wants different modes of transportation. Garnering public support is essential to recommend changes to be implemented.



The existing four lane design on Creekbend Drive makes bicycling uncomfortable for most people.

ROAD DIETS CONTINUED

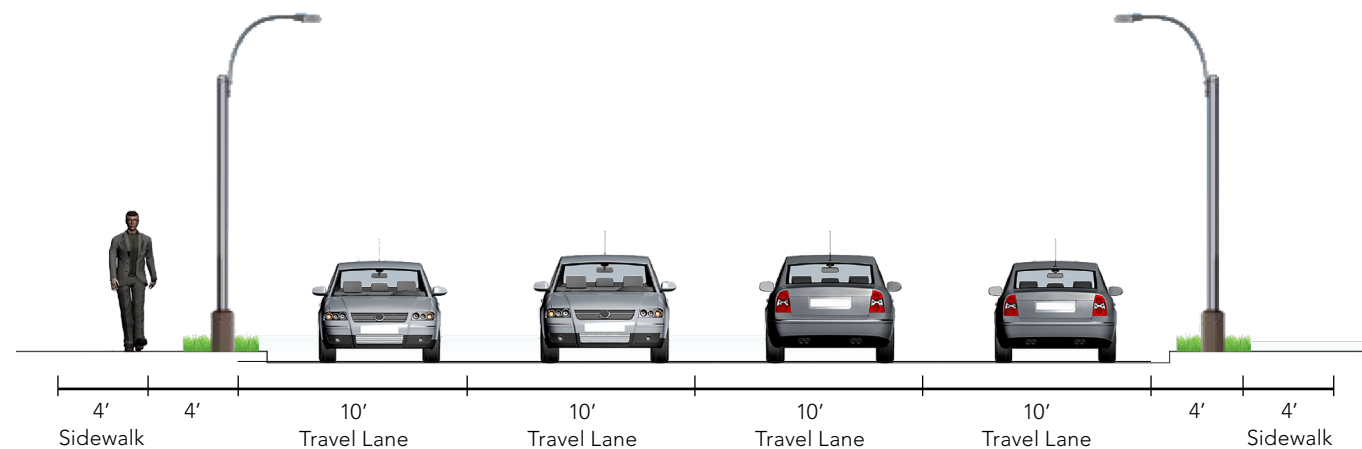


If planned as a part of a street overlay or pavement resurfacing project, a road diet conversion can be relatively inexpensive and cost-effective. The Fondren Road redesign and construction project is currently underway with the City of Houston and could one day include elements of a road diet to improve the corridor for active transportation users. Large changes like this would only come after other road diet projects prove successful as pilot projects.

For example, Creekbend Drive is a good candidate for a roadway that could be made safer and more efficient with a road diet. There are characteristics that need to be addressed before these changes can be realized, but its proximity to the Greenway Loop and its ability to connect multiple other major roadways and centers makes it a good pilot project.

Figure 43: Fondren Road Future Cross Section

Existing



Proposed

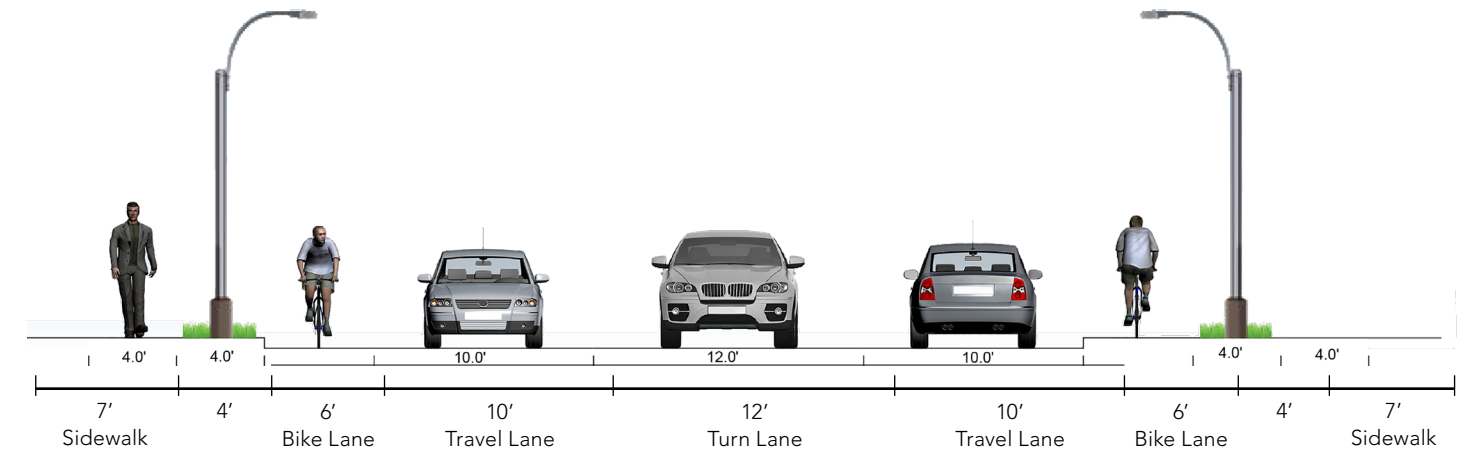
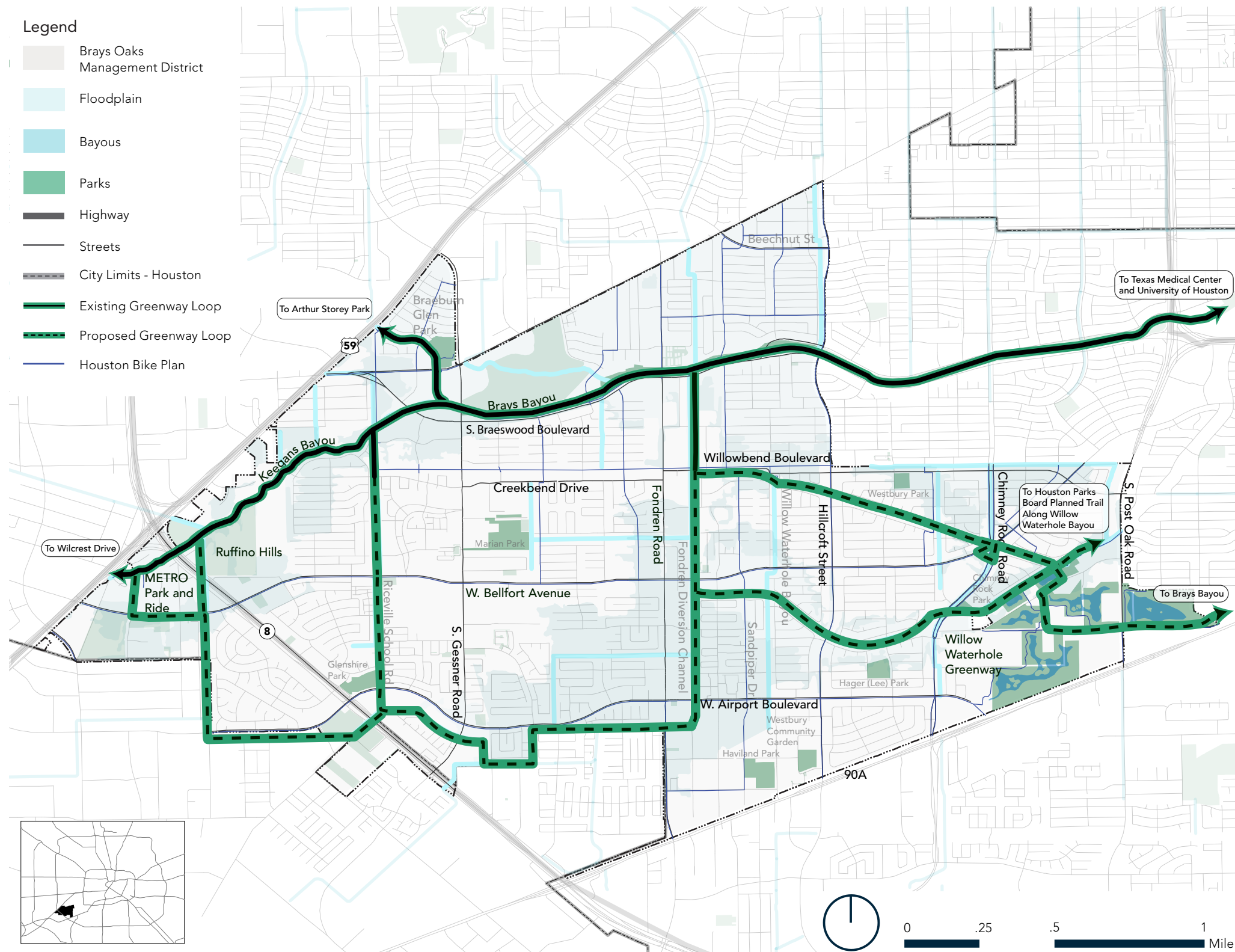


Figure 44: Existing and Proposed Cross Sections at Creekbend Drive

B3 GREENWAY LOOP



The Greenway Loop is a connected network of off-street active transportation facilities that enables safe and sustainable transportation access to amenities within and outside the District. The Greenway Loop will also provide recreational opportunities and other programming that will facilitate its use as community gathering space. Therefore, the design of the spaces will ensure safety for all users and preserve the privacy of adjacent property owners. The Greenway Loop is intended to complement the Houston Bike Plan routes by focusing on the off-street network first.

Challenge

The District has a disconnected local street network and relies on its arterial network for transportation, which makes active transportation difficult and unsafe for most travelers.

Opportunity

The District has many bayous and utility easements that can be used to create the Greenway Loop and provide connections to multiple modes of transportation.



Brays Oaks has many bayous that could create a connected greenway network if trails are built along them.

Figure 45: Greenway Loop

GREENWAY LOOP CONTINUED

GREENWAY LOOP ALONG THE STREET

Throughout the District the Greenway Loop is planned as a primary component of the transportation system. Given the variety of contexts the Greenway Loop will pass through, designs will be tailored to the local environment to ensure seamless integration with the existing conditions. Sections within the streetscape will have a clear definition of space with grade changes separating the various modes of transportation. The Greenway Loop will also utilize low impact development techniques as barriers between vehicular traffic and active transportation users, which will in turn help to mitigate any negative environmental impacts of the trail.

GREENWAY LOOP OFF THE STREET

Locations where the Greenway Loop is off-street will include signage and wayfinding so users can choose the safest and most direct routes to their destinations. These sections will also have ample lighting to improve the comfort and safety of people traveling and exercising. Maintenance is a priority for off-street trails, and amenities like trash cans, landscaping, and drainage will be implemented, so the trail feels welcoming to all potential users of various ages and abilities.



Figure 46: Projected Greenway Loop Section on Riceville School Road

B4 UTILIZE MEDIANS



Figure 47: Median Pocket Park on Hillcroft Avenue

The utilization of medians as pocket parks or plazas is an efficient and economical way to increase the amount of public space and create local neighborhood identities. Houston has multiple precedents – including Navigation Boulevard and Heights Boulevard – for how these spaces can be designed for the community and programmed so they contribute great value to local neighborhoods.

- Challenge** Many of the District's candidate roadways are high-traffic arterials which reduce safe access to the median and contain bayous that make pocket parks and plazas difficult to implement.
- Opportunity** The District has many roadways with medians that can be designed to activate existing infrastructure and create economic development opportunities and unique cultural amenities.

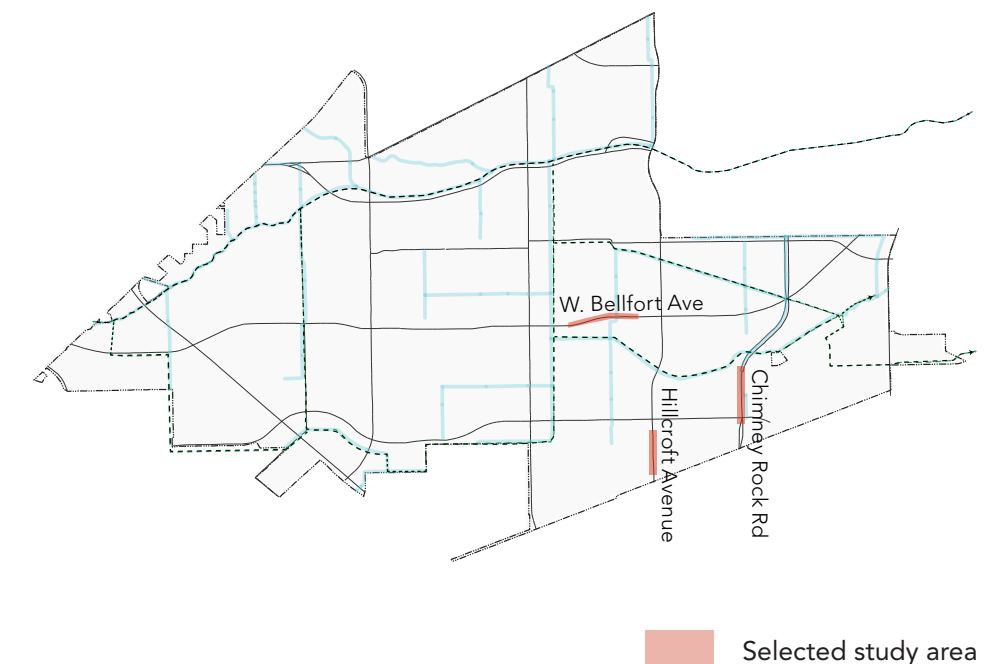


Figure 48: Context

UTILIZE MEDIANS CONTINUED



Source: 365 Things to Do in Houston

The Esplanade at Navigation Boulevard is often programmed with activities and draws people from throughout the community to participate in public life. This space was a recommendation of the East End Livable Centers study, 2009, and has since been implemented.



Source: SF Chronicle Datebook

A well designed median pocket park is a placemaking option that has proven successful in many places.

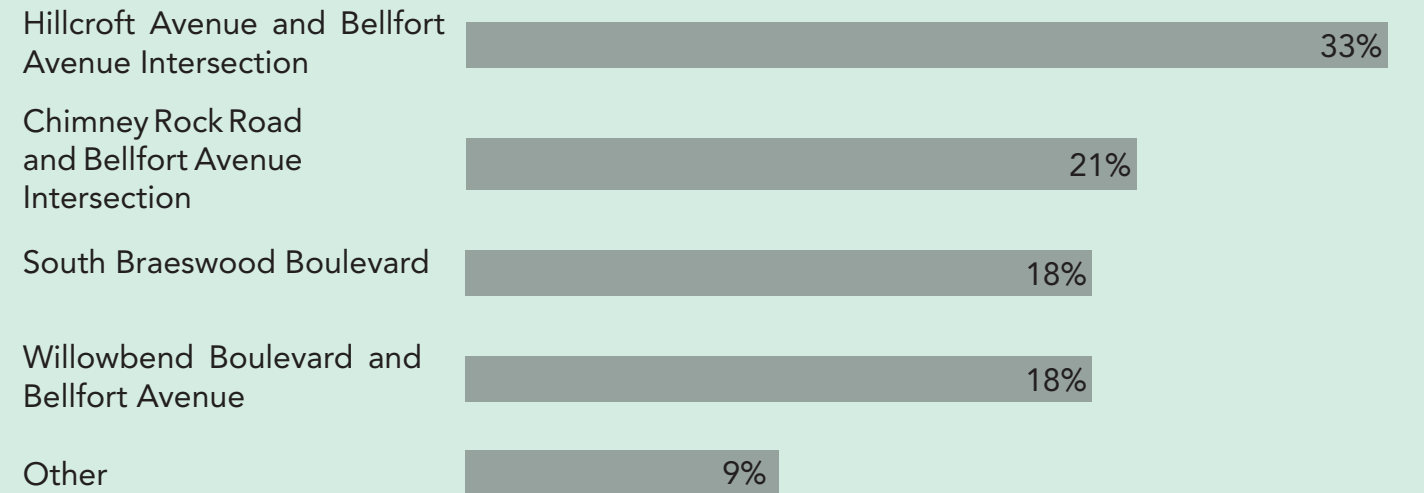


Source: Google Street View

Landscaped plazas within the median provide resting places or shaded areas for people socialize.

365

Where would you like to implement plazas and public spaces within boulevard medians? (select all that apply)



Which facilities within a median do you believe would be most used? (select all that apply)

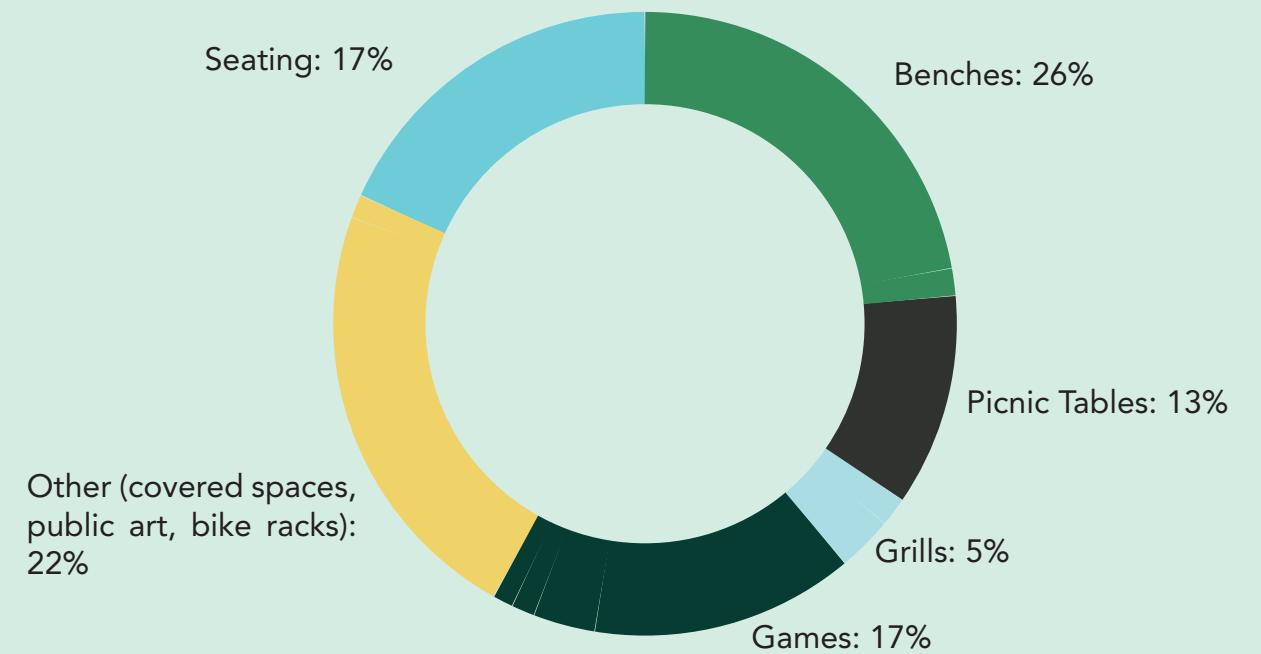


Figure 49: Survey Question

B5 TRAIL CONNECTIVITY AND IMPROVEMENTS

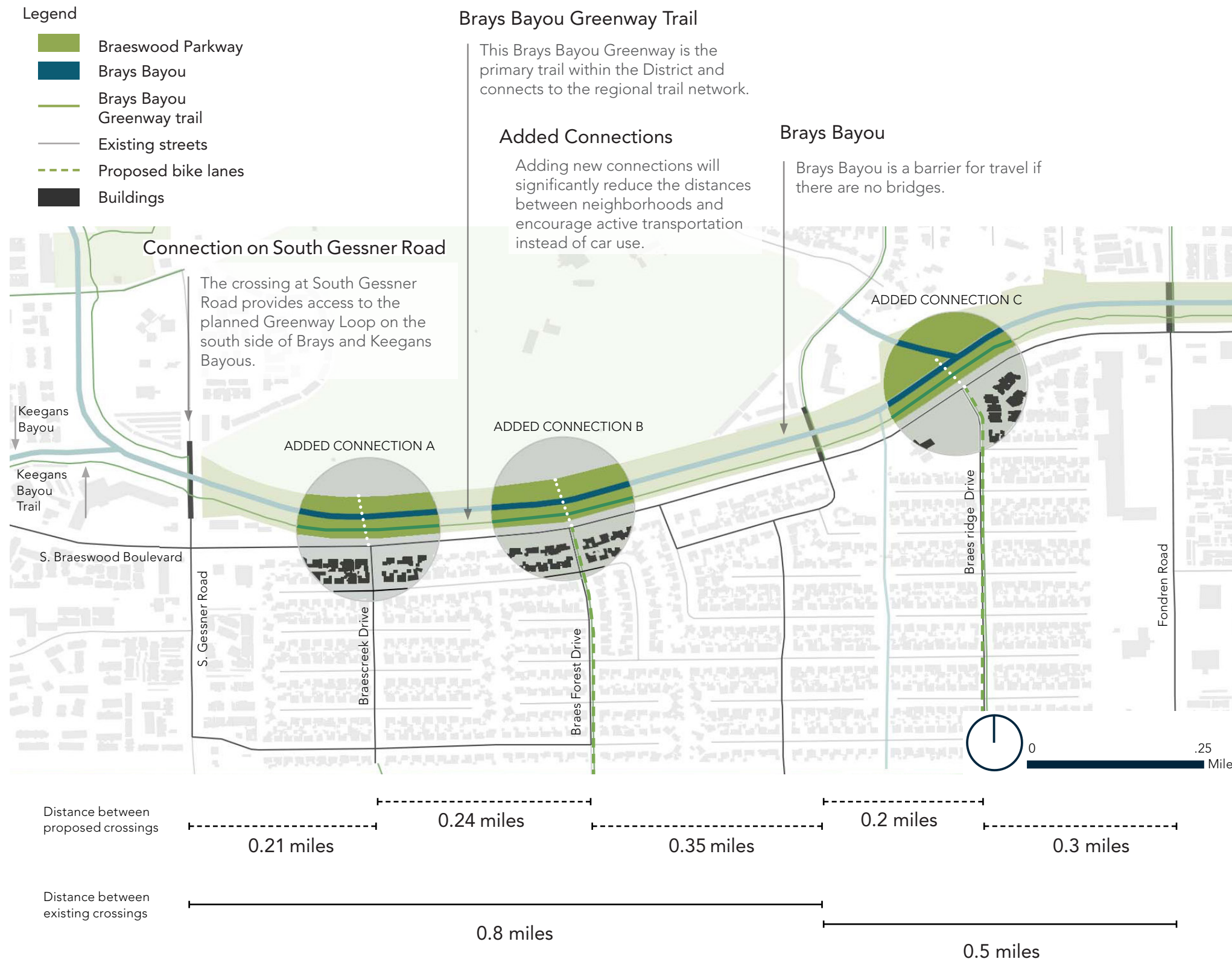


Figure 50: Identifying Opportunities to Improve Trail Connectivity

Provide direct connections to off-street trails from streets, schools, and other public and private properties and include safety and cultural amenities such as lighting and art. Creating a safe and connected trail network provides active transportation users the ability to commute to work or school, run errands, access necessary community resources, and do it all safely and conveniently. Additionally, implementing a functional network of trails encourages active transportation and physical exercise which has secondary public health benefits.

- Challenge** The District's street network is disconnected, circuitous and facilitates mobility on a limited number of corridors while discouraging modes like active transportation and transit.
- Opportunity** The District has many amenities in close proximity to future trail corridors and can prioritize economical improvements that will enhance the safety and comfort of trails.

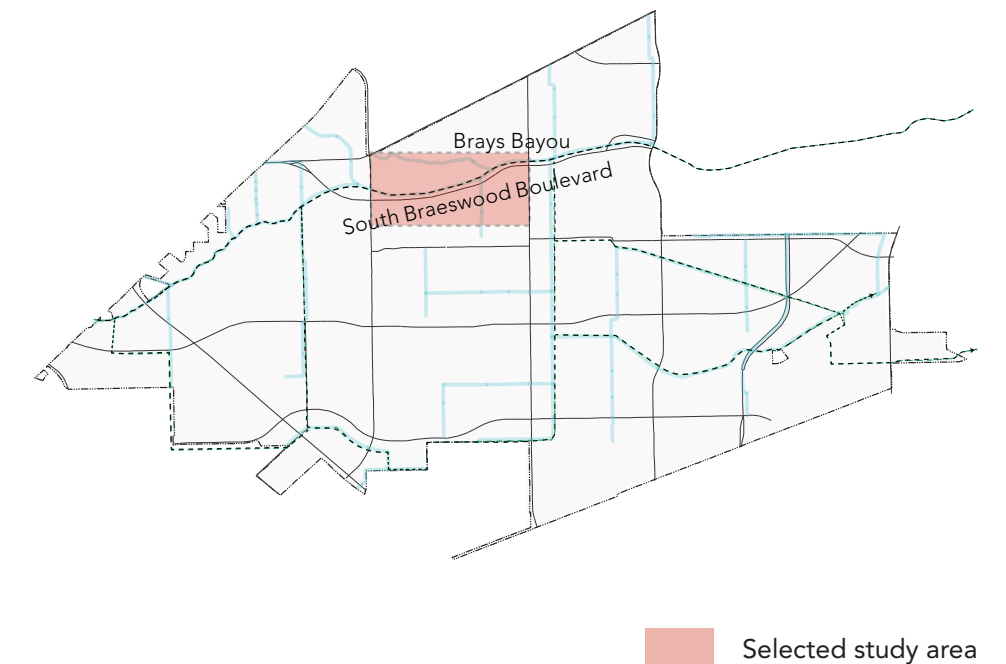


Figure 51: Context

TRAIL CONNECTIVITY AND IMPROVEMENTS CONTINUED



Source: Clark Condon

Lighting makes trails safer and increases the comfort and perception of safety for trail users.



Source: Houston Heights Association

Public art can highlight the identity and character of the neighborhood and add interest to trails.



Source: National Institute of Environmental Health Sciences

Shade trees provide a myriad of benefits to trail users and the overall environment.



Source: PaperCityMag

Signage makes trails more accessible for everyone and can improve safety for users that are unfamiliar with the trail.

What trail improvements do you believe are most important? (select one option)

20% percent of people believed shade and tree canopy are most important for trails.

Types of Trail Improvements

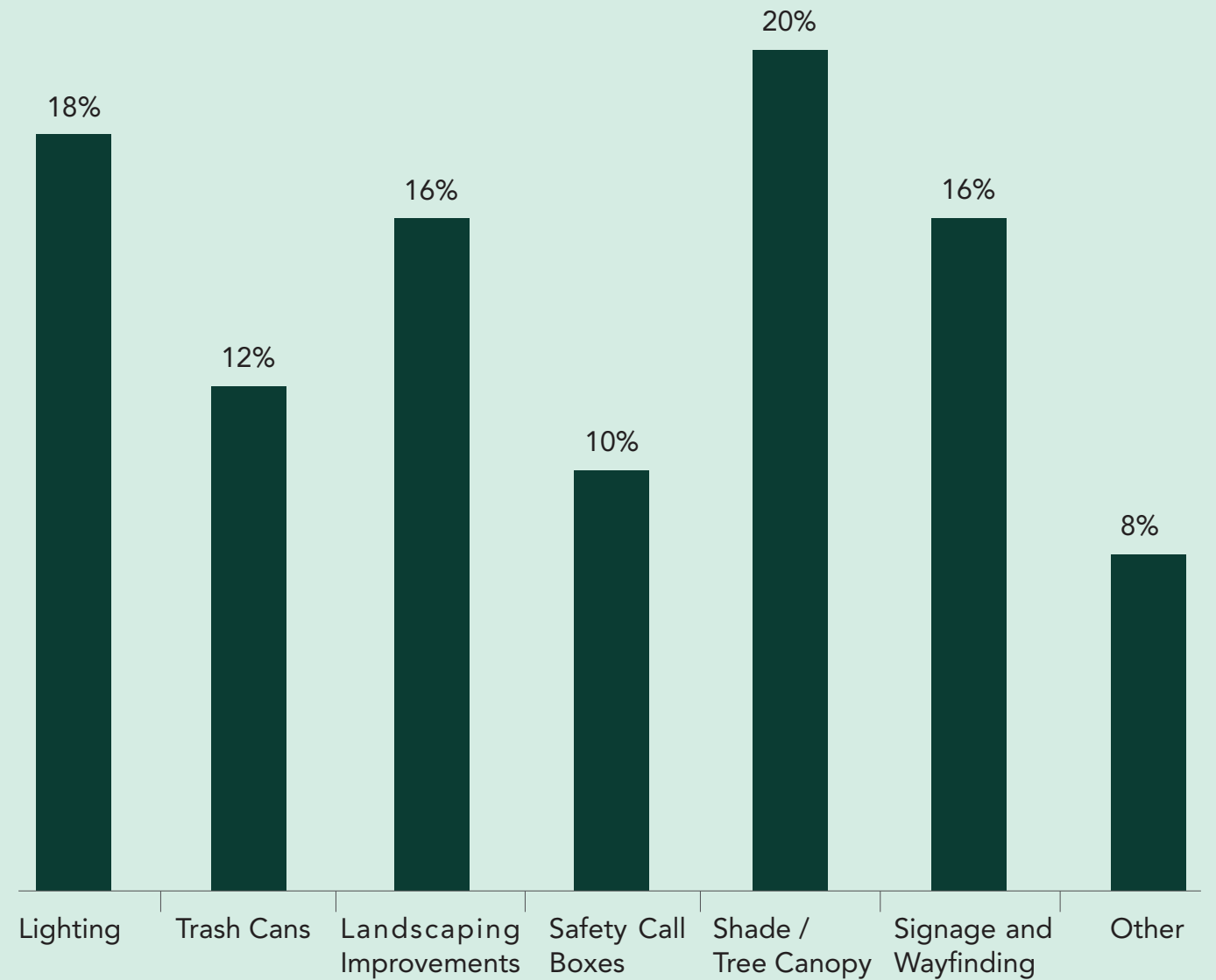


Figure 52: Survey Question

B6 UTILIZE EASEMENTS

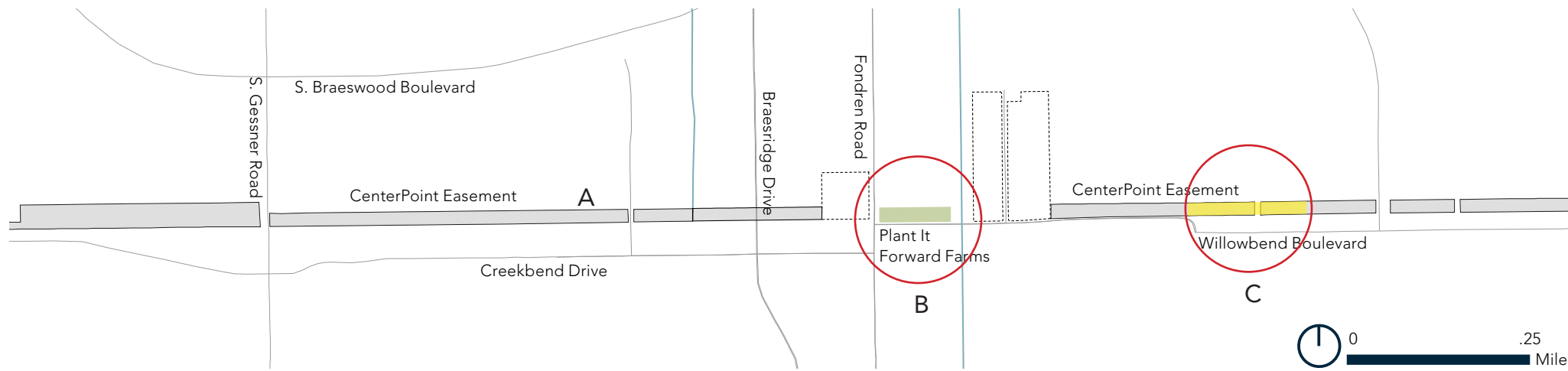


Figure 53: CenterPoint Easement

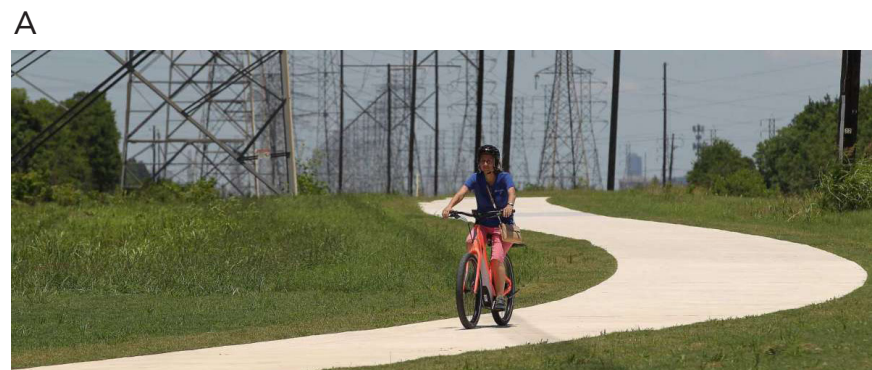
Utilize the CenterPoint easement to provide safe and accessible routes to community destinations and expand the greenway network with connections to the existing transportation system. Leverage the agreements the City of Houston and Harris County have with CenterPoint which allows their easements to be used for a variety of functions. Taking advantage of these agreements reduces the time and cost to implement alternative uses like trails, urban farms, and other types of public spaces.

Challenge

The CenterPoint easement includes high-tension powerlines which reduce the types of trail amenities, such as trees and shade structures, that can be added to the corridor.

Opportunity

The CenterPoint easement is located in the center of the District and can act as a spine connecting neighborhood streets, major corridors, transit lines and provide access to commercial areas.



Source: Houston Chronicle

CenterPoint Energy has agreements with the City of Houston and Harris County to permit trails within their utility easements.



Source: Paul Hester

Farming in the easements activates the otherwise voided spaces.



Source: Google Street View

Easements close to streets can provide alternative trail access and be used for overflow parking.

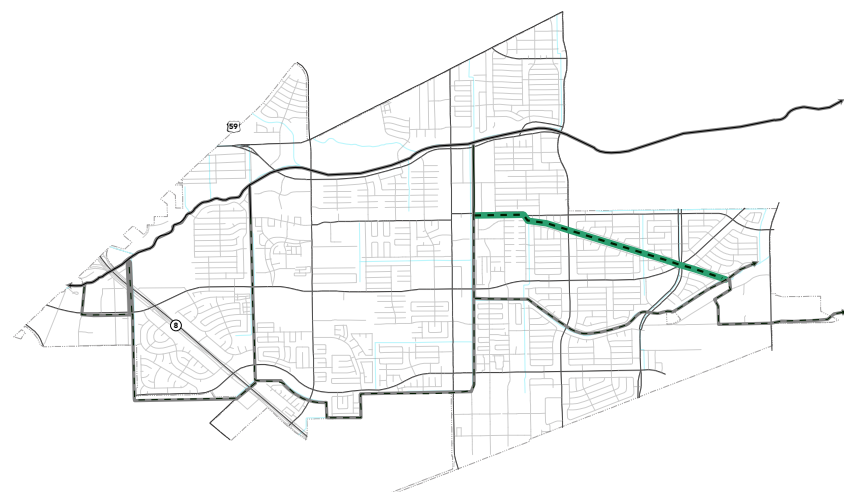


Figure 54: Greenway Loop within the Easement

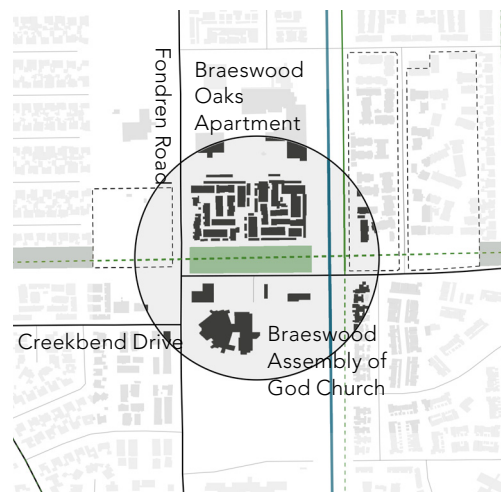


Figure 55: Plant It Forward Farms

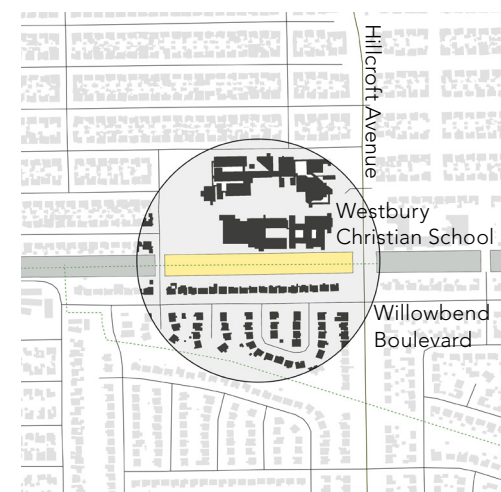
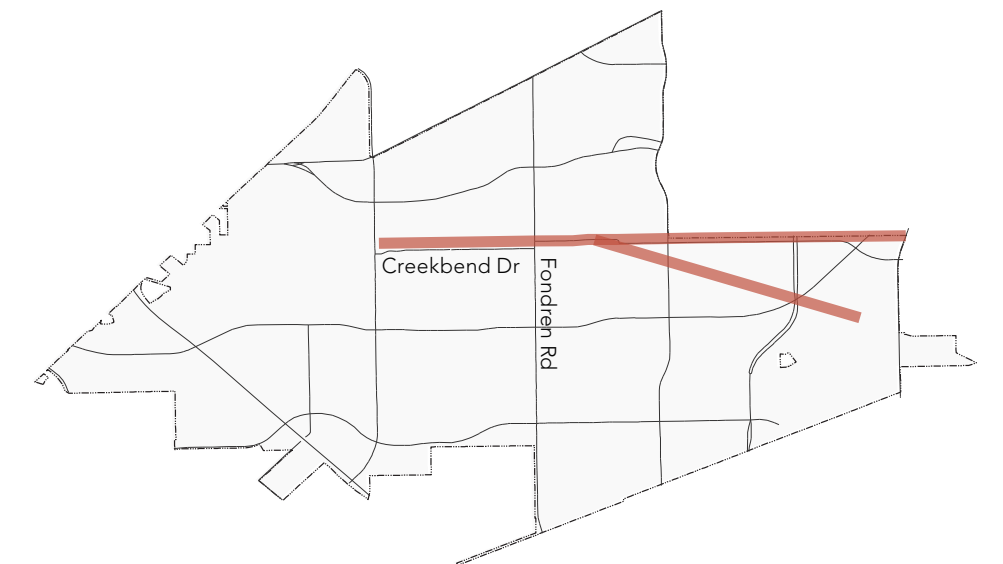


Figure 56: Surface Parking within the Easement



Selected study area

Figure 57: Context

UTILIZE EASEMENTS CONTINUED

PLANT IT FORWARD - Houston, TX

The city of Houston is crisscrossed with utility easements which are specific pieces of privately-owned land that are used for utility infrastructure that benefits the public good. There are many types of easements which have varying levels of restrictions, but utility easements are typically more heavily restricted than others. Still, CenterPoint Energy, Houston's local Transmission and Delivery Service Provider (TDSP), has permitted their utility easements for a variety of uses, including urban farming. Founded in 2011, Plant It Forward (PIF) is Houston's largest network of urban farms that focus on fostering the development of local food systems. PIF has partnered with Braeswood Assembly of God Church to create an urban garden in the CenterPoint easement at the intersection with Fondren Road. Working with skilled farmers from refugee backgrounds, PIF grows and distributes fresh produce throughout the community. (<http://plantitforward.farm/whoware/#aboutus>) Not only is this local urban garden a place that creates social and economic value, it also activates the easement with a vibrant community meeting place. Examples like PIF's use of the CenterPoint easement show that there is great potential in utilizing existing community attributes for the public good.



Source: TasteMAKERS

Plant It Forward's Fondren Farm within the CenterPoint utility easement is an example of one of the many ways utilizing easements can be beneficial to the community.



Source: PaperCityMag

Not only does Plant It Forward provide healthy food for the community, but they also provide programming, like their Spring Farm Tour, which brings people together at their locations.



Source: Houston Heights Association

Plant It Forward's vision is for a farm in every neighborhood, so utilizing utility easements is a great way for them to achieve that vision.

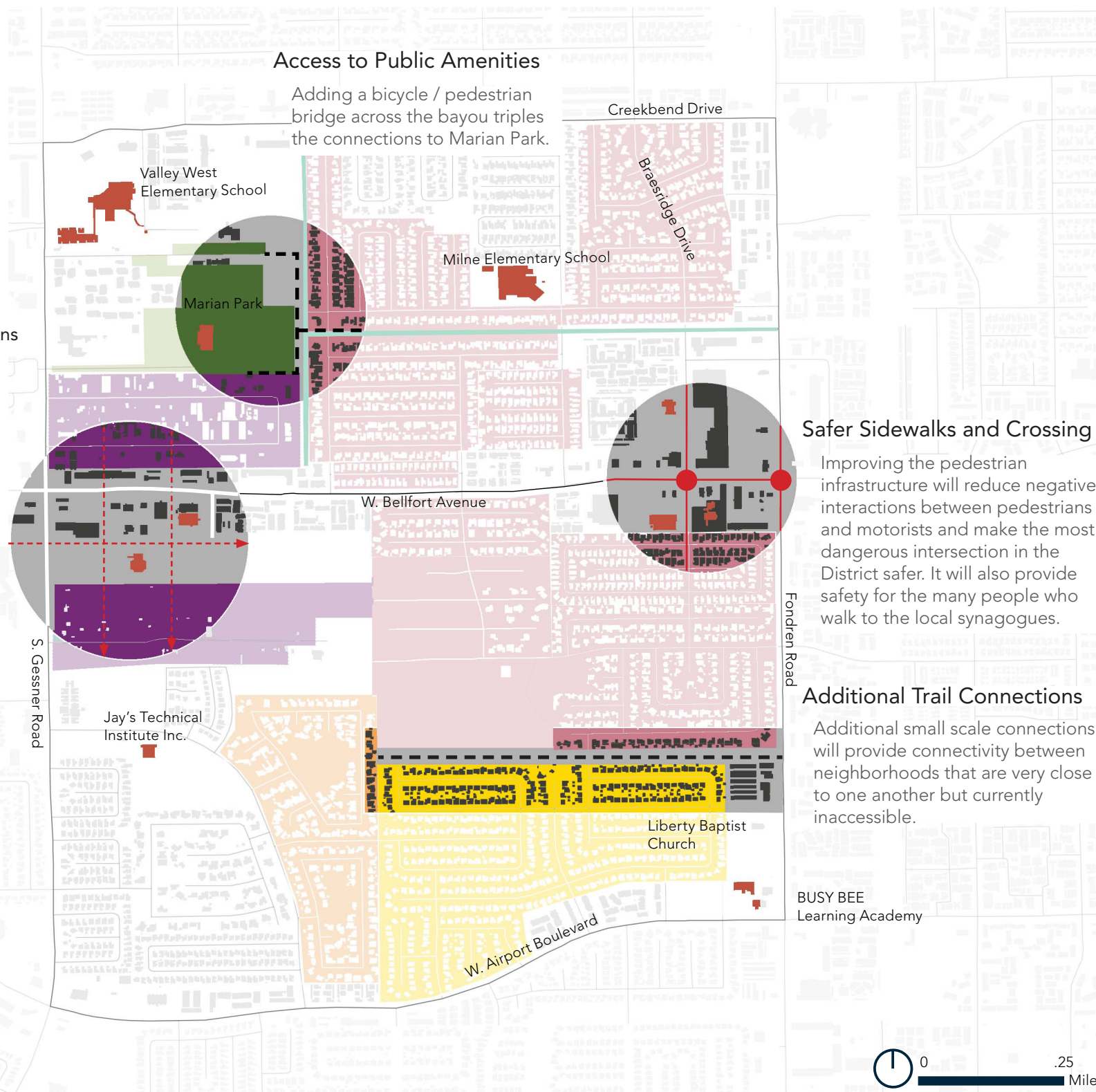
B7 NEIGHBORHOOD CONNECTIVITY

Legend

- West Belfort
- Lakes of Fondren
- Southmeadow
- Unnamed Neighborhoods
- Public buildings
- Buildings
- Proposed trail connections
- Existing streets
- Smaller blocks division
- Bayou
- Proposed location for safe sidewalks
- Proposed location for safe crossings

Smaller, Walkable Blocks

Introducing a smaller block structure will increase access for pedestrians and make the community more walkable.



Access to Public Amenities

Adding a bicycle / pedestrian bridge across the bayou triples the connections to Marian Park.

Safer Sidewalks and Crossing

Improving the pedestrian infrastructure will reduce negative interactions between pedestrians and motorists and make the most dangerous intersection in the District safer. It will also provide safety for the many people who walk to the local synagogues.

Additional Trail Connections

Additional small scale connections will provide connectivity between neighborhoods that are very close to one another but currently inaccessible.

Improve street connections and bike and pedestrian facilities in neighborhoods south and west of the Fondren Road and Belfort Avenue intersection. As one of the most prominent intersections in the District with many destinations, the District should create opportunities for greater access for multiple modes of transportation. Using active transportation cut-throughs and safe routes through parking lots will greatly improve access to worship centers, grocery stores, and community centers.

Challenge

The street network around the Fondren Road and Belfort Avenue intersection is disconnected, and these high-traffic roadways discourage active transportation due to a lack of safety and comfort.

Opportunity

Many of the neighborhoods are lacking only a small connection such as a short trail segment or bayou crossing or a clearly marked pathway through the area's large parcels.

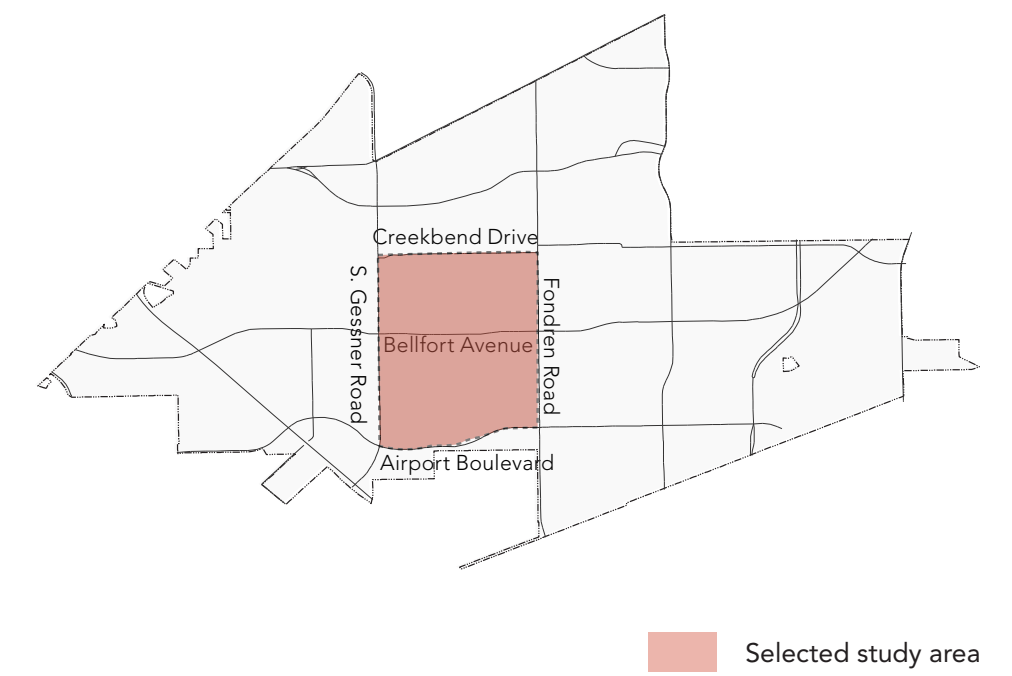


Figure 58: Neighborhood Connectivity Barriers and Improvements

Figure 59: Context

NEIGHBORHOOD CONNECTIVITY CONTINUED



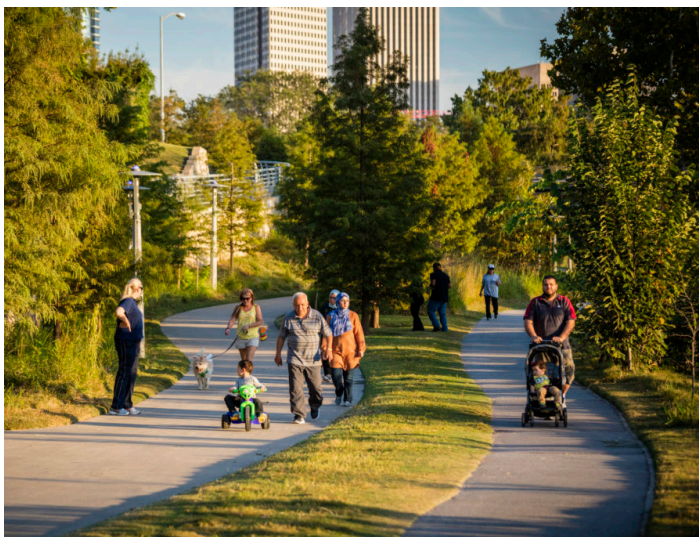
Source: SF Better Streets

Well-maintained sidewalks can improve connectivity within the community.



Source: SWA Group

Bicycle and pedestrian bridges can make crossing bayous easy and enjoyable.



Source: Jonnu Singleton, SWA

Off-street trails provide both recreational and transportation opportunities.



Source: Avid Trails

Signage and wayfinding can make off-street trails easily navigable and safer.

What is the greatest opportunity to improve connectivity between neighborhoods? (select one option)

43% percent of people feel sidewalks can make neighborhoods more connected.

Opportunities for Connectivity

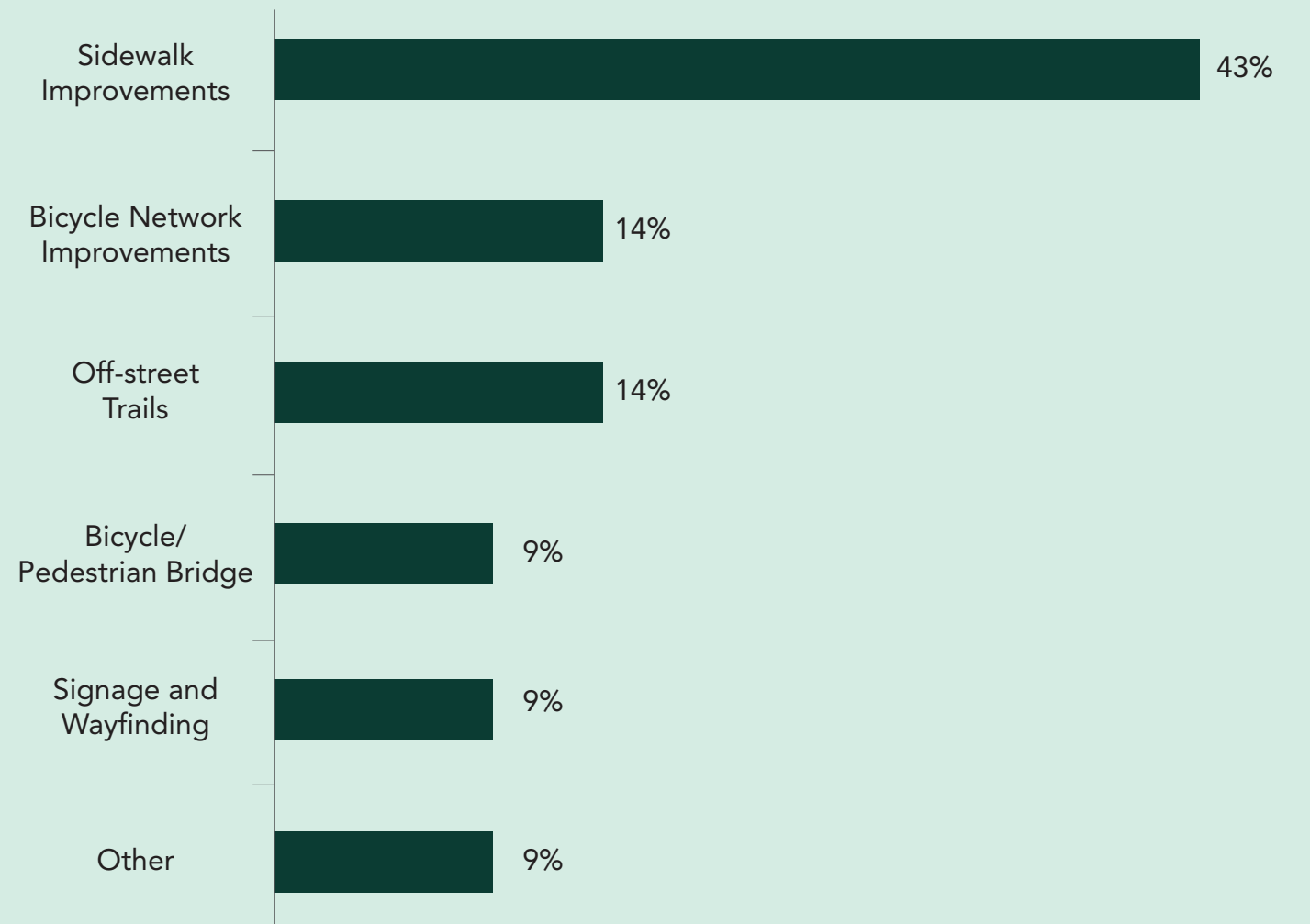


Figure 60: Survey Question

Market Opportunities

Catalytic Sites were selected within the Brays Oaks District based on a market analysis identifying opportunities for new commercial, mixed use, and residential development types. Conceptual plans for these sites were developed to illustrate how adding connections, improving access and livability, efficiently utilizing infrastructure and enhancing the existing community assets can help to realize these market opportunities. It is important to note that the conceptual plans developed here do not represent the only path to redevelopment that meets these goals. The conceptual plans are illustrations of how the following design principles could be implemented to realize the market opportunities identified for Brays Oaks.

Following is a list of the key market opportunities and subsequent design principles that were employed in the design of each of the catalytic sites. The following page illustrates where and how the design principles were employed for each of the sites.

- 1 NEW RETAIL TYPES**

Affluent homeowners in the district are underserved for businesses that target them. Attracting such businesses will require a special environment and development opportunity that assures a strong flow and appeal for affluent customers. A generic retail strip center environment will not likely suffice. Rather than construction of additional inventory, the market analysis recommends improvement and even transformation of existing retail properties to enhance aesthetic appeal and placemaking.
- 2 MIXED USE OR TRANSIT ORIENTED DEVELOPMENT**

A placemaking effort to create a more vibrant atmosphere and compelling public or quasi-public space that generates traffic and exposure, and even draws customers from out of the area, will be needed. Upscale residential on-site of such a development will help in terms of creating the image and supporting human activity. A regional attraction is needed to create the opportunity for this new development type in the district.
- 3 MULTI-FAMILY TARGETED TO ACTIVE ADULTS**

There are no Active Adult (age restricted) units within the district currently. Locating new multifamily units within walking distance of a Jewish temple or amenities such as hiking trails, lakes, outdoor theater, etc. is recommended as a viable new market opportunity in the district.
- 4 HORIZONTAL APARTMENTS**

A horizontal apartment product type consisting of townhomes or duplexes for rent on a single tract of land is becoming quite popular and profitable for investors. The market analysis recommends that townhomes or duplexes as rental units could be absorbed in the study area based on the number of renters in the district. Single-family homes are typically sized between 1,400 and 2,200 square feet and appeal more to non-family households than traditional detached single-family homes. The conventional single-family rentals achieve absolute rents well above apartments, though per square foot rents are lower.

Design Principles

The overarching design principles discussed here are intended to respond to the Market Opportunities identified for the Brays Oaks Livable Centers Study. The following page illustrates how they have been implemented in the catalytic sites. As implementation of these catalytic sites continues to evolve changes to the site layout should consider how these design principles are being met.

- D1 BLOCK STRUCTURE (400 HUNDRED FEET BY 400 HUNDRED FEET)**

The block structure of a place is a key determinant in the type of development that exists. Limited connectivity and very large blocks have led to a very suburban development pattern in the Brays Oaks District. In order to realize some of the identified market opportunities for the dominant retail development type in the district are strip centers lining major boulevards.
- D2 PLACEMAKING**

Creating places where people want to be outside of their vehicle and stay and enjoy requires slower traffic and attractive places and streetscapes.
- D3 ACTIVATING DRAINAGE INFRASTRUCTURE**

Improvements to drainage infrastructure within the Brays Oaks District are essential to maintaining prosperous communities and neighborhoods. Each catalytic site has illustrated how incorporating Low Impact Design and larger required detention into the landscape can help to create attractive dual use places.
- D4 IMPROVING ACCESSIBILITY FOR BICYCLES AND PEDESTRIAN**

The design of each catalytic site has focused on neighborhood level pedestrian connections with interventions such as pedestrian bridges over bayous, mid-block crossings, a smaller walkable street network separated from larger boulevards, and pedestrian connections to parks.

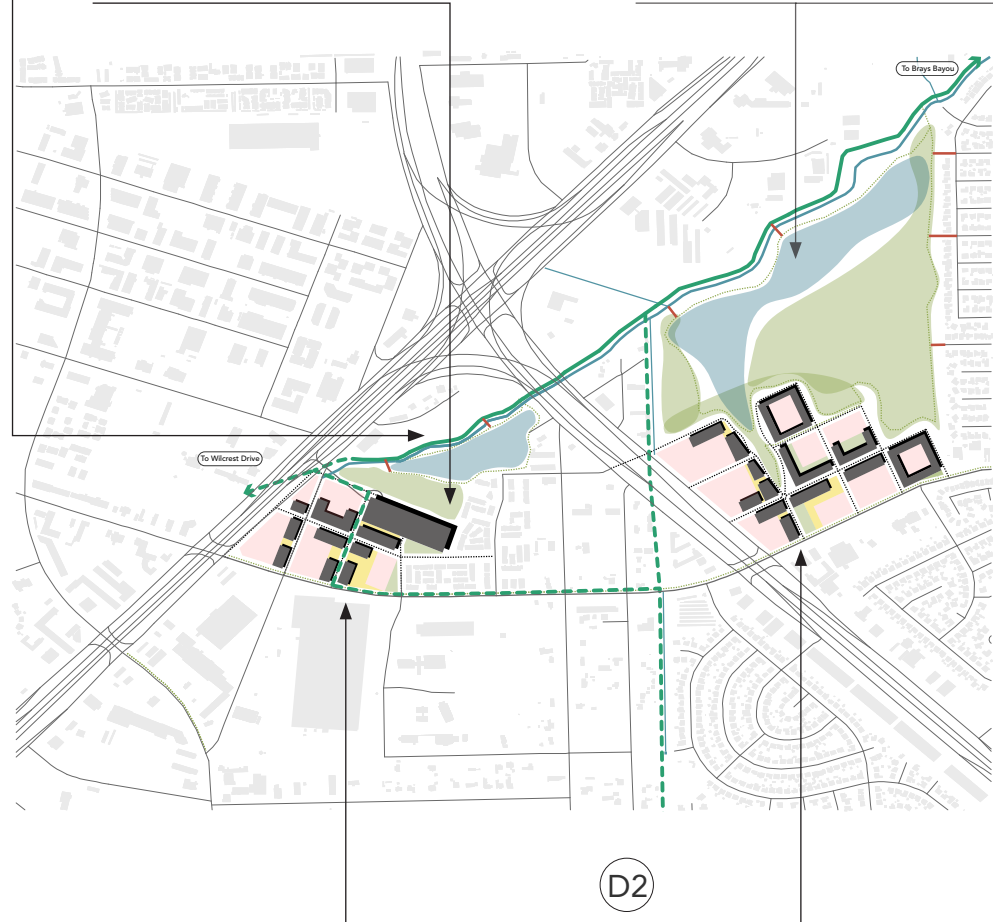
CATALYTIC SITES CONTINUED

D4

Pedestrian and bicycle connections to the Keegan's Bayou trail system including valuable connections across the bayou to the trail system have been highlighted.

D3

Smaller pockets of land are used for rain gardens and serve to break up larger parking lots and help to infiltrate and treat water prior to running off into larger drainage areas.



D1

Block network can be created to connect well into the existing fabric and create opportunities for new development types.

D2

Buildings predominantly front and face on internal streets in a continuous fashion. By focusing development on internal streets instead of the main boulevards with heavy traffic walkable and attractive places can be established.

D4

A pedestrian connection across the bayou to Marian Park will provide pedestrian access to the park for an entire neighborhood that previously would need to drive in order to access the park.

D1

Utilizing vacant or underdeveloped lots behind these strip centers can catalyze a new development type.

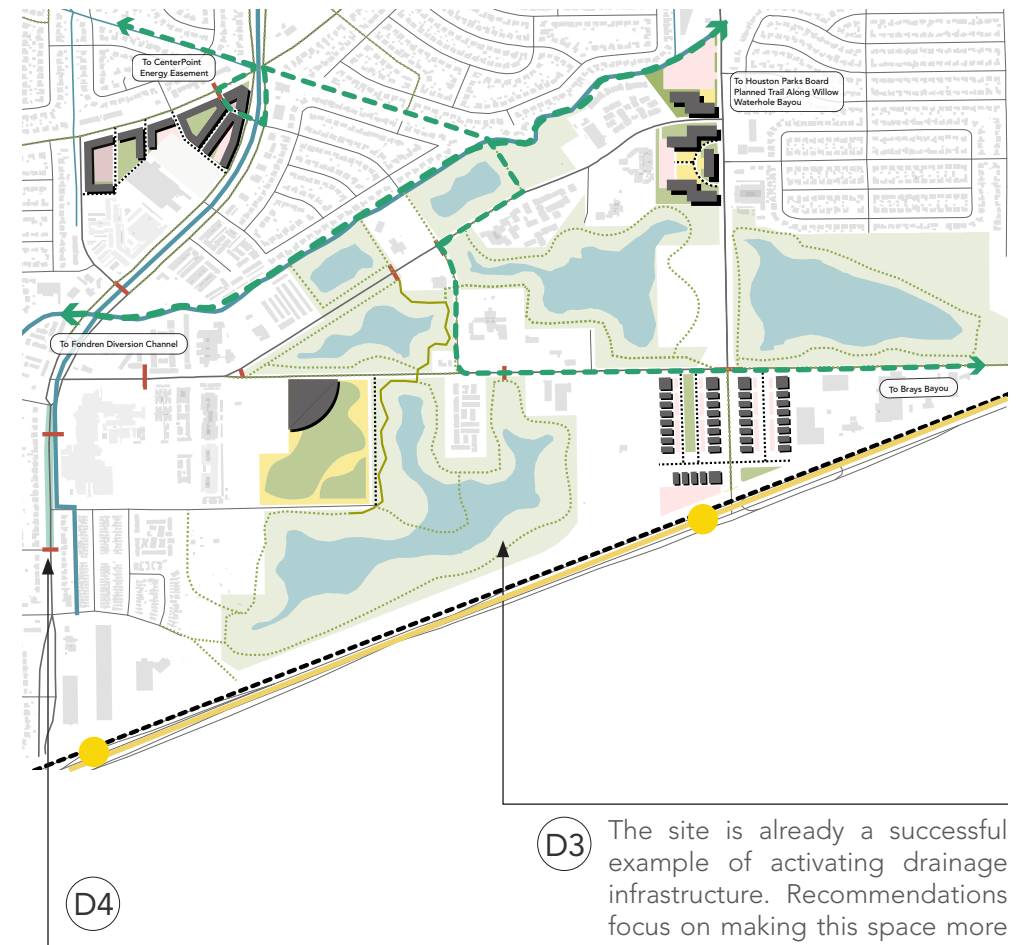


D3

Smaller pockets of land within and around parking areas can be used for rain gardens within the landscape.

D2

The Willow Waterhole Greenway has a regional draw that is continuing to expand. Continued improvements to Willow Waterhole Greenway that focus on better connecting surrounding neighborhoods, Westbury Square, and Post Oak Drive to both the Willow Waterhole Greenway and the proposed Transit Stops along Highway 90A will provide the market drive needed to support new product types and more transit oriented developments (TOD). Recommendations within and around this catalytic site illustrate how this can be done.



D4

Locations for safe pedestrian crossings connecting neighborhoods and residents have been identified. A hierarchy of connections from regional to local have been included to emphasize places for local pedestrian and bicycle access.

D3

The site is already a successful example of activating drainage infrastructure. Recommendations focus on making this space more connected and accessible to surrounding neighborhoods.

Figure 61: Ruffino Hills and METRO Park and Ride Catalytic Site Plan



Figure 62: West Belfort Avenue and South Gessner Road Catalytic Site Plan

Figure 63: Willow Waterhole Greenway and Westbury Square Catalytic Site Plan

C1 RUFFINO HILLS AND METRO PARK AND RIDE

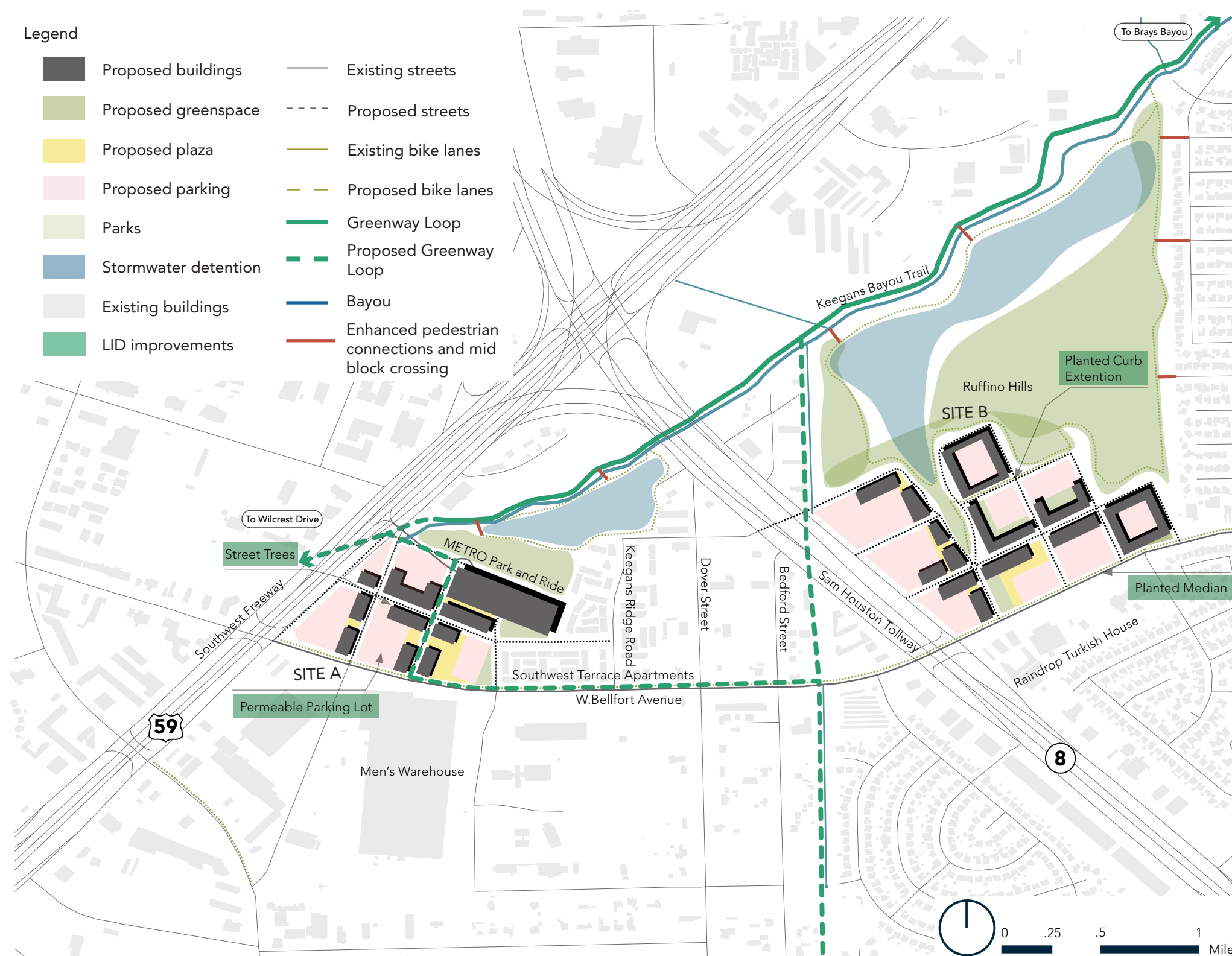


Figure 64: Ruffino Hills and METRO Park and Ride Site Catalytic Site Plan

The West Bellfort METRO Park & Ride provides an opportunity to incorporate a transit-oriented development model (TOD). TODs have the potential to better connect communities through multi-modal approaches, increase equitable access to electric vehicle (EV) resources, provide space for photovoltaic energy generation and storage, increase ridership (decreasing greenhouse gas emissions), and increase commercial opportunities. The West Bellfort METRO Park & Ride is between two EV charging corridors and fits the profile of a location that may be used to locate EV fast charging stations, a focus of the Biden – Harris Administration, which may allow an opportunity for the project to apply for federal infrastructure funds and increases the likelihood of forming public-private partnerships to achieve project outcomes.

This redevelopment project would be transformational for the community; it highlights innovation, improves transit, provides solutions to mitigate blight, and has the potential to change the gravity of investment in the area. Not only could this site act as an economic catalyst, but the site could also be a visible gateway to the city; improving the cityscape. The Brays Oaks Management District understands the value of TODs and believes the redevelopment of the West Bellfort METRO Park & Ride is an essential aspect to improving the quality of life for residents and improving the economic outlook for businesses within our district.

Ruffino Hills Station is an adjacent waste transfer station with the potential of redeveloping as a mixed-use center with jobs, housing, entertainment and connections to transportation. Early phases of development, will seek to leverage funding from public private partnerships to enhance the ecological benefits of the Keegan's Bayou. Future development is planned to marry the natural and built forms so it can be sustainable from an environmental, social, and economic standpoint.

Challenge The area is divided by the Sam Houston Tollway and much of the site is located within the flood plain. Most of the uses are also industrial, so the character of the area will be expected to change significantly.

Opportunity The site includes multiple large parcels that facilitate future development. The area also has easy access to transit (METRO Park and Ride), the trail system (Keegan's Bayou), and major roadways.

Figure 65: Context

RUFFINO HILLS AND METRO PARK AND RIDE CONTINUED

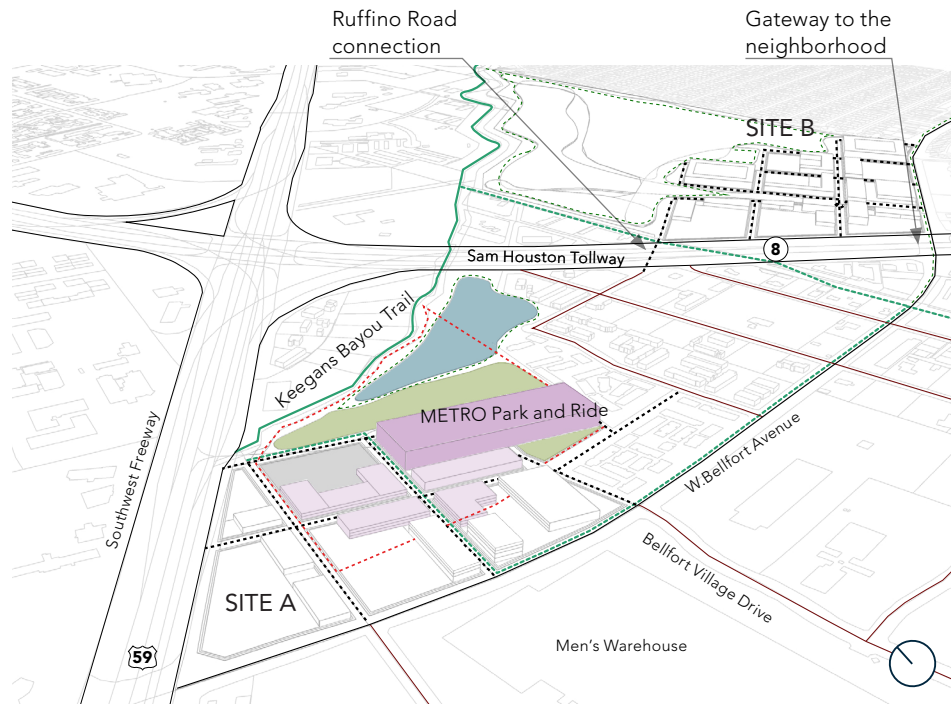


Figure 66: New Street Network and Transportation Connections

The new streets create connections to the local network in nearby neighborhoods and regional transportation infrastructure like the METRO Park and Ride, Sam Houston Tollway, and the Southwest Freeway. Specifically, Ruffino Road is planned as a street crossing beneath the Sam Houston Tollway connecting Sites A and B, which will help distribute transportation demand throughout the site. As the primary street in the area, Belfort Avenue will act as a gateway for people entering the site. These early site improvements could be funded through a public private partnership to facilitate the full potential of the site.

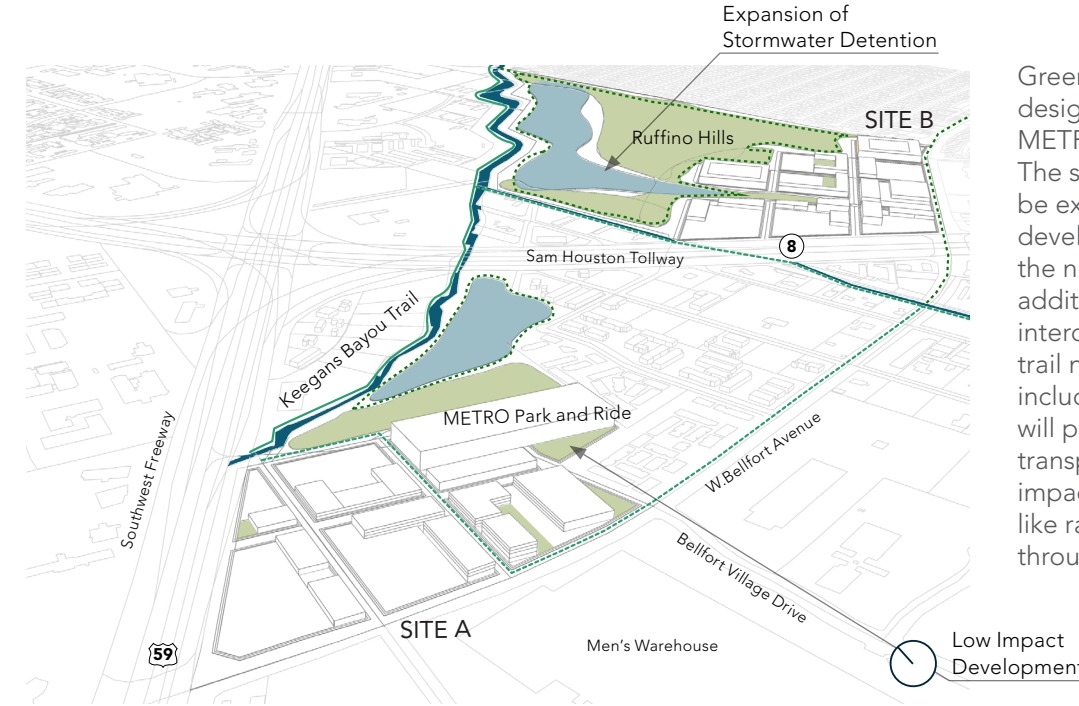


Figure 67: Green Infrastructure

Green infrastructure is integral to the design of the Ruffino Hills and METRO Park and Ride catalytic site. The stormwater detention area will be expanded toward the development to seamlessly integrate the natural and built forms. In addition, the green spaces will be interconnected through an expansive trail network with bayou crossings, including the Greenway Loop, that will provide opportunities for active transportation and recreation. Low impact development improvements, like rain gardens, will also be made throughout the site.

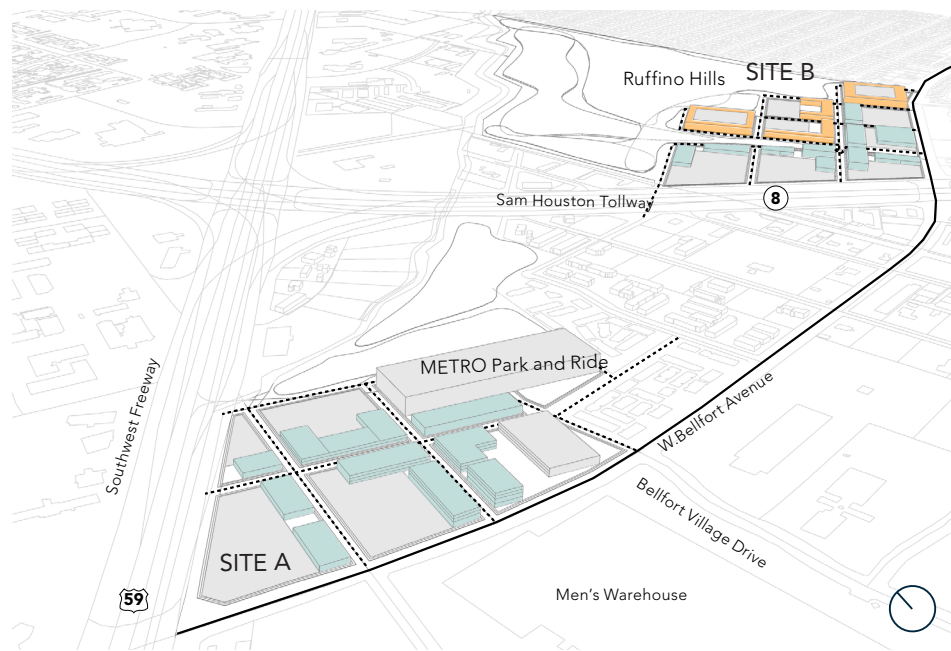


Figure 68: Combined Land Uses

The combined land uses within the site will create a vibrant mixed-use district with commercial storefronts, office space, and residential units. The development intensity and mixture of uses will create a dynamic urban neighborhood that has transit supportive densities, walkable streetscapes, and other major regional transportation connections.

Legend

- Office
- Residential
- Parking
- Plaza
- Green
- Detention Ponds
- Building in property owned by METRO
- Property owned by METRO

RUFFINO HILLS AND METRO PARK AND RIDE CONTINUED

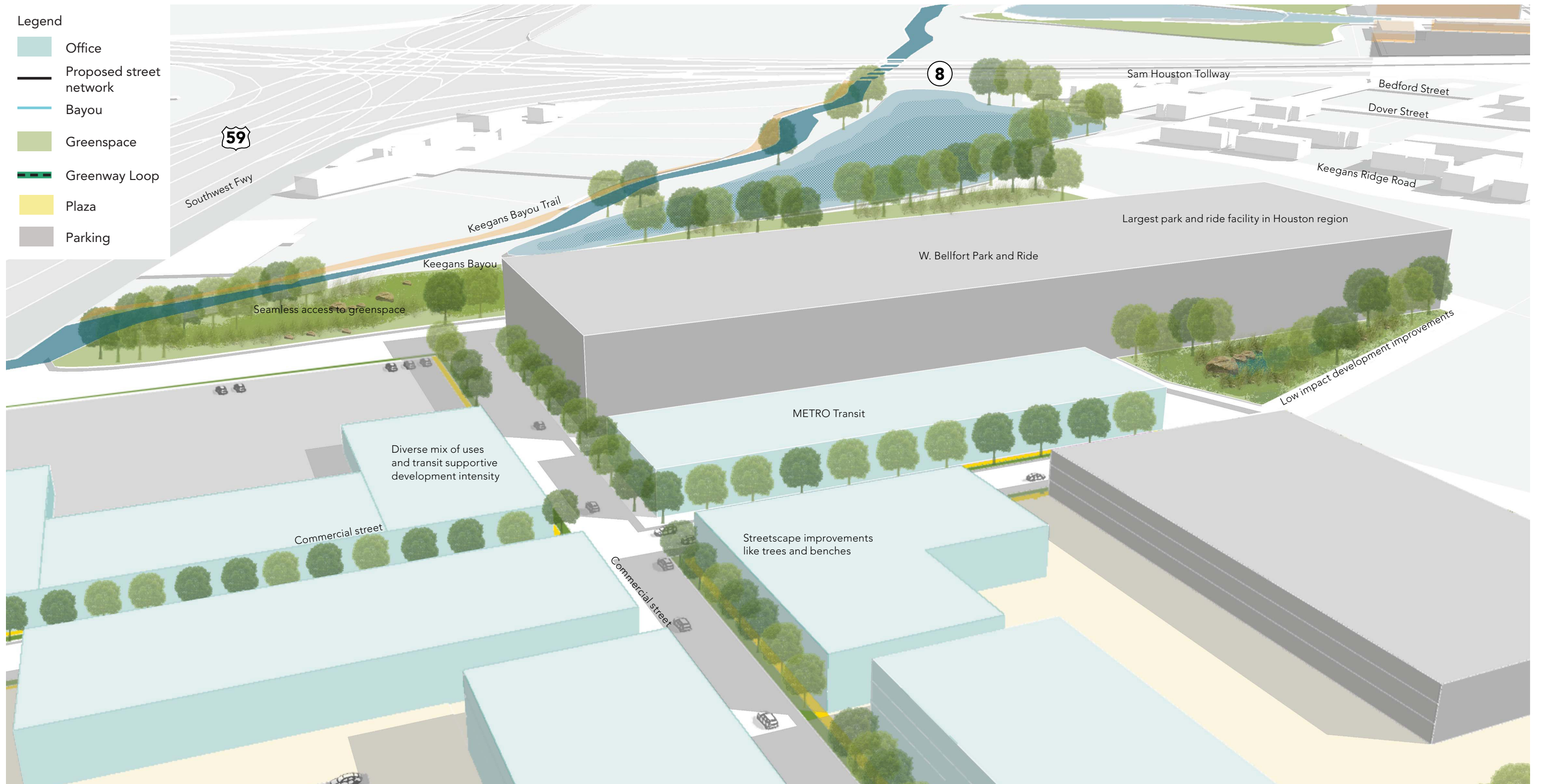


Figure 69: Ruffino Hills and METRO Park and Ride Catalytic Site Massing

RUFFINO HILLS AND METRO PARK AND RIDE CONTINUED

CASE STUDY: MIDTOWN MIAMI P3

The recommendations for the Ruffino Hills and METRO Park and Ride catalytic site are intended to use public private partnerships (P3) to fund early site improvements that will then catalyze real estate and economic development throughout the area. This type of development has been used successfully throughout the country to finance, build, and operate a variety of project types, including public transportation networks, parks, and convention centers. Midtown Miami, the largest P3 in the city, created a Community Redevelopment Area (CRA) and a Community Development District (CDD) to help facilitate and pay for the infrastructure improvements (source:ULI PPP report). The redevelopment of the site provided a way for new street connectivity to be integrated into the mixed-use development pattern that includes commercial and office space, entertainment amenities, and residential units. In addition, the new development is accessible by multiple modes of transportation, including the city's primary transit provider, Miami-Dade Transit.



Source: Zyscovich Architects

Midtown Miami will see a large influx of development due to the early site improvements funded through the public private partnership.



Source: The Global Grid

Midtown Miami streets are filled with pedestrians who make the neighborhood an interesting place to live, work, and play.



Source: The Shops at Midtown Miami

The development pattern has even found a way to attract traditionally big box stores to its urban community.

C2 WEST BELLFORT AVENUE AND SOUTH GESSNER ROAD

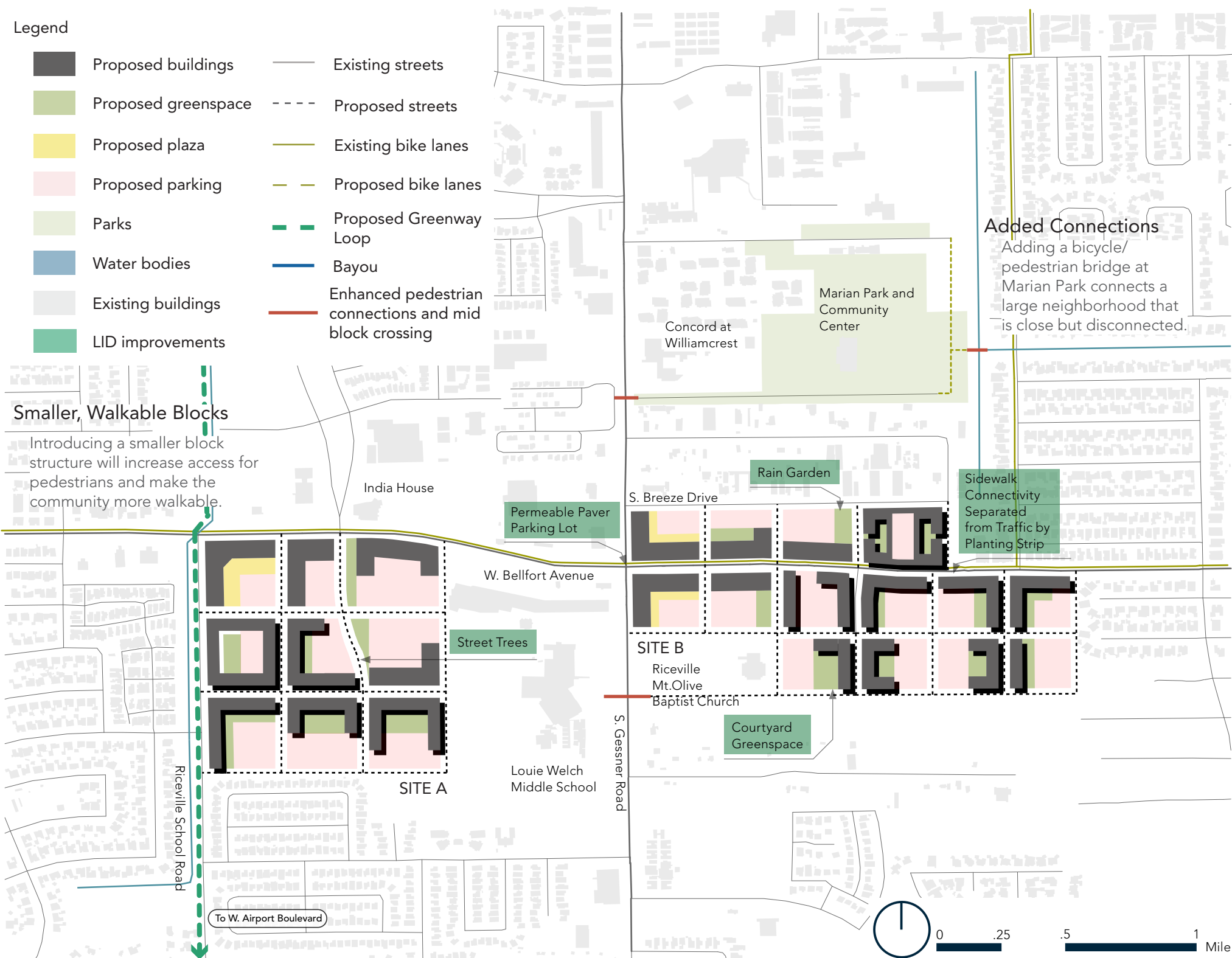


Figure 70: West Belfort Avenue and South Gessner Road Catalytic Site Plan

The redevelopment site at West Belfort Avenue and South Gessner Road is one of the primary intersections in the District. Although it includes many different uses, the area remains largely disconnected. Moreover, many of the most prominently located parcels are very large and underdeveloped. While the current development pattern is not efficient or economically dynamic, these characteristics could make future development simple and streamlined. With much of the land at this intersection publicly owned, there are also unique opportunities for the creation of affordable housing.

- Challenge** The site was developed in a typical suburban pattern with disconnected streets, high-traffic arterial roadways, and separated land uses.
- Opportunity** The intersection includes large undeveloped parcels that could be developed as commercial, residential, and office space with the publicly owned land providing opportunities for affordable housing.

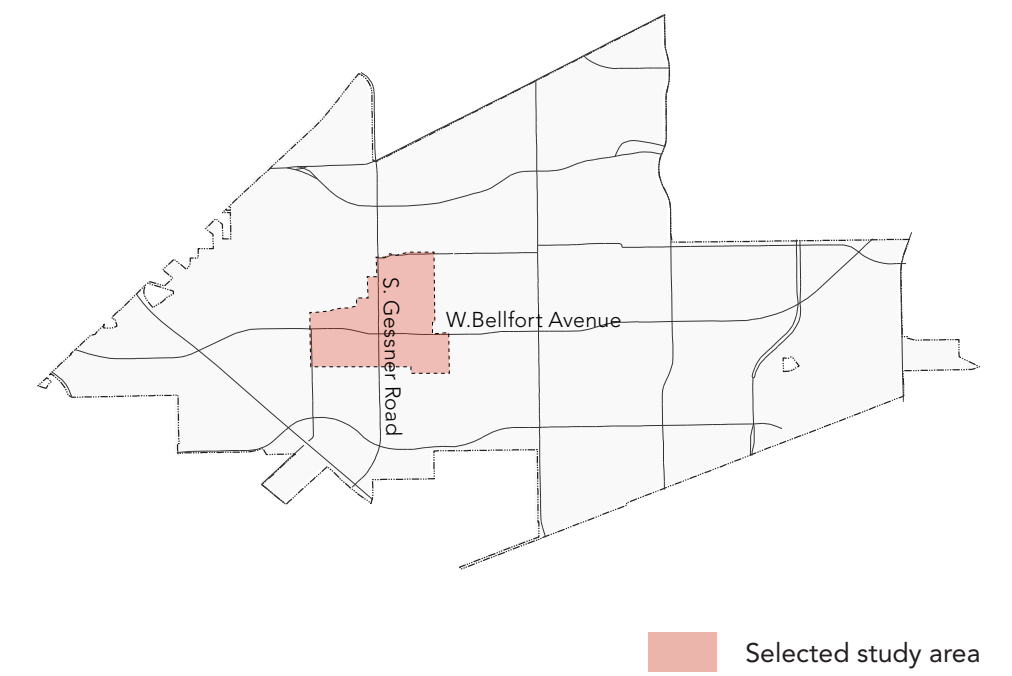


Figure 71: Context

WEST BELLFORT AVENUE AND SOUTH GESSNER ROAD CONTINUED

CASE STUDY: LAMAR UNION - AUSTIN, TX

Once a dominant commercial development pattern focused on auto-oriented convenience, many stripmalls have fallen into disrepair and need to be modernized from an urban design and economic standpoint. Lamar Union in Austin is an example of how urban form can be reshaped and reorganized to meet the goals of a growing and changing city. In 2012, the site was redeveloped from a 1960s shopping center into a mixed-use district that includes housing, restaurants, a coffee shop, and a diverse variety of retail storefronts. Located on one of Austin's major corridors, the development is transit accessible and was designed with pedestrians as the highest priority. The streets are curb-less and use plantings and bollards to create an intimate feel and separate vehicles from people. The original large block was also subdivided with multiple new streets now providing access to the new shops and residences. Cases like Lamar Union show that suburban, auto-oriented places provide an opportunity to redesign legacy properties as great urban places that act as an economic catalyst for the entire community.

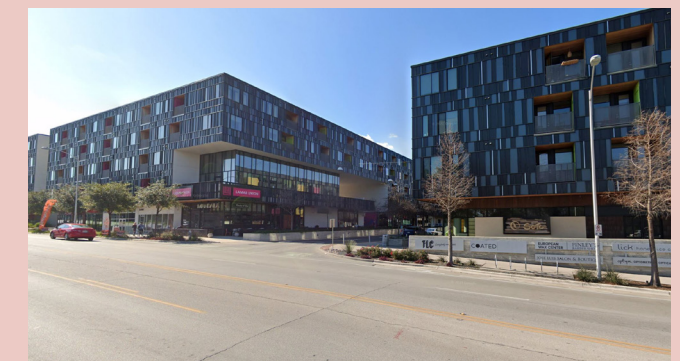


This area of Lamar Boulevard was formerly exclusively developed around the use of automobiles.



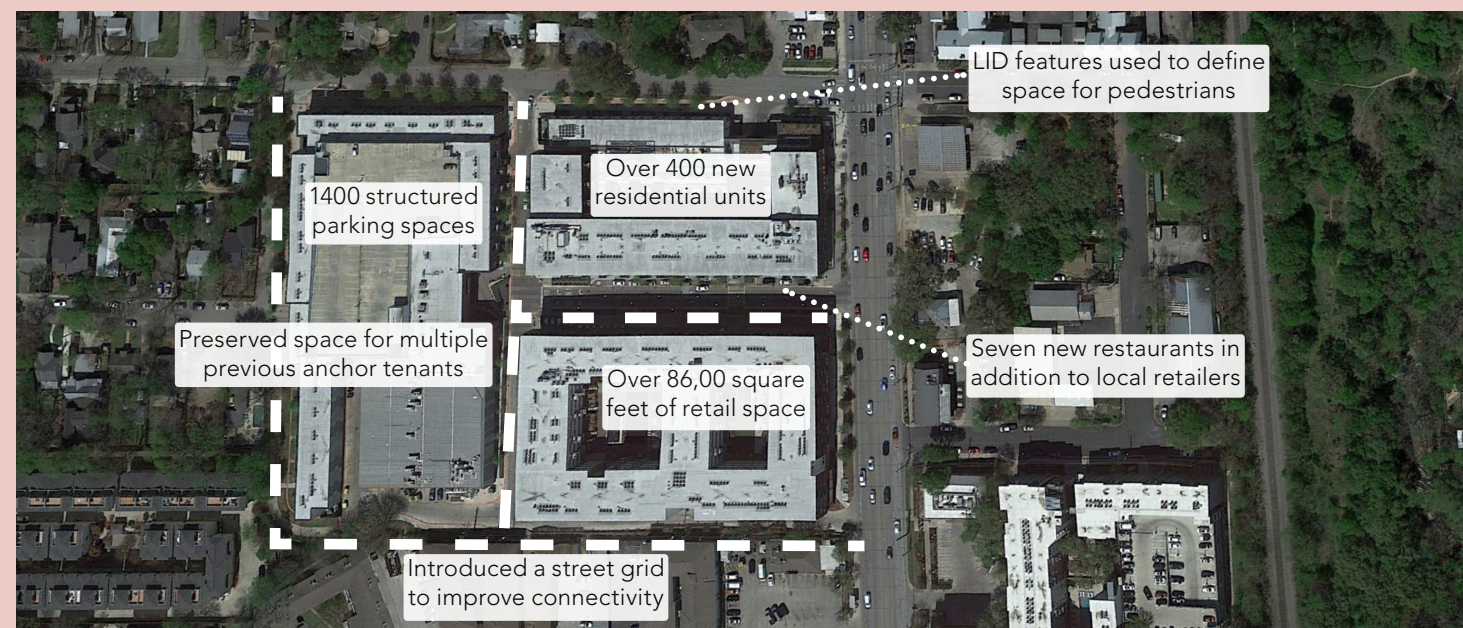
Source: Google Street View

Before: This 2011 photo shows an auto-oriented strip mall in need of renovation and redevelopment.



Source: Google Street View

After: This 2020 photo shows the same site redeveloped with a mix of uses and a more walkable development pattern.



Source: Google Earth

The new Lamar Union development has proven successful from an economic development and urban design standpoint.



Source: Lamar Union

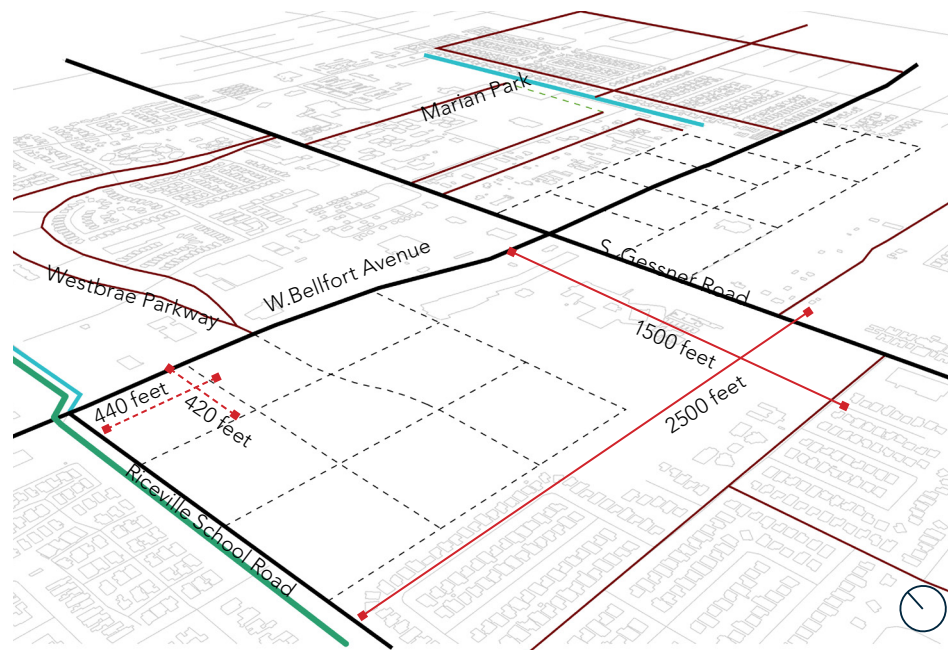
Cafes and outdoor seating now create a more interesting streetscape.



Source: Urban Land Institute

Lamar Union shows that mixed-use development can be productive outside of downtown.

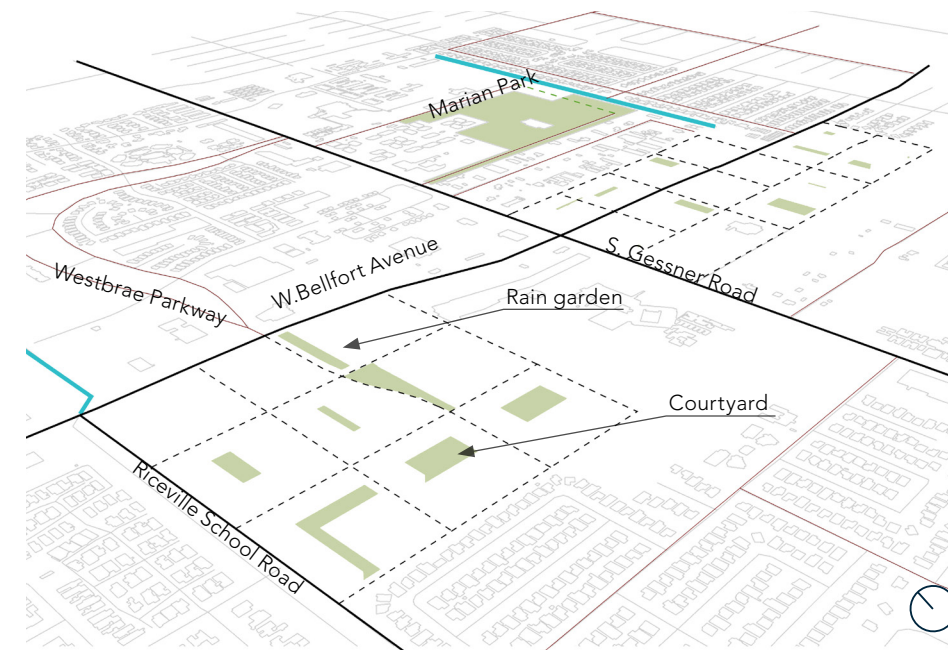
WEST BELLFORT AVENUE AND SOUTH GESSNER ROAD CONTINUED



This site is anchored by the intersection of two prominent arterial roadways and new planned streets will provide multimodal street connectivity for the surrounding neighborhoods. These new streets and the smaller blocks they create will increase connectivity to transit corridors for people walking and cycling as well as facilitate vehicular connections.

- Regional connections
- Existing neighborhood connections
- - - Proposed street connections
- Bayou
- Greenway Loop

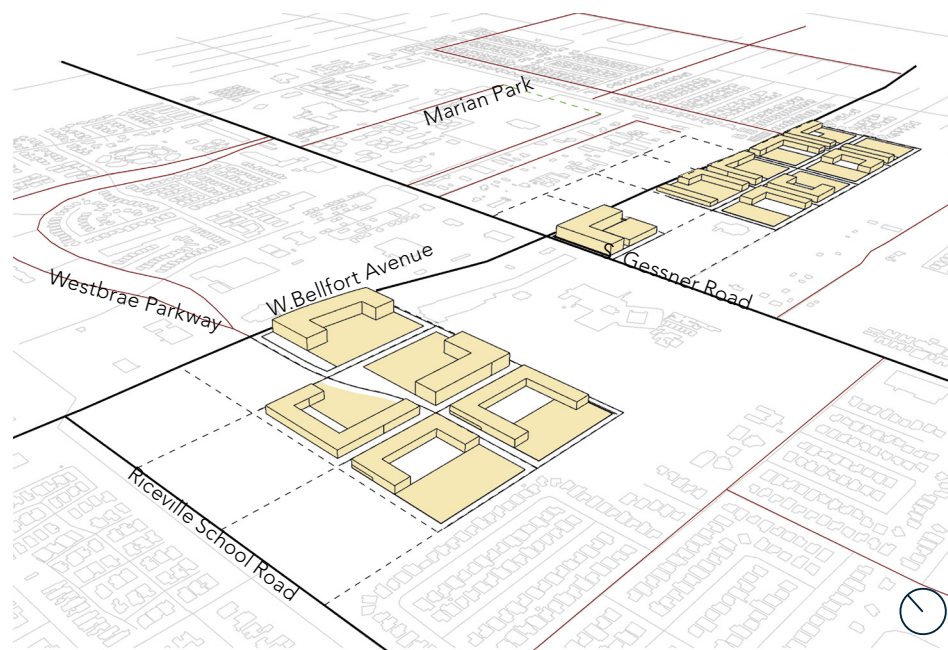
Figure 72: New Street Network



Trail connections throughout the site and to the Greenway Loop will provide safe transportation and recreation opportunities to the commercial heart of the area and throughout the adjacent neighborhoods. New development is also planned to include low impact development techniques such as courtyards, permeable parking lots, and rain gardens to mitigate the negative impacts of storm events.

- Greenspace

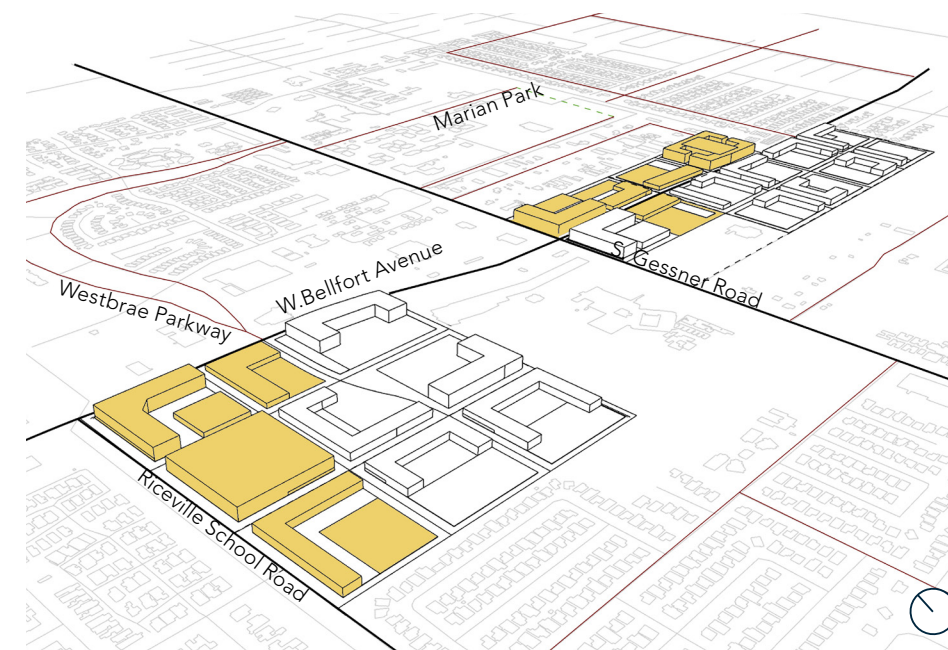
Figure 73: Green Infrastructure



The first phase of development will focus on the vacant/underdeveloped parcels that are mostly residential or mixed-use around the new street grid. This development will help to catalyze future developments throughout the site and enable the inclusion of more diverse use types.

- Phase 1 buildings

Figure 74: Phase 1 Development



The second phase of development will build off the initial phase and diversify the types of uses in the site. Phase 2 will also enable transit supportive densities that make frequent transit possible in the area.

- Phase 2 buildings

Figure 75: Phase 2 Development

WEST BELLFORT AVENUE AND SOUTH GESSNER ROAD CONTINUED

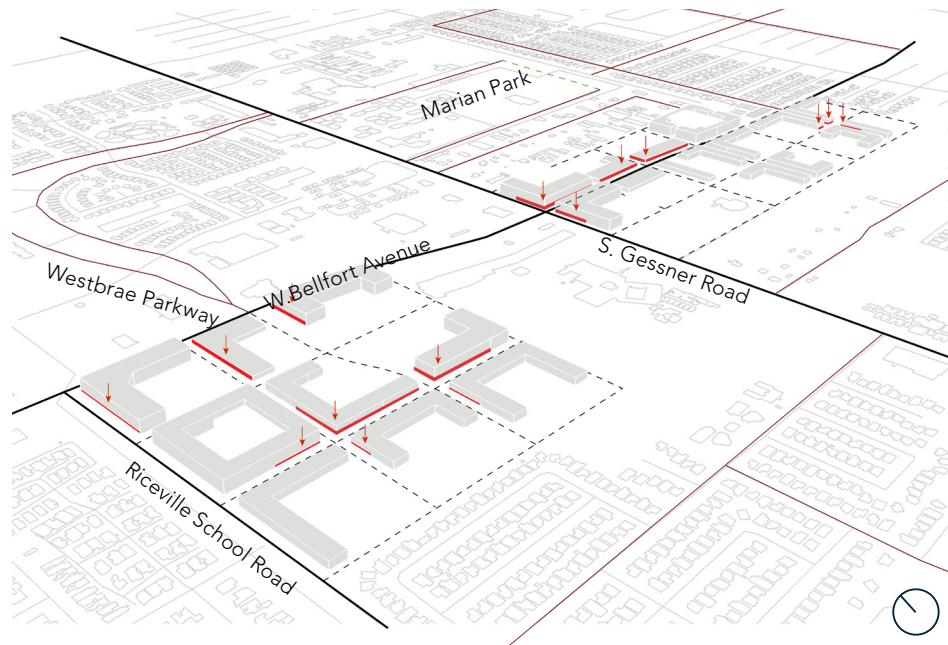


Figure 76: Retail Uses

The increase in development within this catalytic area will create more demand for retail goods and services which are provided at ground level within the mixed-use and commercial buildings.

 Retail

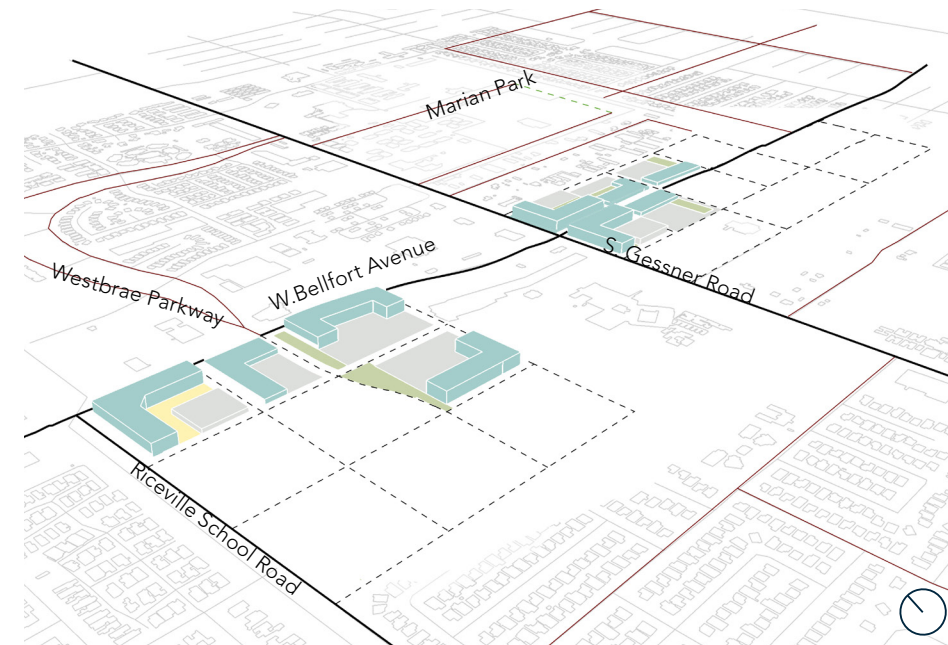






Figure 77: Office Uses

Catalytic development is intended to create economic growth and community life. The increases in people and services in the area make it a natural place for office uses as well which can also benefit the local economy. People will be able to easily walk, cycle, or take transit to work at the West Belfort Avenue and South Gessner Road site.

 Office
 Parking
 Plaza
 Green

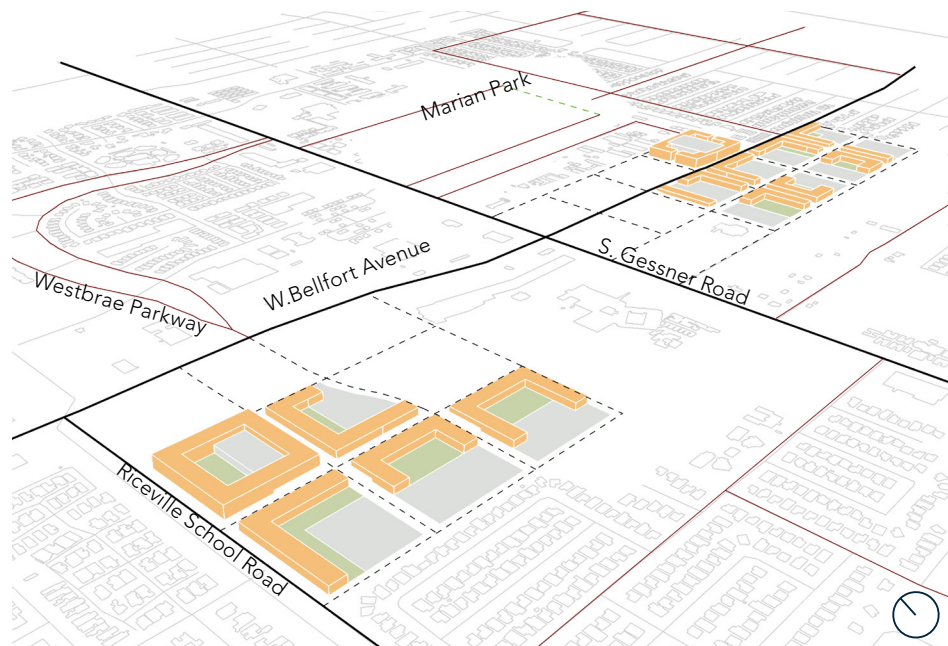





Figure 78: Residential Uses

Proximity to corridors with multimodal transportation options and a variety of community amenities make the catalytic site well-suited to foster high intensity residential development.

 Residential
 Parking
 Greenspace

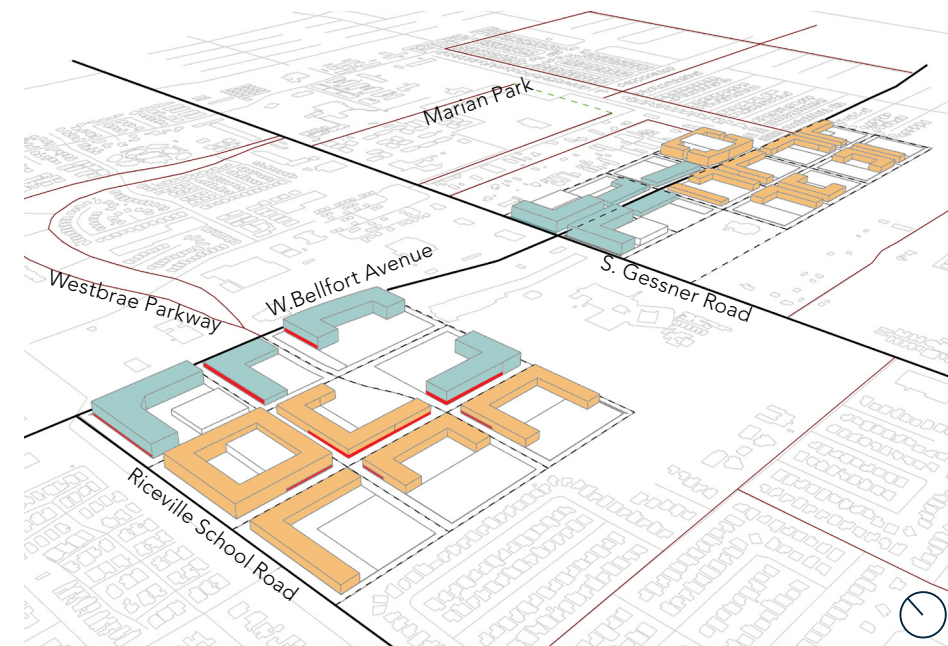





Figure 79: Combined Land Uses

Combining the mix of land uses shows that planning specifically for diverse urban development can result in measurable improvements in quality of life and economic sustainability.

 Residential
 Office
 Retail

C3 WILLOW WATERHOLE GREENWAY AND WESTBURY SQUARE

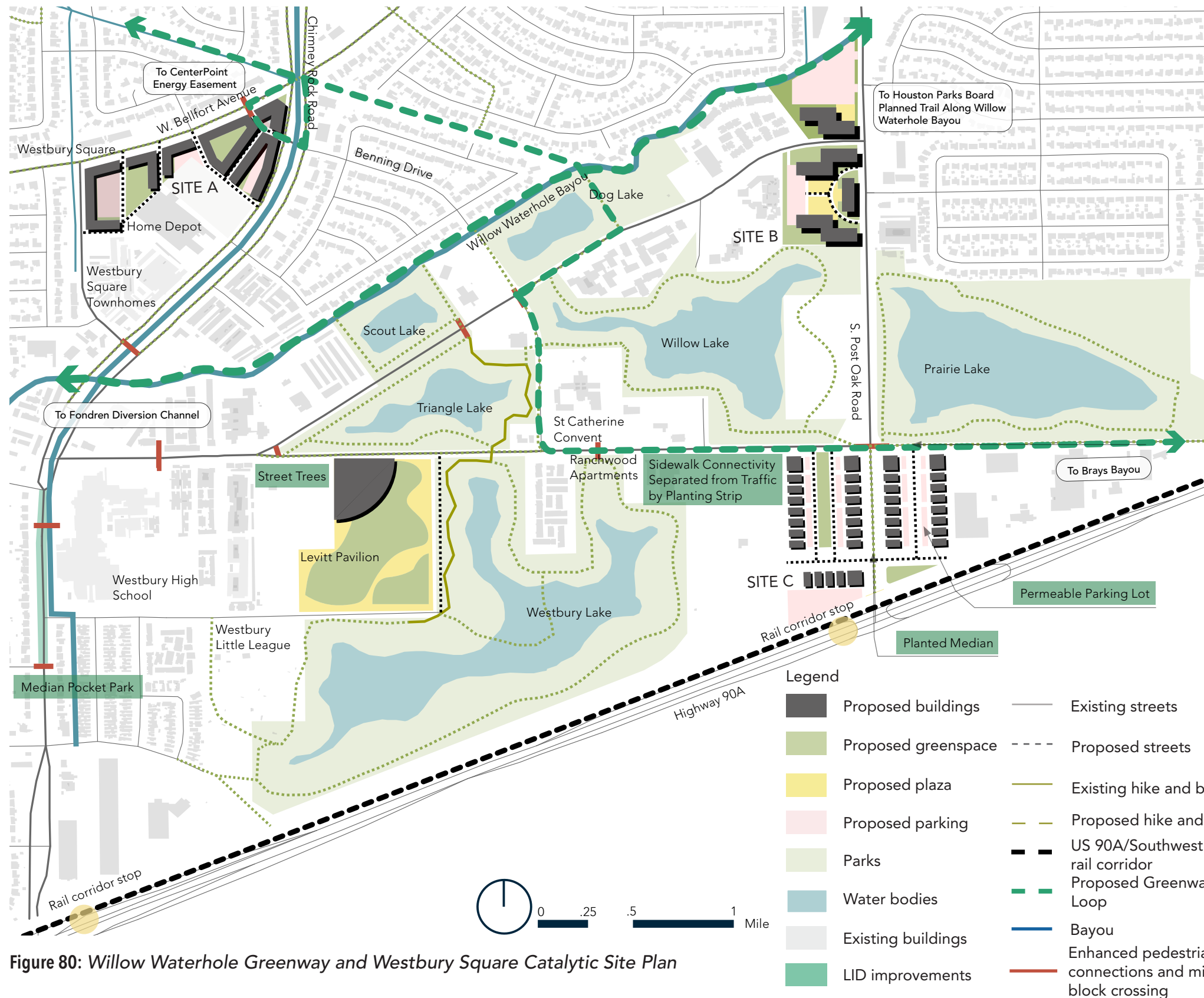


Figure 80: Willow Waterhole Greenway and Westbury Square Catalytic Site Plan

Willow Waterhole Greenway is a roughly 300-acre site that includes park amenities like trails, picnic areas, and fishing ponds. As the Brays Oaks Management District continues growing, the site is expecting future development with entertainment uses such as the Levitt Pavilion, Houston, more transit supportive mixed-use developments, and green infrastructure that will add recreational and environmentally functional space.

- Challenge** Although Willow Waterhole Greenway is adjacent to multiple neighborhoods, it lacks multimodal connectivity to the bayou and trail systems that connect to other centers within Brays Oaks and the City of Houston.
- Opportunity** The site is currently underdeveloped and provides an opportunity for mixed-use development along the periphery of Willow Waterhole Greenway. Additionally, there is an opportunity to expand the site's recreational amenities in conjunction with new green infrastructure improvements.

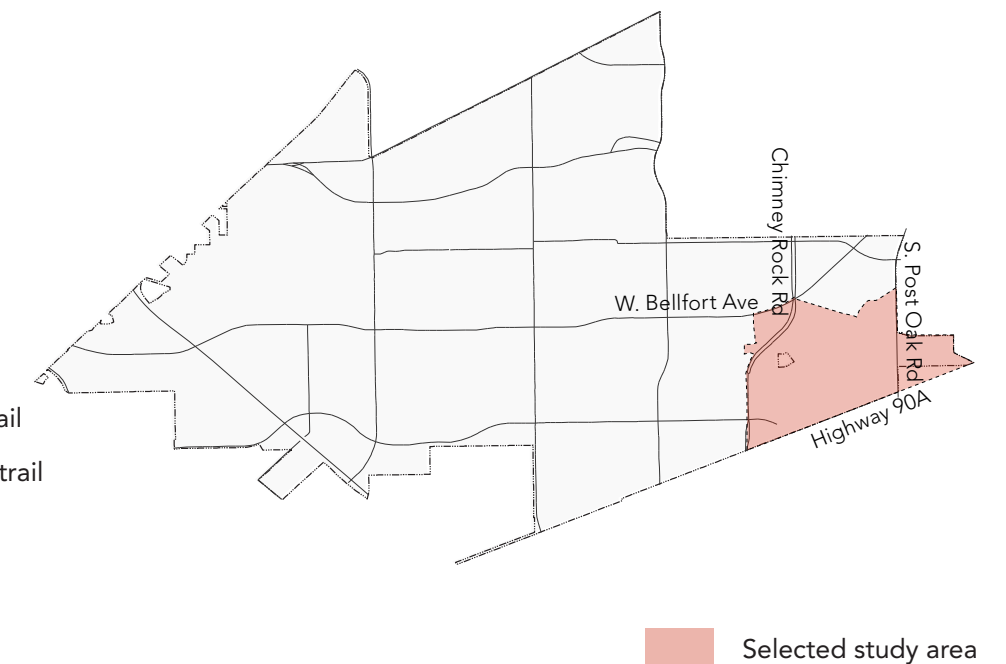


Figure 81: Context

WILLOW WATERHOLE GREENWAY AND WESTBURY SQUARE CONTINUED

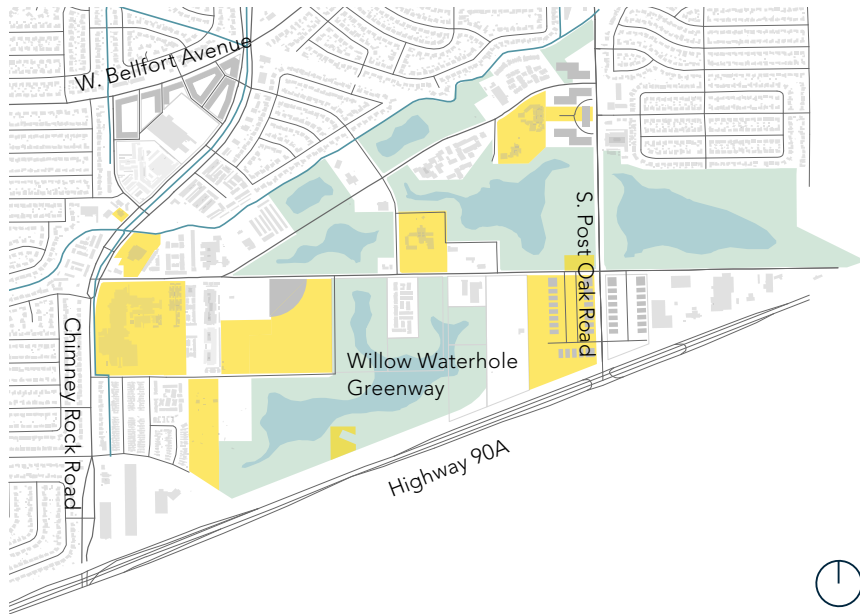


Figure 82: Phased Approach to Development

The Willow Waterhole Greenway is envisioned as a phased development plan with public investments being initiated first that can then catalyze private development. A large portion of the publicly owned properties are adjacent to the major roadways and intersections. This layout has the potential to create an even greater catalytic impact by locating prominent early projects along major roadways that are highly visible and valuable pieces of real estate. The phased approach to development will preserve the fiscal responsibility of the site and lead to a measurable boost in economic development.

- Publicly owned parcels
- Parcels owned by Harris County Flood Control District

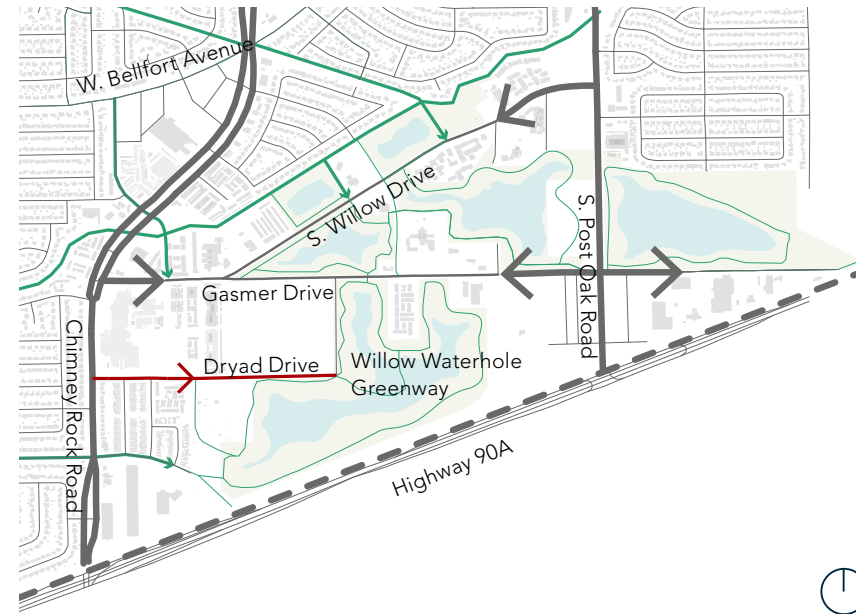


Figure 83: Connectivity

The street network is planned to improve the connectivity throughout the Willow Waterhole Greenway area and to facilitate access for the many people who visit from outside the district. The site has major regional connections to roadways like Belfort Avenue, Chimney Rock Road, and others. It also has local connections to smaller streets and active transportation routes. This plan includes still more small connections that can greatly benefit connectivity between Westbury Square, Willow Waterhole Greenway, and future developments in the area.

- Regional connections
- Neighborhood connections
- Trails
- US 90A/Southwest rail corridor

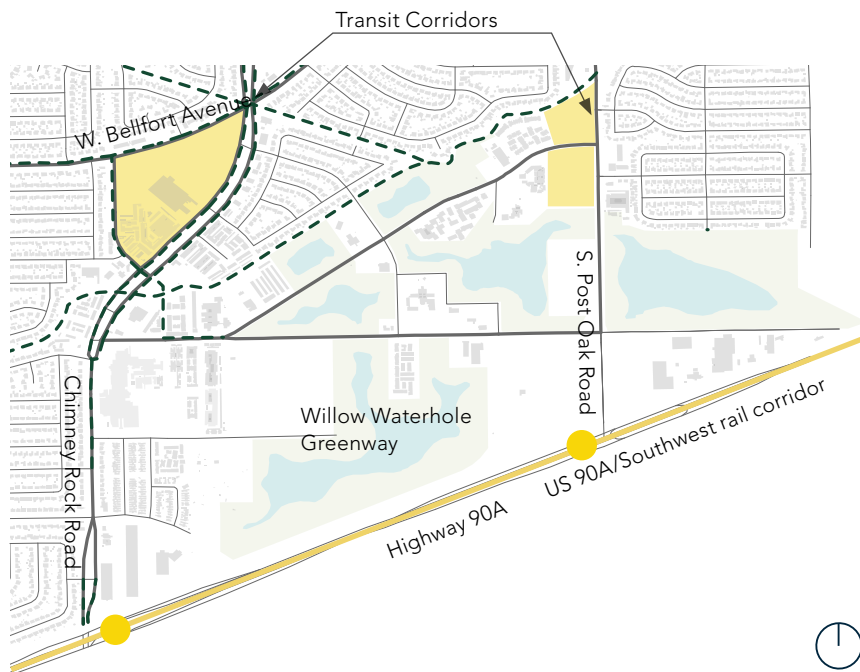


Figure 84: Nodes with Transit Supportive Density

The future mixed-use nodes, such as Westbury Square and the intersection of Willow Drive and South Post Oak, are planned as areas of higher intensity and transit accessibility. The mixture of uses facilitate greater density which will support frequent transit service on the major roadways.

- Transit Oriented Properties

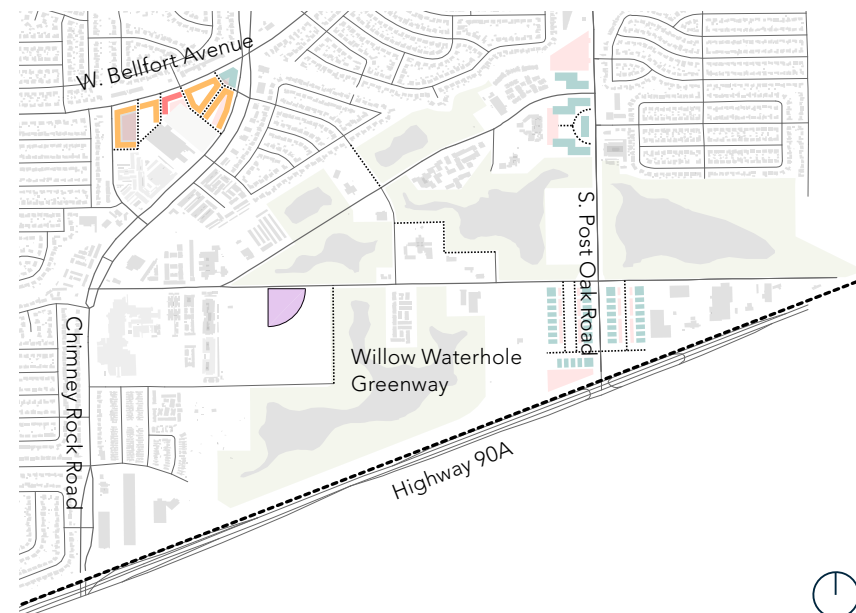


Figure 85: Combined Land Uses

When Willow Waterhole Greenway is viewed with each of the primary development components included, it becomes clear to see how this new development can catalyze other types of development within the Brays Oaks Management District.

- Residential
- Office
- Retail
- Parking
- Levitt Pavilion, Houston

WILLOW WATERHOLE GREENWAY AND WESTBURY SQUARE CONTINUED

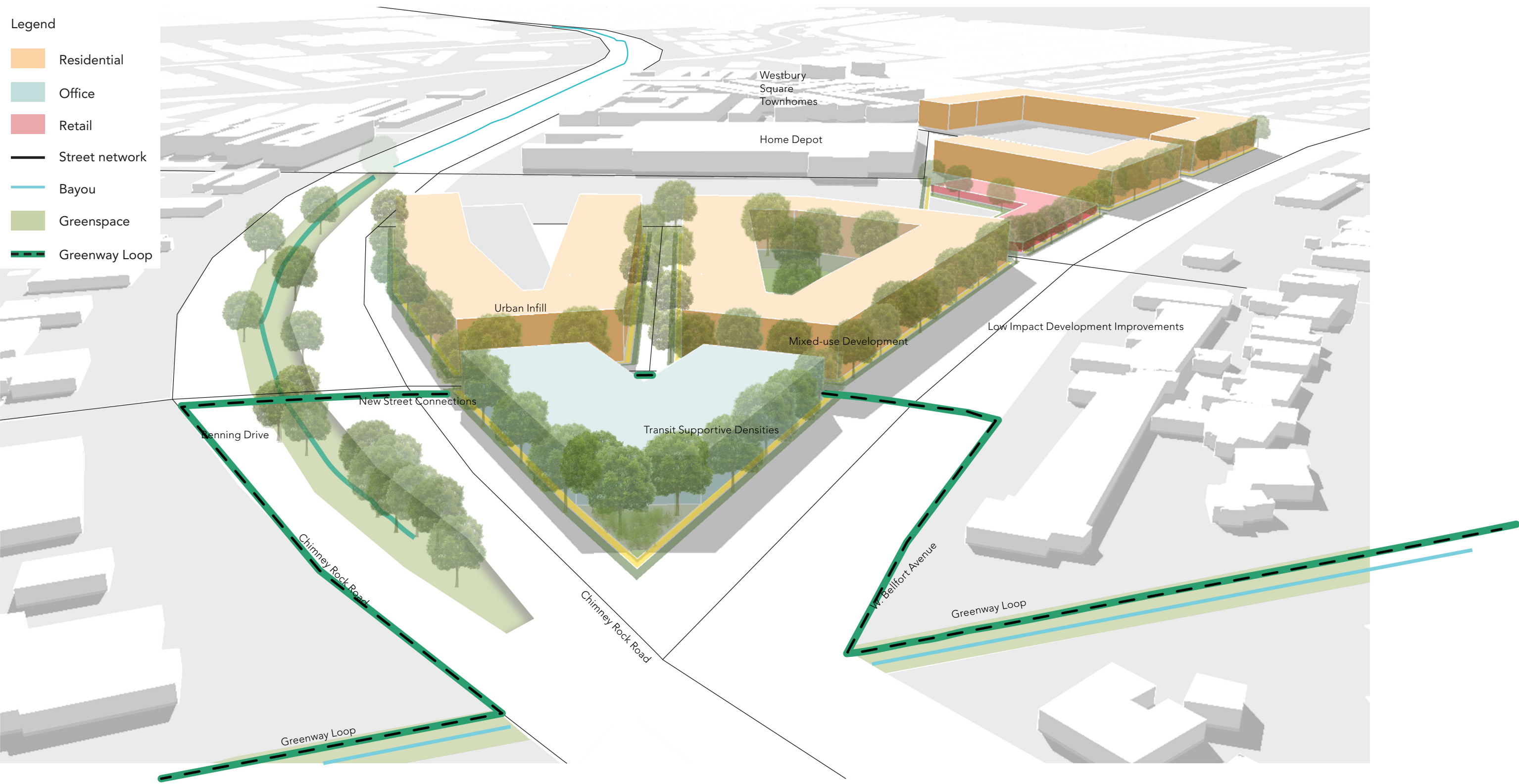


Figure 86: Willow Waterhole Greenway and Westbury Square Catalytic Site Massing

WILLOW WATERHOLE GREENWAY AND WESTBURY SQUARE CONTINUED

CASE STUDY: THE STREETS AT SOUTHGLENN - CENTENNIAL, CO

The suburban shopping mall is another type of development pattern that has experienced difficult times in the 2000s. As many shopping malls close, their large parcels become useful for other types of development to take shape. The Streets at SouthGlenn is a former mall site that has been redeveloped as a mixed-use center with shopping, restaurants and cafes, office spaces, and residential units. The district opened in August of 2009 with 77 acres of new development. The site now has over one million square feet of retail space, 140,000 square feet of office space, and hundreds of apartments for rent. In addition, the district also has a grocery store which is imperative for ensuring completeness within a neighborhood. This development has been an economic catalyst for the community and proven that there is a market for mixed-use districts within suburban cities and towns. Thanks to The Streets at SouthGlenn, Centennial residents now have the opportunity to live, work, and play within walking distance of their homes.



This aerial shows the enormity of the site and the surface parking lots that make placemaking difficult.



Source: Google Earth

The Streets at SouthGlenn is beginning to fill in the site and provide vibrant places where people want to spend time.



Source: Safford Black

This photo shows the placelessness of the mall that existed previously.



Source: Colorado Real Estate Journal

The new mixed-use development enables a lively atmosphere throughout the day.



Source: Uncover Colorado

The development includes a variety of entertainment and retail uses.



Source: Saunders Construction

This public plaza encourages people to relax and spend time and ultimately supports economic development for the surrounding businesses.



CHAPTER 3

IMPLEMENTATION PLAN

Purpose	118
Recommendations Overview	119
Elements of Implementation	120
Elements of Implementation and Greenway Loop	121
Implementation Table	122

PURPOSE

The purpose of the Bray's Oaks Livable Center implementation chapter is to provide clear direction on the action steps, timing, potential funding sources, and partnerships needed to meet the goals of this study. These recommendations are focused on:

- Creating a more connected network,
- Enhancing livability in neighborhoods,
- Efficiently utilizing infrastructure,
- Building on the prosperity of the community.

Implementation of this plan will involve a multi-year process and numerous partners across the public and private sectors. The recommendations in this study are not intended as the only programs or projects that should be pursued to achieve these goals but instead as a starting off point. As work in the district continues new partnerships will be formed and new funding sources will be discovered. Successful projects will lead to new opportunities.



RECOMMENDATIONS OVERVIEW

Policy Based

- A1. Sidewalk Assessment
- A2. Bus Shelter Improvements
- A3. Signage and Wayfinding
- A4. Infill Development Program
- A5. Bayous as Great Places Campaign
- A6. Multifamily Improvement Program
- A7. Low Impact Development Drainage Improvement Partnerships
- A8. Public Utility Assessment

Project Based

- B1. Intersection Safety
- B2. Road Diets
- B3. Greenway Loop
- B4. Utilize Medians
- B5. Trail Connectivity and Improvements
- B6. Utilize Easements
- B7. Neighborhood Connectivity

Catalytic Sites

- C1. Ruffino Hills and METRO Park and Ride
- C2. West Belfort Avenue and South Gessner Road
- C3. Willow Waterhole Greenway and Westbury Square

Legend

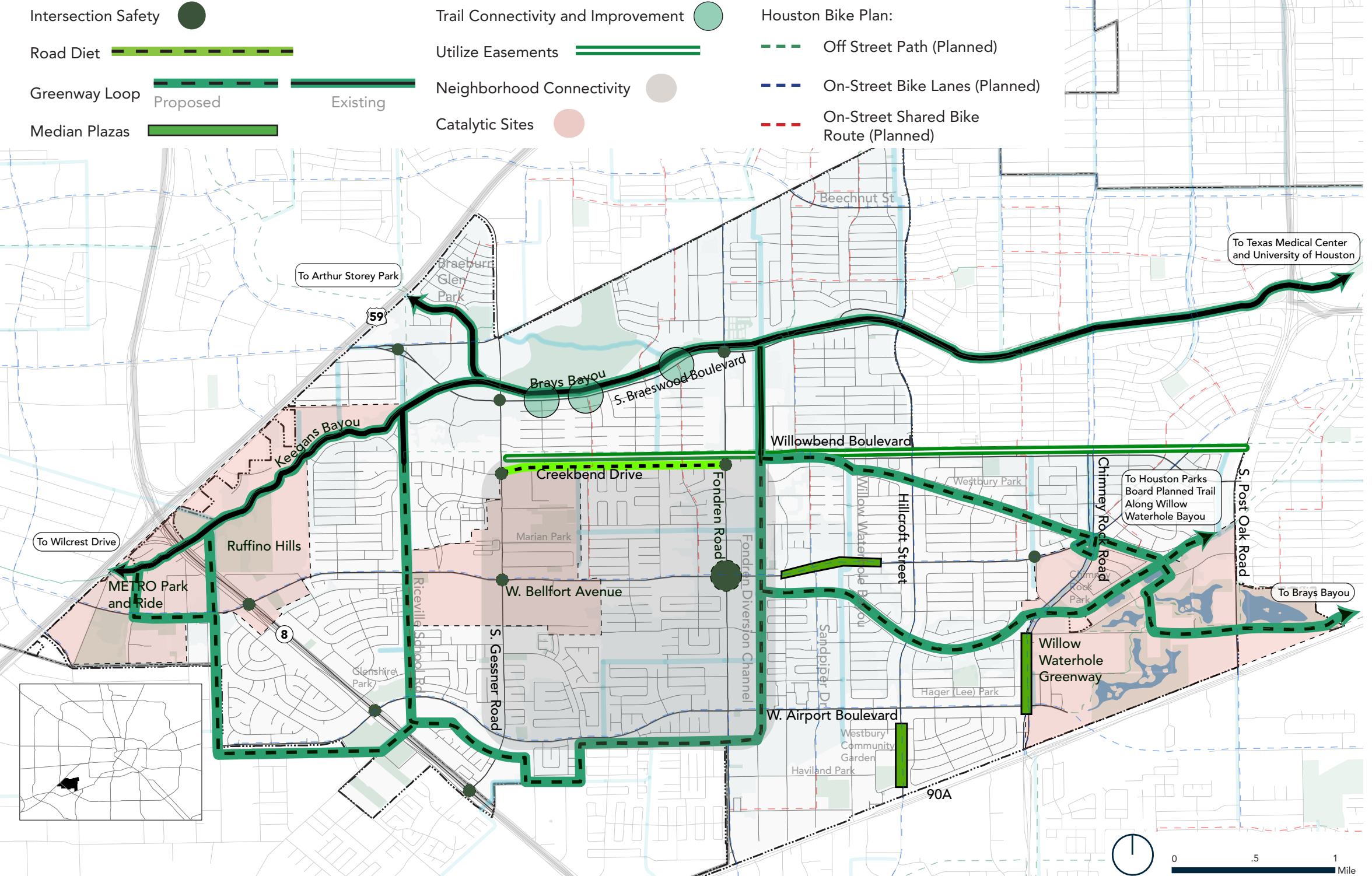


Figure 87: Recommendations

ELEMENTS OF IMPLEMENTATION

The implementation plan contained on pages 122 to 126 of this study create the framework needed to facilitate the successful implementation of these recommendations. However, it is important to note that successful implementation will result from the Study's recommendations being revisited, reviewed, celebrated, and promoted on a regular basis.

1 Action Steps

Each recommendation includes a number of individual actions as part of the recommendation. These action steps provide guidance about where and how to start implementing each of the recommendations. Action steps also help to plan full implementation and look out at when funding sources will be needed.

2 Level of Investment

Level of investment designations help to provide planning level estimates for future budgets, resources, and funding sources. The symbology for the designations is described here:

- \$ Low - Typically includes allocating or reallocating existing resources, staff time, and partner coordination. A low level of investment does not typically require capital expenditures.
- \$\$ Medium - Typically includes design, studies, aesthetic enhancements and limited infrastructure improvements.
- \$\$\$ High - Typically includes construction of significant infrastructure that would be part of a Capital Improvement Program.

4 Funding Sources and Strategies

Potential funding sources are included for each recommendation. Funding strategies are included below to assist the district in seeking available funding. Every strategy is not applicable in every case; however, a single strategy may be utilized to fund multiple recommendations. This list is not exhaustive and alternative funding sources and opportunities should be taken advantage of whenever resources become available.

- Brays Oaks Management District.
- Establishment or expansion of an existing TIRZ.
- COH Public Works Department.
- METRO.
- H-GAC call for projects
- TxDOT
- Houston Parks Board
- COH Parks Dept.
- Harris County
- Harris County Flood Control
- Private Developers
- Low Income Housing Tax Credits
- Community Development Block Grants (CDBG)
- Opportunity Zone Funds
- Willow Waterhole Greenspace Conservancy
- City of Houston Housing and Community Development Department
- Other Private Donors
- Other Philanthropic Institutions

3 Phasing

Implementation phases are suggested time frames to initiate each recommendation. They are broken into:

- Short-term (1 - 5 years) - These are typically low-hanging fruit recommendations where implementation is less complex, requires fewer resources, and involves fewer partners.
- Mid-term (5 - 10 years) - These are recommendations that may require more resources and planning than the 5-year horizon.
- Long-term (10+ years) - These recommendations typically require a large amount of capital and coordination between different partners. Implementation for long-term recommendations may begin earlier but may include a number of steps and phases to construction taking the full completion of the recommendation out past the 10 year horizon.

In addition to identifying projects as short, mid, or long term, the study has identified quick-start recommendations which may include an entire recommendation or more frequently represent one element or action step within a recommendation. Below is a table describing the recommended quick-start items in the study.

#	Quick Start Recommendation	Description
A1.1, A1.2	Sidewalk Evaluation and Prioritization	Sidewalk repairs were identified as a top priority by respondents in the district. The district can begin this recommendation immediately by evaluating and prioritizing needed improvements. Action Items 1 and 2 of this recommendation.
A2.2	Coordinate with METRO's BOOST program	Coordinate and share the location of bus stops in need of improvements with METRO. Coordinate on any additional improvements that can be made to enhance connectivity.
B1	Fondren Road and West Bellfort Avenue Intersection Improvements	The planned City of Houston CIP project funded by TX-DOT along Fondren Road. create an opportunity to partner with the City to improve safety for all users at this intersection.
B3	Trail Segments 3	A grant opportunity from Kinder-Morgan makes this segment of the greenway loop a quick-start action item. Planning and design has already begun.
B3	Trail Segment 5	A planned project by Precinct One along Fondren Road and the adjacent Fondren Diversion Channel creates an opportunity to partner with the City in achieving this segment of trail connection.
B3	Trail Segment 6	The METRO Park and Ride facility is a funded project in design. This project presents an opportunity to connect this transportation hub to the Keegan's Bayou Trail System.

ELEMENTS OF IMPLEMENTATION AND GREENWAY LOOP

5 Leading organizations and potential partners

Both public, private, and community organizations have roles to play in contributing to the implementation of these recommendations.

Partners can play a number of different roles including:

- Organize.
- Advocate.
- Initiate.
- Participate.
- Lead.

Organizations include

- Brays Oaks Management District
- METRO
- City of Houston
- Houston Parks Board
- Willow Waterhole Greenspace Conservancy
- Friends of Keegan's Bayou

GREENWAY LOOP

The Greenway Loop is a connected network of off-street and on-street active transportation facilities that enables safe and sustainable transportation access to amenities within and outside the District. Implementation of the greenway loop will occur over time and include connecting various segments of the trail within the district. The table below differentiates these segments and lists the potential funding and partners for each.

#	Potential Funding and Implementation Partners	Legend
1	All Connector Segments along the bayous: 6 segments Houston Parks Board; Adjacent property owners	
2	All Connector Segments along the streets: 3 segments City of Houston Public Works; Adjacent property owners	
3	Grant from Kinder Morgan Foundation; Willow Waterhole Greenspace Conservancy; Houston Parks Board	
4	Centerpoint Energy Easement; Houston Parks Board	
5	City of Houston; Public Works Fondren Diversion Channel Project; Friends of Keegan's Bayou; Neighborhoods to Trails Southwest	
6	METRO Park and Ride project	

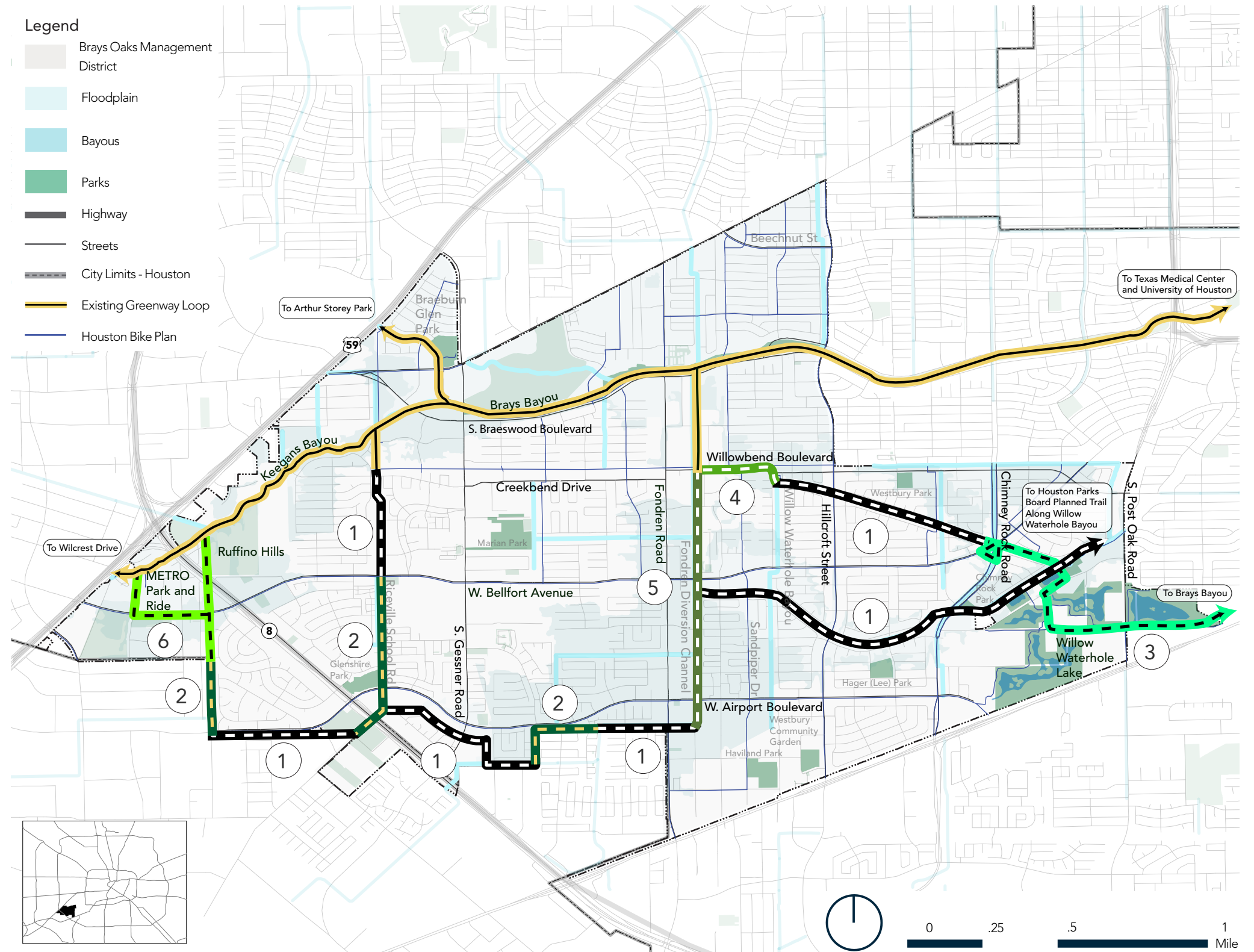


Figure 88: Greenway Loop - Segments

IMPLEMENTATION TABLE

#	Recommendation	#	Action Items	Phase	Level of Investment	Funding Sources and Strategies	Leading Organization and Potential Partners
A1	Sidewalk Assessment	A1.1	Evaluate sidewalk characteristics including but not limited to height, cracked pavement, and nonexistent or gaps in the sidewalk network. Build off of the assessment included in the Appendix.	Mid - term	\$\$	Brays Oaks Management District, Safe Routes to Schools.	Brays Oaks Management District, City of Houston Public Works.
		A1.2	Establish a priority replacement ranking system that includes sidewalks connecting to transit facilities, schools, trails, parks, religious institutions, and other locations with key local connections. Make improvement recommendations that include planning cost estimates.				
		A1.3	Establish a dedicated annual appropriation in the CIP for sidewalk improvements.				
		A1.4	Coordinate with COH when adjacent street or infrastructure improvements may include sidewalk upgrades. Coordinate with METRO's BOOST program on potential sidewalk improvements adjacent to transit stops.				
A2	Bus Shelter Improvement Program	A2.1	Coordinate with METRO to identify needs for improving existing facilities.	Mid - term	\$	METRO, TxDOT, TIRZ.	METRO Houston, Brays Oaks Management District.
		A2.2	Coordinate with METRO's BOOST program to identify priority shelter improvements in the district.				
A3	Signage and Wayfinding	A3.1	Evaluate all existing signage along the on and off street trail network for consistency and prevalence along the route.	Short - term	\$	Houston Parks Board, Friends of Keegan's Bayou Trail, Willow Waterhole Greenspace Conservancy.	Brays Oaks Management District, Houston Parks Board, City of Houston Parks.
		A3.2	Utilize the BOMD Strategic Branding Plan and coordinate with Houston Parks Board and Willow Waterhole Greenspace Conservancy on style and design of trail signage.				
		A3.3	Implement the recently adopted streetscape and wayfinding master plan.				
A4	Infill Development Program	A4.1	Identify and evaluate all vacant property within the district including but not limited to infrastructure availability and capacity, environmental and flooding constraints, site access, schools, and other opportunities and constraints.	Mid - term	\$	N/A	Brays Oaks Management District, Development Community.
		A4.2	Create a brochure that highlights opportunity properties and suggest some potential uses that are needed within the district including diverse housing types.				

IMPLEMENTATION TABLE CONTINUED

#	Recommendation	#	Action Items	Phase	Level of Investment	Funding Sources and Strategies	Leading Organization and Potential Partners
A5	Bayous as Great Places Campaign	A5.1	Establish promotional materials and a guide for adjacent multifamily and commercial businesses describing some small interventions such as gated access to bayous and trail systems and designing for safety interventions such as open fences that allow for more eyes on the spaces.	Long - term	\$\$\$	Houston Parks Board, Fondren Diversion Channel CIP.	Brays Oaks Management District, Willow Waterhole Greenspace Conservancy, Friends of Keegan's Bayou Trails, Neighborhoods to Trails Southwest, Houston Parks Board.
		A5.2	Establish and promote bayou clean ups.				
		A5.3	Encourage new or redeveloped commercial and multifamily properties to orient the development towards the trail system.				
		A5.4	Establish standards for landscape screening; fencing, and trail placement when bayou trails run behind single family homes.				
A6	Multifamily Improvement Program	A6.1	Evaluate the success of the existing background check program. Identify potential improvements.	Short - term	\$\$	City of Houston Housing and Community Development, Low Income Housing Tax Credits, Community Development Block Grants.	Brays Oaks Management District, City of Houston Housing and Community Development, Houston Police.
		A6.2	Coordinate with Houston Police and Code Enforcement to identify properties with needed safety and maintenance improvements.				
		A6.3	Work with property owners to identify funding and other improvement opportunities.				
A7	Low Impact Development Partnerships	A7.1	Identify an initial small but highly visible project within district maintained medians, ROW or park space to implement LID.	Short - term	\$	Brays Oaks Management District, Development Community, Public Agency Projects.	Brays Oaks Management District, City of Houston Public Works.
		A7.2	Advocate for the use of LID in other improvements within the district led by partner organizations.				
		A7.3	Include education materials and signage as part of the installation.				
A8	Public Utility Assessment	A8.1	Work with the Council District team and City to identify utilities that have exceeded their useful service life and need to be replaced.	Long - term	\$		Brays Oaks Management District, City of Houston Public Works.
		A8.2	Ensure that public utilities are replaced when streets within the district are being rebuilt.				

IMPLEMENTATION TABLE CONTINUED

#	Recommendation	#	Action Items	Phase	Level of Investment	Funding Sources and Strategies	Leading Organization and Potential Partners
B1	Intersection Safety	B1.1	Coordinate with the City of Houston about the incorporation of pedestrian and bicycle facilities at the intersection of Fondren Road and West Belfort Avenue.	Long - term	\$\$	TxDOT Safety Grants, Vision Zero Safety Improvements.	City of Houston Public Works, Brays Oaks Management District.
		B1.2	Create an intersection safety toolkit and assess each high crash intersection for the incorporation of amenities from the toolbox.				
		B1.3	Coordinate with the City of Houston, the public, businesses, and stakeholders to help determine the best improvements for each intersection.				
		B1.4	Implement temporary "pilot" projects to help the public determine preferred improvements.				
		B1.5	Work with METRO to determine safety enhancements around bus stops.				
B2	Road Diet	B2.1	Review and assess the availability of parking for adjacent businesses and multifamily complexes.	Mid - term	\$	City of Houston Public Works.	City of Houston Public Works, Brays Oaks Management District.
		B2.2	Hold a public meeting with affected residents and business owners to discuss the opportunities and challenges of adding bicycle facilities along Creekbend Drive.				
		B2.3	Implement temporary "pilot" projects to show the public what the "finished project" might look like.				
		B2.4	Work with the City of Houston to re-stripe the street from a 4-lane road to 3-lanes with bicycle facilities on both sides.				
		B2.5	Work with bicycle advocacy groups to educate the neighborhood and community members on how to travel safely on bicycles.				
		B2.6	Coordinate with the City of Houston to conduct a lighting analysis of the area.				
B3	Greenway Loop	B3.1	Work with all partner agencies to construct essential trail segments.	Long - term	\$\$\$	Houston Parks Board, City of Houston Public Works, Philanthropic organizations, Advocacy Organizations.	Brays Oaks Management District, Houston Parks Board, Willow Waterhole Greenspace Conservancy, City of Houston Public Works, Centerpoint Energy, Harris County Flood Control, Super Neighborhoods.
		B3.2	The district should connect trail segments by focusing on the following possible paths in this order: 1. Off-street connections along bayous 2. Low traffic volume streets with space for a buffered bicycle facility. 3. Higher traffic volume streets may be used for short connections where there is space to include a fully protected facility				

IMPLEMENTATION TABLE CONTINUED

#	Recommendation	#	Action Items	Phase	Level of Investment	Funding Sources and Strategies	Leading Organization and Potential Partners
B3	Greenway Loop continued	B3.3	Create a prioritization schedule for crossings along each segment.	----	----	----	----
		B3.4	Evaluate crosswalks to ensure feasibility of safe pedestrian crossing.				
		B3.5	Coordinate with METRO to determine the possibility of enhanced bus stops along trails.				
		B3.6	Coordinate with partner agencies to install bike racks along the route.				
B4	Utilize Medians	B4.1	Engage a designer to produce a conceptual park design within the median.	Mid - term	\$\$	Houston Parks Board, Brays Oaks Management District.	Brays Oaks Management District, Houston Parks Board, Neighborhoods to Trails Southwest.
		B4.2	Coordinate with the City of Houston Public Works Department on the location of mid-block crossings to access a median park.				
		B4.3	Coordinate with Houston Parks Board on the design.				
		B4.4	Coordinate with adjacent super neighborhoods or other interested organizations on the design.				
		B4.5	Secure funding for the project.				
		B4.6	Construct the mid-block crossing and median park.				
B5	Trail Connectivity and Improvements	B5.1	Utilize the recently adopted strategic Branding Plan to develop a consistent series of trail signs, trail lighting, and bike racks.	Long - term	\$\$\$	Brays Oaks Management District, Houston Parks Board.	Brays Oaks Management District, Willow Waterhole Greenspace Conservancy, Houston Parks Board.
		B5.2	Coordinate with the Houston Parks Board and other Trail Organizations on the design of the signs and improvements.				
		B5.3	Evaluate locations for signage, bike racks, pedestrian bridges, crosswalk, trees shade and landscaping, and short trail connections to local streets and neighborhoods along the existing bayou trail system.				
		B5.4	Develop an annual budget and begin installing improvements.				

IMPLEMENTATION TABLE CONTINUED

#	Recommendation	#	Action Items	Phase	Level of Investment	Funding Sources and Strategies	Leading Organization and Potential Partners
B6	Utilize Easements	B6.1	Coordinate with Centerpoint energy and the Houston Parks Board on how the existing centerpoint easement can be utilized.	Mid - term	\$\$	Houston Parks Board, Non-Profit Organizations, Adjacent Property Owners.	Brays Oaks Management District, City of Houston Public Works, Centerpoint Energy, Neighborhoods to Trails Southwest, Houston Parks Board.
		B6.2	Evaluate locations where short trail connections along the easement can extend the trail system through the district.				
		B6.3	Evaluate locations where pedestrian or bicycle connections across the easement can connect people to schools, centers, or other services.				
		B6.4	Construct improvements.				
B7	Neighborhood Connectivity	B7.1	Evaluate the identified opportunities in this plan for enhancing pedestrian and bicycle connectivity focusing on the neighborhoods within the vicinity of the intersection of South Gessner Road and Fondren Road.	Mid - term	\$\$	City of Houston Housing and Community Development Department, CDGB funds, Adjacent property owners.	Brays Oaks Management District, Willow Waterhole Greenspace Conservancy, City of Houston Public Works, Neighborhoods to Trails Southwest, Houston Parks Board.
		B7.2	Coordinate with adjacent property owners and affected City departments.				
		B7.3	Design and budget for improvements.				
		B7.4	Construct improvements.				

**Native
Grassland Area**
DO NOT DISTURB







BRAYS OAKS LIVABLE CENTER MARKET ASSESSMENT



PREPARED BY:



BRAYS OAKS LIVABLE CENTER MARKET ASSESSMENT

Prepared for:

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June 2021



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EXECUTIVE SUMMARY OF DEVELOPMENT OPPORTUNITIES

Single Family

- There is demand in the BOMD for 848 new homes by 2025 and an additional 1,311 homes by 2030.
- Realtor interviews indicate very different markets within the BOMD.
 - Flooding and Schools are major influencers on buyers.
 - Orthodox Jewish population had demonstrated demand in the district.

Single Family Recommendations and Market Opportunities in the Study Area

- Demolition of homes that have flooded and been left vacant. Infill development of new homes.
- CDS suggests incremental development of attached townhomes or patio single family homes on vacant or re-developable sites (including infill sites) preferably in pricing from \$200k to \$400k.
- Homes priced to attract younger families and single professionals as well as first time homebuyers should be priced from \$150,000 to \$250,000. Townhomes and or duplexes may be more cost effective to this market.
- Homes built near Jewish temples will sell in this market if they are walkable to the temple. From starter homes to over \$500k.
- Single family rentals are becoming quite popular and profitable for investors. CDS recommends that townhomes or duplexes as rental units could also be absorbed in the Study Area based on the number of renters in the district.

Multifamily

- Forecasted demand results in 584 units by 2025 and an additional 956 units by 2030 based on projected demand.
- Based on current absorption the estimate appears high. CDS suggests 300 units by 2025 and another evaluation closer to 2025 to determine estimates thru 2030.

Multifamily Recommendations and Market Opportunities in the Study Area

- There is demand in BOMD to justify a new Class B+/A apartment project of 100 units by 2025 (phase 1). Rents in this area currently range from \$0.98psf to \$1.12psf on average by unit. For a Class A to be feasible the rents would need to be higher.
- CDS recommends locating new units within walking distance of a Jewish temple or amenities such as hiking trails, lakes, outdoor theater, etc.

Senior Housing

- Although this study did not include an analysis on Active Adult, based on the current population and lack of Active Adult housing, CDS recommends a study into the demand for this product.

Retail

- The BOMD expenditures estimate is negative over the next five years based on population, income, etc. At this time, CDS does not recommend additional retail.

INTRODUCTION

This report summarizes the research and analysis performed by CDS Community Development Strategies (CDS) for the Brays Oaks Livable Center Study of the Houston-Galveston Area Council (H-GAC). It contains an overview of the market conditions and opportunities that will ultimately shape the recommendations for revitalization, redevelopment, and general enhancement of the Livable Center Study Area.

Brays Oaks Management District

The Brays Oaks Management District (BOMD) was created in 2005 by the Texas Legislature and expanded in 2011. The District is home to 38,000 households and more than 100,000 residents. Originally part of a ranch owned by oil tycoon Walter Fondren, Brays Oaks is one of Houston's most vibrant communities with a mixture of families, culture and commercial businesses. The District covers approximately 15 sq. miles located in the Southwest area of Houston. The boundaries are from S. Post Oak on the east to US 59 on the west; Bissonnet is the northern boundary and US 90A/Main Street our southern edge. The District is entirely in Houston and Harris County, Texas.

BOMD provides programs and services in accordance with its published Service Plan. The District is funded through 10 cents per hundred-dollar property value assessment on commercial properties only. No residential property or exempt property is assessed. The Services are supplemental to those offered by the City of Houston, Harris County, and other units of government.

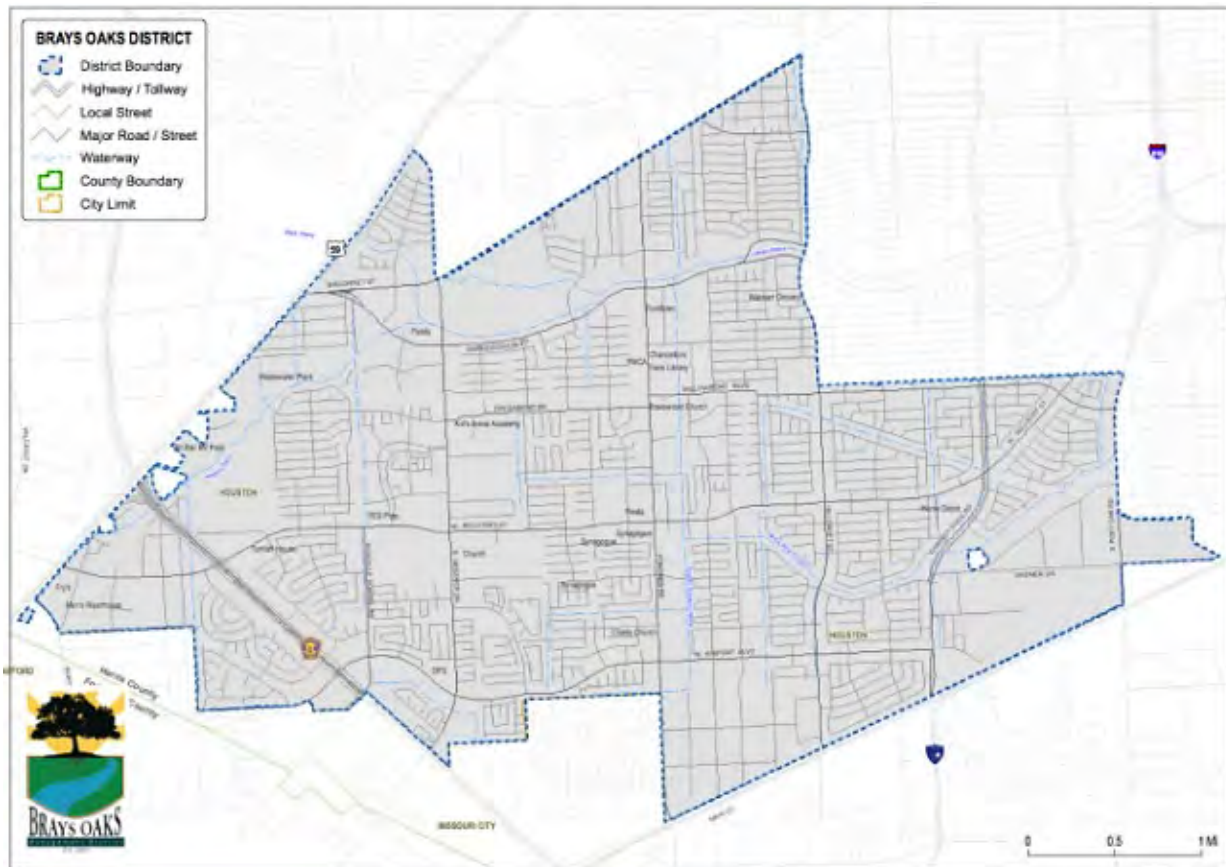
An 11-member, all volunteer, board of directors, consisting of area commercial and apartment property owners and civic leaders living in the District governs the BOMD. The members are appointed by the Houston City Council.

The Brays Oaks Management District is located southwest of downtown Houston. The District is almost entirely inside Beltway 8 with excellent access to the principal activity centers of the Houston area.

Figure 1: Location Map of Brays Oaks District



Figure 2: District Map



Source: BOMD

Brays Oaks District includes three entire Super Neighborhoods:

SN#30 – Braeburn - The Braeburn Super Neighborhood is located between Brays Bayou and Bissonnet in southwest Houston. Braeburn is a group of subdivisions along Brays Bayou, west of Hillcroft Avenue and south of the Sharpstown community.

The first of these middle class subdivisions was developed after World War II at a time when Richmond Road (later renamed as Bissonnet Street) provided the route into the city.

Bissonnet is the commercial corridor and northern boundary of the Braeburn Super Neighborhood. Both sides of this corridor consist of high density residential developments and commercial strip centers. Gessner is the major thoroughfare on the western sector of the super neighborhood as well as, Braeburn Glen Subdivision. One of the subdivisions, Brae Acres, is known for the large single family lots.

Over the past 50 years, this area has seen progressive growth and an increasingly diverse population.

SN#36 – Brays Oaks - The neighborhood is roughly about eight square miles bounded by Braeswood on the north, South Main Street on the south, Braewick ditch on the east and U.S 59 on the west of the neighborhood.

Originally part of oil tycoon Walter Fondren's ranch, Brays Oaks is one of Houston's most accessible communities with a mixture of families, culture and commercial businesses this neighborhood has become a popular place to live as well as work.

In the 1940s, developers turned undeveloped land in the Brays Oaks area into a new attractive location for young professionals. In the late 1970s and early 1980s, the area begins to further transform with the mixture of apartment complexes that sprang up beside residential subdivisions. Many commercial businesses begin to appear along the neighborhood's major corridor, Fondren. Restaurants and strip malls followed the same economic stream into the neighborhood. The outlook seemed promising to the predominantly Jewish area. By the mid 1980's, the real estate market begins to suffer from the Houston oil bust. Property values begin to decline and many of the apartment complexes started to deteriorate as management changed. Turnover in the residential areas also led to merchants leaving retail spaces along the Fondren strip vacant.

By the early 1990s, apartment owners and other residents began a counter offense of their own. In several high-profile cases, homeowners in the Southmeadow subdivision sued the owners of the West Fondren and Village of the Green apartments for negligence contributing to constant criminal activity. The homeowners collected a multi-million dollar settlement and used it to buy and raze both properties. By the mid 1990s, property values began to rebound.

SN#37 – Westbury - Westbury is located in the southwest part of Houston; north of U S 90, west of South Post Oak Road and the 610 and adjacent to the Fondren Southwest and Meyerland neighborhoods.

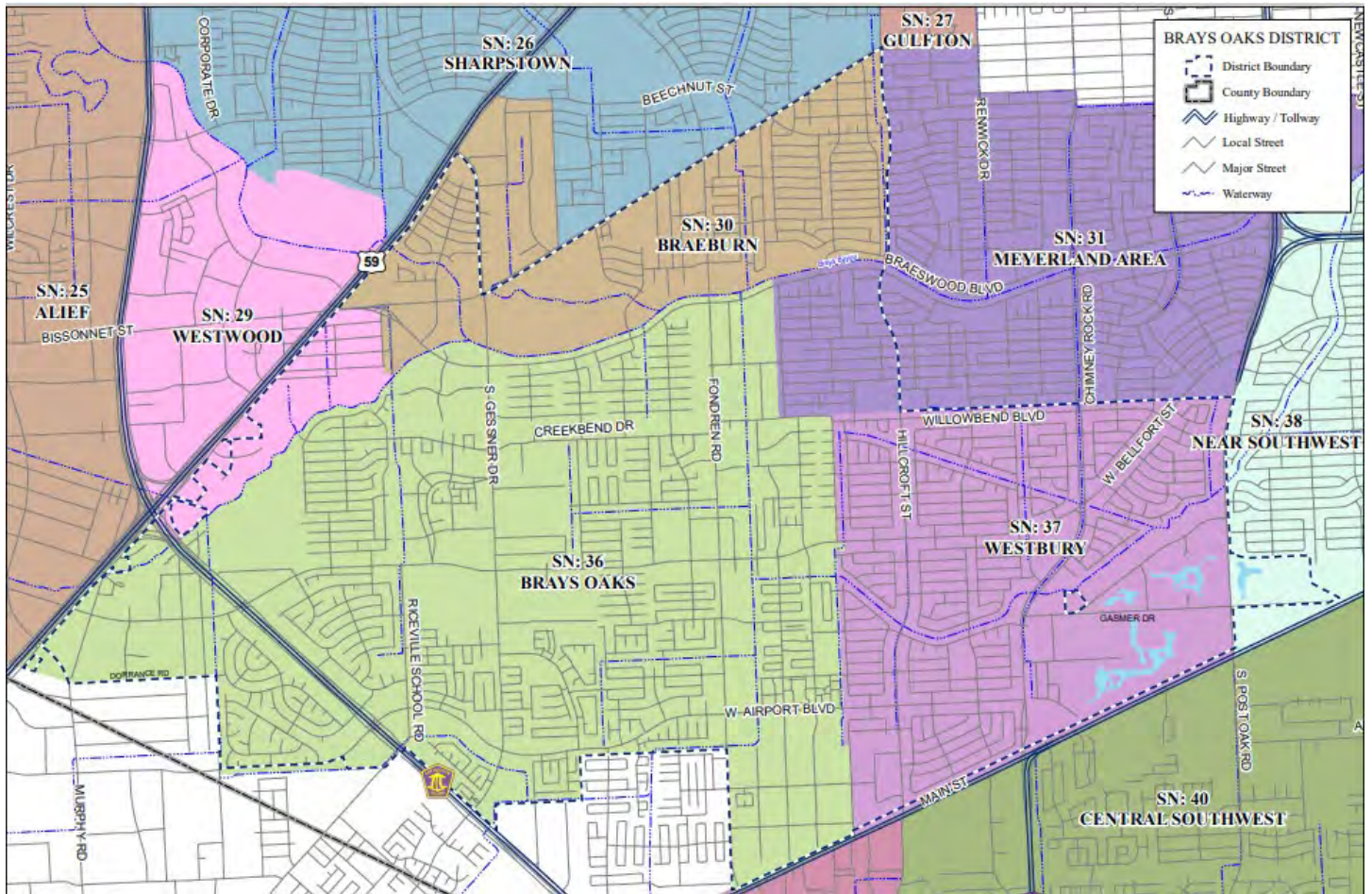
Westbury was originally created in the 1950's and was known for its shopping center "Westbury Square" which was considered to be the Galleria of its time. Westbury Square was designed to look like the Italian villa that developer Ira Burne visited while traveling through Europe. The shopping center included a pizza parlor, steak house, dinner theater, candle shop among other unique retail shops. Many of the Houston Oilers took up residence in the Madison apartments across the street from Westbury High School. You can also see remnants of the original Westbury Square design along Chimney Rock and West Belfort in a townhome complex which was designed to mimic Westbury Square.

The transition of the area began in the mid-70's when Westbury Square started losing business to larger, air conditioned malls. Westbury was also hit hard by the recession of the 1980's Houston economy which led to a decline of multi-family housing and a decrease of money circulation within Westbury. Due to its financial problems, Westbury's infrastructure began to deteriorate.

Recently, Westbury has experienced a rebirth of sorts as the area has become attractive to buyers forced out of pricier markets such as the Heights and Montrose. Westbury was named as the 2007 "Best Hidden Neighborhood" by the Houston Press.

SN#31 Meyerland Area – a small portion of this lies within the BOMD boundaries.

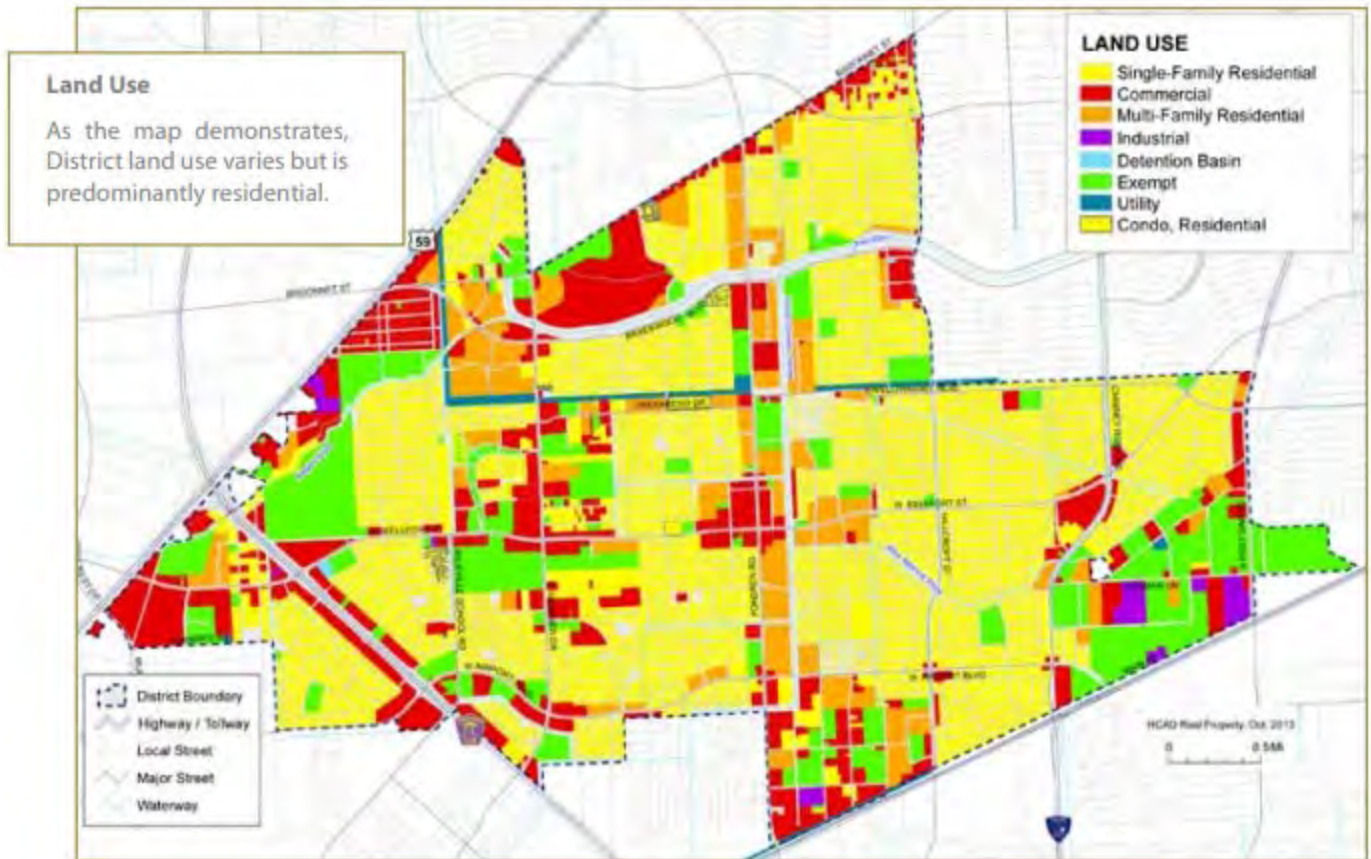
Figure 3: Brays Oaks Super Neighborhoods



Source: BOMD

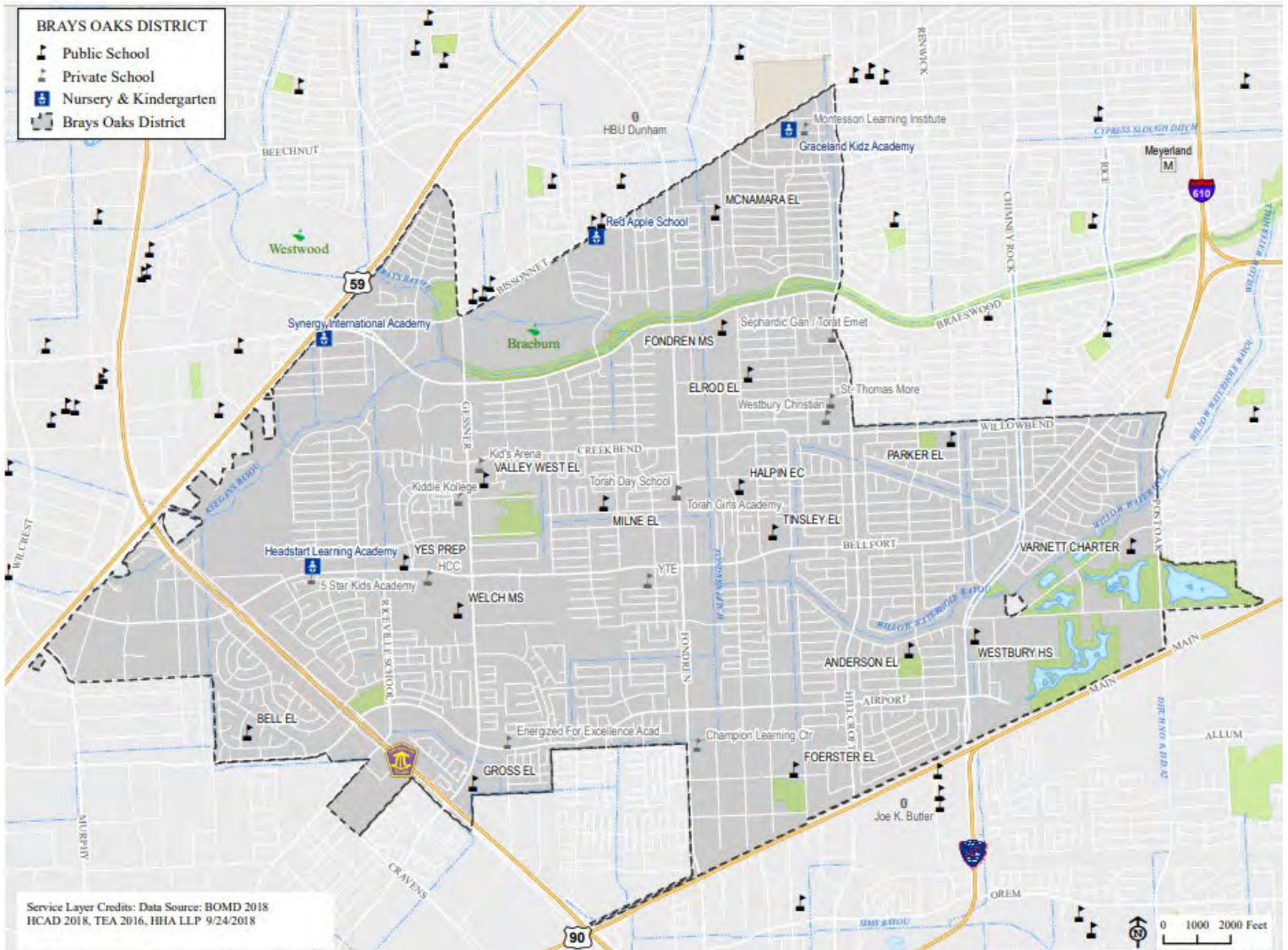
The Brays Oaks District is almost entirely residential in land uses as show on the following map. Commercial, multifamily residential and exempt land uses are also seen thru-out the District.

Figure 4: Brays Oaks Land Use Map



The majority of the District’s HISD public schools are exemplary or recognized. Of the 18 elementary and middle schools located within the District, four are exemplary and seven are recognized. The District also has excellent private schools.

Figure 5: Brays Oaks Schools



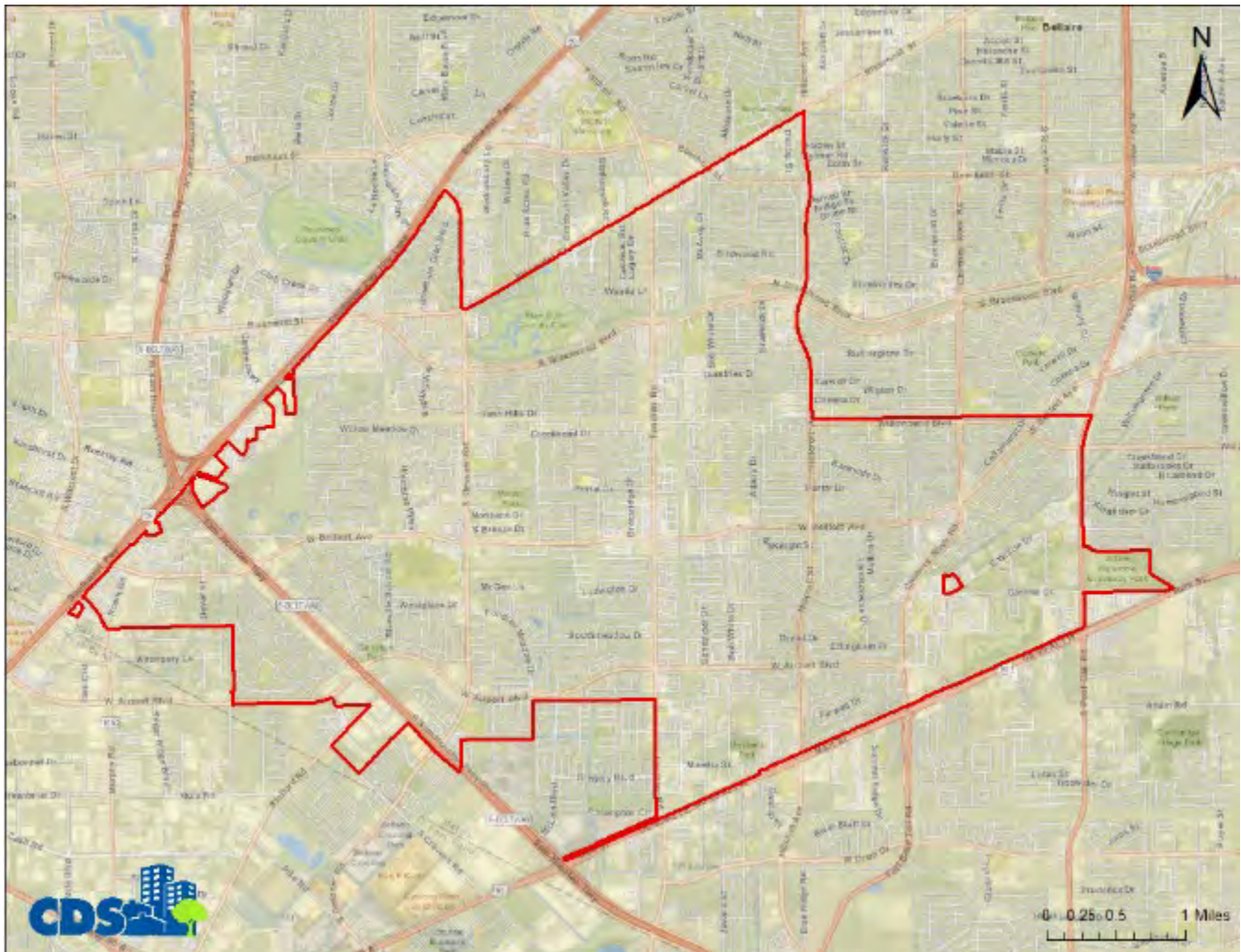
Source: BOMD

- Interviews within the District indicated that schools were an issue when renting or purchasing. Those that can afford higher end homes are sending their children to private/Jewish schools. Those renting, are searching in the east side of the district for schools.

Study Area

The area shown below will be referred to throughout this report as “Study Area”. The City and H-GAC have determined these boundaries. The boundaries are those of the Brays Oaks Management District (BOMD).

Figure 6: Map of Brays Oaks Study Area



Source: BOMD; CDS

Brays Oaks Major New Projects

Southwest Houston is coming full circle. An area that thrived with new single-family homes and top tier retail development from the 60s to the early 80s is coming back to life in a big way. After a long period of uncertainty, major new education and civic projects, that are transforming the area will be constructed over the next few years.

HBU Expansion

Houston Baptist University, located immediately north of the Brays Oaks District, is starting construction on a major expansion and redevelopment project that is expected to have a huge impact on Southwest Houston. Infrastructure for the project will be funded with the help of 380 financing by the recently enlarged TIRZ 20 and the City of Houston. The

initial phase of the project calls for extension of the former dead end street off Highway 59, often called “the road to nowhere”, to connect with the campus street network at an attractive fountain centered circle. Subsequent phases include remodeling of the former Wellness Center to house all athletic offices and a new fitness facility to be called the Bradshaw Fitness Center. To the north of this building, plans call for construction of a 6,000 seat basketball arena and special event center. At the south corner of Highway 59 and Fondren, the aging 25 acre shopping center, often called the “Loehmann’s Center”, will be demolished and redeveloped as a beautifully landscaped mixed-use complex that will include upscale retail and restaurant space, professional office space, the HBU graduate school and student housing. The complex will be leased to the developer or other commercial entity who will operate the facilities. Total cost of all these horizontal and vertical improvements is expected to be well over \$180 million.

In addition, HBU is constructing a football stadium at the south end of the campus for its new entry in the Southland Conference. This project is being financed by university funds. Combined, these new HBU projects are expected to greatly enhance the image of Southwest Houston.

Houston Community College

With the assistance of the Brays Oaks District and the City of Houston, HCC has acquired 12 acres of land at West Bellfort and Riceville School Road, immediately west of Welch Middle School, from HISD. HCC plans to build a new Workforce Development Campus on the site which will offer a number of industrial, medical and other programs in fields where there is strong demand for trained workers in the Houston area. Thus, the center will provide many high school graduates, who might otherwise land in low paying unskilled jobs, opportunities to become productive members of society.

Willow Waterhole

With the creation of the Willow Waterhole Detention Basin that is being excavated by the Harris County Flood Control District on a 291 acre site in the southeast corner of the Brays Oaks District, a beautiful park with many recreational and aesthetic amenities is being created for the benefit of Southwest Houston residents. Initial improvements were made possible through a \$400,000 grant to the Houston Parks & Recreation Department from the Texas Parks & Wildlife Department in 2000. In 2001, a new 501(c)3 organization, the Willow Waterhole Greenspace Conservancy, was created to oversee future improvements. In 2012, the Conservancy received a \$400,000 federal grant to fund additional amenities, including parking, trails, signage, educational outreach, habitat restoration and plantings. Waterhole project is completed.

Levitt Pavilion

The Levitt Foundation and Levitt Pavilions organizations headquartered in Los Angeles have selected the Willow Waterhole Park as its Houston area site for an outdoor entertainment pavilion. The venue will be the tenth such facility in the U.S. Once completed, the pavilion will offer 50 free top name family music events a year. Operating expenses up to \$5 million will be underwritten by the Levitt Foundation. Capital costs of \$12 million are being raised by a local affiliated foundation with the support of the City of Houston and other entities. This project promises to be a major entertainment addition for Southwest Houston residents.

Long Term Area Projections

This section presents population projections which estimate both the short term and long-term demographic possibilities for the CMA. Developers who are interested in investing in the area will likely consult such projections to determine how successful their project may be.

Short term, demographic forecasts for the CMA were determined by utilizing PCensus data, which uses a formula to project future numbers based on existing Census data trends. Long term projections in the Houston MSA are provided by the Houston—Galveston Area Council (H-GAC), which offers five-year projections extending from 2015 to 2040. These estimates are available by Traffic Area Zones (TAZ).

CDS Community Development Strategies also provides future population projections. The projections by CDS are similar to the H-GAC's projections in that they are also connected to the TAZ geography.

The following three tables display short term CMA projections based on Census trends, as well as longer term Study Area and CMA projections provided by the H-GAC and CDS Community Development Strategies.

Table 1: Short Term CMA Projections Based on US Census Trends

	2000 Census	2010 Census	2021 Estimate	2026 Estimate
Population	393,217	410,212	450,700	478,177
	2000 Census	2010 Census	2021 Estimate	2026 Estimate
Households	138,189	140,620	153,733	162,995

Source: US Census, American Community Survey, PCensus

The short-term projections based on US Census trends estimate that from the year 2021 to 2026 the CMA population will grow by 17,210 or 7.4%. The 2025 projections from the H-GAC and CDS projections estimate that the population in the CMA will increase by roughly 1.1% and 4.7% respectively.

Table 2: Longer Term CMA Projections from the H-GAC

H-GAC Forecasts	2020	2025	2030	2035	2040
Population	407,366	439,880	489,799	483,766	501,336
Households	151,302	158,038	173,261	182,273	193,664
Employment	204,820	218,388	225,595	232,310	240,346

Table 3: Longer Term CMA Projections from CDS

CDS Forecasts	2020	2025	2030	2035	2040
Population	440,967	455,600	465,099	476,220	485,408
Households	152,028	157,628	161,477	165,986	170,068
Employment	167,625	181,638	197,895	214,194	231,148

The projections from the H-GAC and CDS also include estimates for households, and employment. Looking at job gains, both projections assume the areas will continue to grow, although HGAC is much more ambitious in its forecast for the CMA. For our analysis herein, we will use the average of CDS and HGAC (table 4).

Table 4: Average of CDS and HGAC Forecasts

Avg Forecasts	2020	2025	2030	2035	2040
Population	424,167	447,740	477,449	479,993	493,372
Households	151,665	157,833	167,369	174,130	181,866
Employment	186,223	200,013	211,745	223,252	235,747

The following are long term projections for the Brays Oaks Management District. PCensus indicates that population will grow by 5,526 by 2026 or 5.3%. CDS' forecast is more ambitious for population and households, while HGAC is projecting more jobs. The assumption is that growth will take place from both sources.

Table 5: BOMD Long Term Projections

	2000 Census	2010 Census	2021 Estimate	2026 Estimate
Population	103,686	97,051	104,009	109,535
	2000 Census	2010 Census	2021 Estimate	2026 Estimate
Households	38,247	35,295	37,905	39,968

Table 6: HGAC Long Term Forecast for BOMD

H-GAC Forecasts	2020	2025	2030	2035	2040
Population	85,337	91,629	98,488	94,523	91,444
Households	37,711	37,600	37,514	37,909	38,964
Employment	27,046	27,259	27,731	28,524	30,344

Table 7: CDS Long Term Forecast for BOMD

CDS Forecasts	2020	2025	2030	2035	2040
Population	99,661	101,406	103,619	104,750	106,004
Households	36,445	37,123	38,035	38,490	39,067
Employment	22,545	23,654	24,890	25,975	27,158

SINGLE FAMILY HOUSING

Houston Market

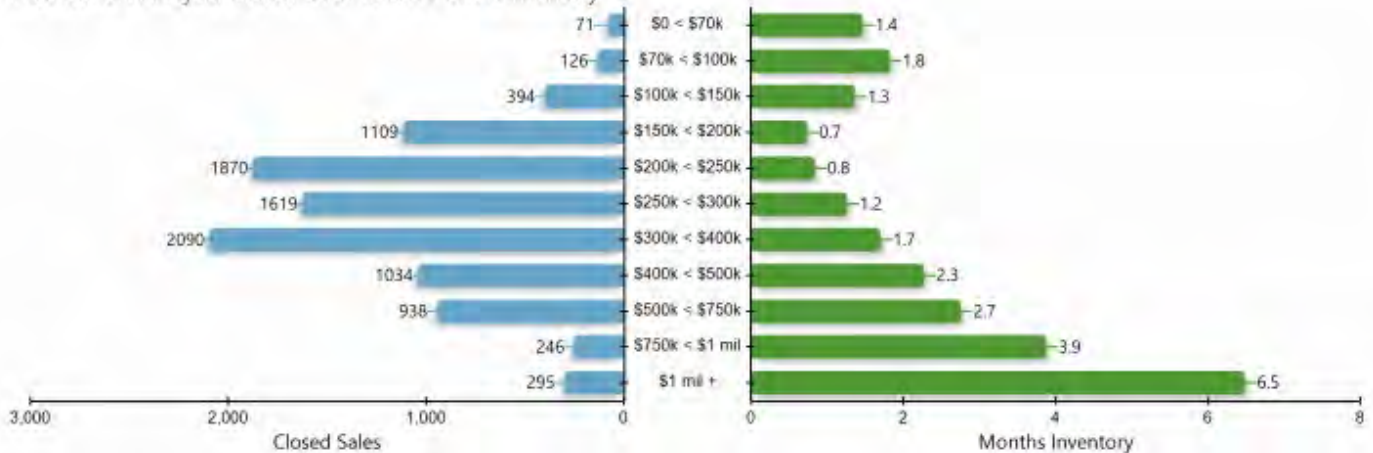
HOUSTON — (March 2021) — Sales volume for single-unit residential housing increased 26.08% Year over Year from 7,767 to 9,793 transactions. Year-to-date sales reached a total of 22,297 closed listings. Dollar volume rose from \$2.39 billion to \$3.6 billion.

The average sales price rose 19.2% Year over Year from \$308,058 to \$367,213, while the average price per square foot subsequently rose from \$128.57 to \$147.83. Median price rose 16.06% Year over Year from \$249,000 to \$289,000, while the median price per square foot also rose from \$115.71 to \$131.28.

Months inventory for single-unit residential housing declined from 3.3 to 1.5 months supply, and days to sell declined from 98 to 86.



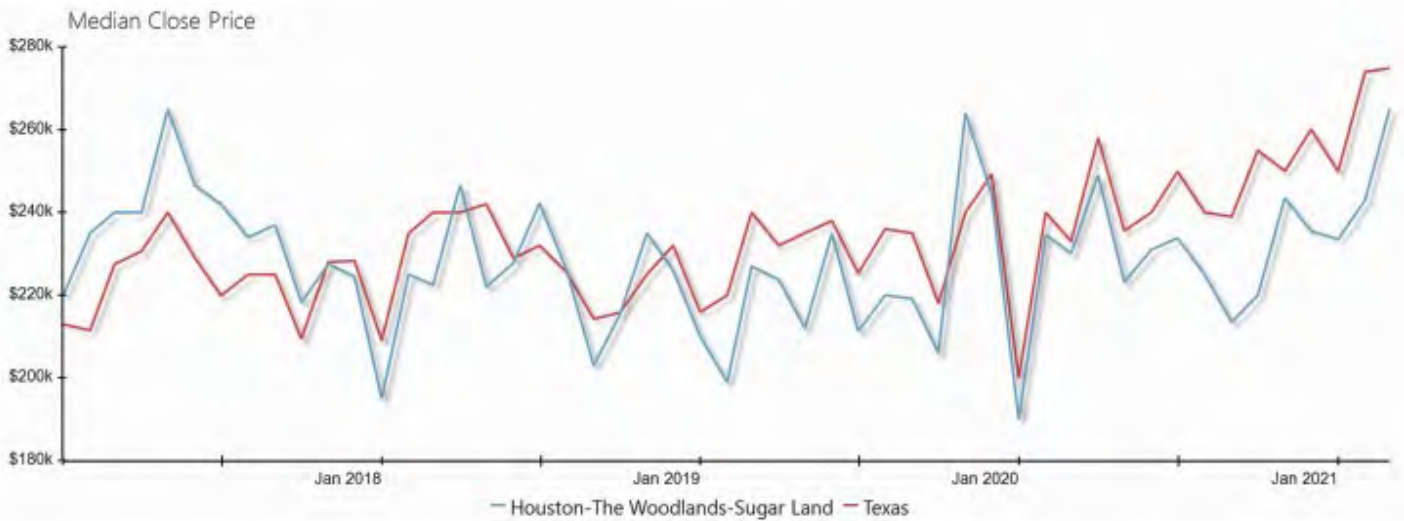
Price Cohort Analysis: Closed Sales versus Months Inventory



Sources: Texas Association of Realtors (TAR); Texas Real Estate Center

Townhomes

Sales volume for townhomes increased 35.06% Year over Year from 348 to 470 transactions. Year-to-date sales reached a total of 988 closed listings. Dollar volume rose from \$94.3 million to \$141.19 million. The average sales price rose 10.85% YoY from \$270,988 to \$300,396, while the average price per square foot subsequently rose from \$133.48 to \$145.05. Median price rose 15.17% Year over Year from \$230,095 to \$265,000, while the median price per square foot also rose from \$125.75 to \$140.63. Months inventory for townhomes declined from 4.0 to 2.7 months supply, and days to sell declined from 91 to 85.



Sources: Texas Association of Realtors (TAR); Texas Real Estate Center

Condominiums

Sales volume for condominiums increased 73.11% Year over Year from 238 to 412 transactions. Year-to-date sales reached a total of 936 closed listings. Dollar volume rose from \$43.78 million to \$87.72 million. The average sales price rose 15.75% YoY from \$183,952 to \$212,922, while the average price per square foot subsequently rose from \$149.08 to \$179.04. Median price rose 14.81% Year over Year from \$135,000 to \$155,000, while the median price per square foot also rose from \$129.53 to \$162.16. Months inventory for condominiums declined from 5.3 to 4.5 months supply, and days to sell rose from 85 to 101.

Housing Statistics

The CMA includes approximately 172,865 housing units of which 88% are occupied (45% owner occupied). The median housing value of owner-occupied homes is \$161,885.

The BOMD (Study Area) includes 43,628 housing units of which 87% are occupied. Of those occupied, 38.6% are owner occupied and 61.4% renter occupied. The median value is \$198,098 which is approximately 22% higher than the CMA. The study area includes 50.5% multifamily units (5 to 50+ units). BOMD includes 25.2% of the overall CMA housing units.

Approximately 80% of the BOMD housing units were built before 1990. Only 7.3% of the housing was built from 2010 to present. It is likely that the District may see existing homes sold and torn-down for newer structures.

Approximately 60% of the homes in the District are valued below \$200,000 while approximately 1.4% are valued over \$500,000.

Table 8: Housing Statistics

Category	BOMD		CMA		Harris County	
	Number	Share	Number	Share	Number	Share
2021 Est. Occupied Housing Units by Tenure	37,905		153,733		1,669,031	
Owner-Occupied	16,142	38.58%	69,937	45.49%	954,757	57.20%
Renter-Occupied	21,763	61.42%	83,796	54.51%	714,274	42.80%
2021 Est. Owner Occupied Housing Units by Value	16,142		69,937		954,757	
Value Less than \$20,000	198	1.61%	1,137	1.63%	16,523	1.73%
Value \$20,000 to \$39,999	202	1.12%	1,289	1.84%	12,868	1.35%
Value \$40,000 to \$59,999	334	2.19%	1,391	1.99%	22,504	2.36%
Value \$60,000 to \$79,999	520	3.99%	2,997	4.29%	36,592	3.83%
Value \$80,000 to \$99,999	653	4.15%	5,226	7.47%	52,271	5.47%
Value \$100,000 to \$149,999	2,764	20.15%	19,369	27.69%	156,632	16.41%
Value \$150,000 to \$199,999	3,533	26.38%	14,975	21.41%	180,354	18.89%
Value \$200,000 to \$299,999	4,427	25.42%	12,429	17.77%	209,221	21.91%
Value \$300,000 to \$399,999	2,152	9.71%	5,343	7.64%	99,603	10.43%
Value \$400,000 to \$499,999	921	3.84%	2,726	3.90%	56,532	5.92%
Value \$500,000 to \$749,999	311	0.91%	1,666	2.38%	52,953	5.55%
Value \$750,000 to \$999,999	84	0.22%	659	0.94%	24,248	2.54%
Value \$1,000,000 to \$1,499,999	20	0.10%	478	0.68%	17,650	1.85%
Value \$1,500,000 to \$1,999,999	15	0.15%	145	0.21%	7,419	0.78%
Value \$2,000,000 or more	7	0.07%	107	0.15%	9,387	0.98%
2021 Est. Median All Owner-Occupied Housing Unit Value	\$198,098		\$161,885		\$199,899	
2021 Est. Housing Units by Units in Structure	43,628		172,865		1,836,647	
1 Unit Attached	2,015	5.37%	9,297	5.38%	72,710	3.96%

Category	BOMD		CMA		Harris County	
	Number	Share	Number	Share	Number	Share
1 Unit Detached	17,388	34.75%	76,268	44.12%	1,053,014	57.33%
2 Units	262	0.73%	1,567	0.91%	22,468	1.22%
3 or 4 Units	3,161	8.39%	7,168	4.15%	55,604	3.03%
5 to 19 Units	13,696	33.99%	50,736	29.35%	300,747	16.37%
20 to 49 Units	2,988	5.53%	11,923	6.90%	99,319	5.41%
50 or More Units	4,025	11.04%	14,545	8.41%	185,241	10.09%
Mobile Home or Trailer	82	0.19%	1,335	0.77%	46,265	2.52%
Boat, RV, Van, etc.	12	0.00%	26	0.02%	1,279	0.07%
Total Housing Units in the CMA	43,628		172,865		1,836,647	
Housing Units Built 2014 or Later	2,386	6.70%	11,725	6.78%	219,174	11.93%
Housing Units Built 2010 to 2013	234	0.67%	2,137	1.24%	79,894	4.35%
Housing Units Built 2000 to 2009	2,039	5.05%	15,606	9.03%	344,148	18.74%
Housing Units Built 1990 to 1999	2,697	7.29%	15,136	8.76%	218,214	11.88%
Housing Units Built 1980 to 1989	7,411	21.04%	35,340	20.44%	262,864	14.31%
Housing Units Built 1970 to 1979	16,834	43.51%	55,508	32.11%	315,814	17.20%
Housing Units Built 1960 to 1969	7,618	11.11%	24,360	14.09%	167,745	9.13%
Housing Units Built 1950 to 1959	3,313	1.91%	10,223	5.91%	128,908	7.02%
Housing Units Built 1940 to 1949	743	2.02%	1,690	0.98%	54,475	2.97%
Housing Units Built 1939 or Earlier	353	0.69%	1,140	0.66%	45,411	2.47%
Dominant Year Structure Built	1976		1979		1988	

Source: US Census, American Community Survey, PCensus

On average BOMD households spend \$518 per month for owner occupied dwellings and \$452 for rented dwellings. The CMA expenditures are slightly higher at \$542 and \$458 respectively.

Table 9: Housing Expenditures

	BOMD			CMA		
	2021 Aggregate Expenditure Estimate	%	2021 Annual Average per Consumer Unit	2021 Aggregate Expenditure Estimate	%	2021 Annual Average per Consumer Unit
Consumer Buying Power Housing HOUSING						
Shelter	\$471,711,160	23.24%	\$12,150	\$1,938,210,936	22.97%	\$12,543
Owned dwellings	\$248,723,486	11.90%	\$6,221	\$1,006,615,356	11.93%	\$6,514
Mortgage interest and charges	\$122,622,580	5.87%	\$3,067	\$502,246,374	5.95%	\$3,250
Rented dwellings	\$202,428,729	10.39%	\$5,430	\$851,013,903	10.09%	\$5,507
Rent	\$197,482,986	10.14%	\$5,300	\$829,652,365	9.83%	\$5,369

CMA Housing Market

The CMA includes zip codes 77072, 77036, 77074, 77096, 77035, 77085, 77489, 77477, 77099, 77031, and 77071. The District is located almost entirely in 77031 and 77071 with a small portion in 77035.

CMA Resale Market

As of 6/8/2021, there are 287 houses listed for sale in in the CMA. The average list price is \$387,506 or \$171.95psf. There are 57 homes priced below \$250,000 in this market. An additional 187 homes are priced between \$251k and \$500k. Five homes are priced over \$1 million.

Table 10: CMA Current Listings

287	SF	Yr Blt	List Price	LP/SF	DOM
Min	992	1950	\$169,900	\$70.11	
Max	10213	2021	\$1,995,000	\$486.79	647
Avg	2259	1969	\$387,506	\$171.95	47
Median	2131	1963	\$345,000	\$165.91	25

Source: HAR/MLS

In the first five months of 2021, there have been 778 sales. The average sales price was \$290,727 or \$137.15 psf. This is significantly above the 2020 average of \$222,753.

Table 11: CMA 2021 Sales

778	SF	Yr Blt	Sale Price	SP/SF	DOM
Min	779	1930	\$65,000	\$43.86	
Max	9697	2021	\$2,000,000	\$296.51	629
Avg	2116	1970	\$289,261	\$137.15	41
Median	2009	1965	\$255,000	\$127.38	18

Source: HAR; CDS

In 2020, there were 2,043 sales in the CMA. Zip 77096 had the most sales and the highest average sales price in 2020 with 393 sales and \$366,164 respectively. The highest maximum price was found in 77096 followed by 77071 (District). The CMA's average price by zip codes appears to be \$222,753.

Table 12: CMA Single Family Sales by Zip Code, 2020

Zip	# of Sales	MIN	MAX	AVG	Median
77031	64	\$123,000	\$560,000	\$204,966	\$192,250
77035	284	\$110,000	\$695,000	\$285,511	\$275,540
77036	108	\$142,000	\$340,000	\$230,141	\$228,000
77071	171	\$95,000	\$800,000	\$225,634	\$199,000
77072	167	\$91,500	\$293,000	\$171,681	\$172,000
77074	143	\$90,000	\$620,000	\$212,089	\$205,000
77085	54	\$108,000	\$293,000	\$177,389	\$172,000
77096	393	\$125,000	\$1,240,000	\$366,164	\$325,000

Zip	# of Sales	MIN	MAX	AVG	Median
77099	169	\$117,000	\$325,000	\$171,699	\$170,000
77477	152	\$58,000	\$415,000	\$226,421	\$223,750
77489	338	\$85,000	\$300,000	\$178,588	\$175,000
CMA TOTAL/AVG	2,043	\$104,045	\$534,636	\$222,753	\$212,504

Source: Houston Association of Realtors (HAR); CDS

In 2019, there were 1,724 homes sold in the CMA. The average price was \$289,023 or \$118.82 psf. This is significantly less than the 2020 and 2021 average sales price which indicates prices are rising in this area.

Table 13: CMA Home Sales, 2019

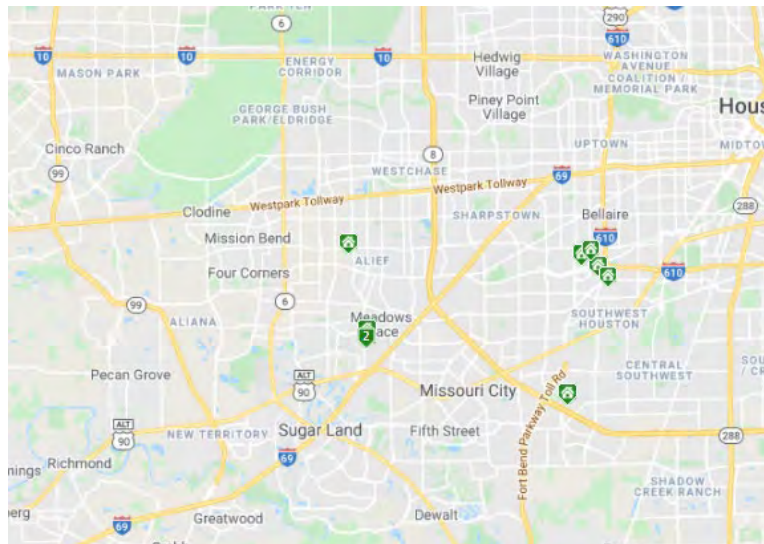
1724	SF	Yr Built	Sale Price	\$/SF	DOM
Min	784	1920	\$35,000	\$ 21.17	
Max	7066	2019	\$1,300,000	\$267.36	713
Average	2039	1972	\$237,318	\$116.27	46
Median	1921	1967	\$200,000	\$106.52	25

Source: Houston Association of Realtors (HAR)

CMA New Home Construction

The CMA has very few new construction listings (11), with locations shown in the map below. The average list price is \$590,772 or \$220.49psf (2472sf). The subdivisions with listings are Mediterranean Forest, South Main Plaza, Fountain Park Village, Willow Meadows, and Meyerland.

Figure 8: CMA 2020 New Home Construction Listings



MLS #	Stat	AR	Office	Address	Subdivision	Lot Size	SF	Price	Prc/SF	YB	BR	Bth	DOM
13550074	A	28	FEIJ01	8504 Pignut Hickory Street	Mediterranean Forest Sub	3,153	1,909	\$269,800	\$141.33	2021	4	3/0	6*
26355795	A	20	LTHS01	6423 Tadlock Lane	South Main Plaza	7,625	2,207	\$325,000 ↑	\$147.26	2021	4	2/1	14
20391925	A	29	CMTX06	12411 Cotton Lake Lane	Fountain Park Village		1,764	\$327,700	\$185.77	2021	3	3/1	39
93688602	A	29	CMTX06	10458 Executive Lake Drive	Fountain Park Village		1,785	\$329,900	\$184.82	2021	3	2/1	6
81070978	A	29	CMTX06	10454 Executive Lake Drive	Fountain Park Village		1,802	\$332,700	\$184.63	2021	3	2/1	6
54254358	A	29	CMTX06	10466 Executive Lake Drive	Fountain Park Village		1,814	\$337,700	\$186.16	2021	3	3/1	39
59790288	A	29	CCRT01	10462 Executive Lake Drive	Fountain Park Viliage		1,785	\$354,700	\$198.71	2021	3	3/1	67
87831127	A	20	TREE01	10314 Willowgrove Drive	Willow Meadows	10,499	3,087	\$885,000	\$286.69	2021	4	3/0	146
25013412	A	20	TREE01	4934 Dumfries Drive	Meyerland Sec 07 R/P	8,970	3,169	\$915,000	\$288.73	2021	4	3/0	21*
85552326	A	20	CBAR05	8922 Ferris Drive	Meyerland	10,222	3,394	\$1,125,000 ↑	\$331.47	2021	4	4/0	78
62209279	A	20	CMTX01	8814 Sager Drive	Meyerland	10,230	4,472	\$1,295,990 ↑	\$289.80	2020	5	3/1	178

Source: HAR/MLS

The following table illustrates the 2021 new construction sales in the CMA. The average was \$607,722 or \$190.72psf.

Table 14: CMA New Construction Sales, 2020

MLS #	Stat	AR	Office	Address	Subdivision	Lot Size	SF	Price	Prc/SF	YB	BR	Bth	DOM
26209310	S	28	RELM01	12506 Bexley Drive	Brookfield Sec 01 R/P A & E	7,150	2,220	\$245,000	\$110.36	2020	3	2/0	31
85958719	S	20	PBME01	9422 Glenfield Court	NETIVOT BRAESWOOD	2,340	2,941	\$372,000	\$126.49	2020	4	3/1	20
14516580	S	20	PBME01	9424 Glenfield Court	NETIVOT BRAESWOOD	2,860	2,872	\$380,000	\$132.31	2020	4	3/1	
84956949	S	20	PBME01	9420 Glenfield Court	NETIVOT BRAESWOOD	2,705	2,967	\$380,000	\$128.08	2020	4	3/1	24
82318950	S	20	PBME01	9406 Glenfield Court	NETIVOT BRAESWOOD	2,975	2,969	\$395,000	\$133.04	2019	4	3/1	*
69527873	S	20	TREE01	4939 Dumfries Drive	Meyerland Sec 07 R/P A	9,150	3,104	\$855,000 ↓	\$275.45	2020	4	4/0	143
7707162	S	20	TREE01	8907 Endicott Lane	Meyerland	12,000	3,104	\$882,500	\$284.31	2020	4	3/0	46
93792202	S	20	TREE01	5023 Indigo Street	Meyerland	9,675	3,104	\$885,000	\$285.12	2021	4	3/0	26
29811701	S	20	CBAR05	5223 Ariel Street	Meyerland	8,501	4,455	\$1,075,000 ↓	\$241.30	2020	4	4/0	276

Source: Multiple Listing Service

Entry level housing (priced below \$250k) is being built in the CMA. The homes vary from 1200 sf to 2,300 sf with pricing starting at \$168k for 2020 and 2021. The homes on Torcello Street and San Rocco are located in Brays Oaks.

Table 15: CMA Entry Level New Construction Sales

MLS #	Stat	AR	Office	Address	Subdivision	Lot Size	SF	Price	Prc/SF	YB	BR	Bth	DOM
86883755	S	28	CNRE06	7839 Dairy View Lane	Ashford Gardens	3,516	1,350	\$168,000 ↓	\$124.44	2006	3	2/0	21
5736102	S	20	BZHU01	8610 Torcello Street	VENETIAN LUXURY HOMES	2,035	1,360	\$169,000	\$124.26	2017	3	2/1	48*
63167852	S	20	WALZ01	8708 Torcello Street	Venetian Luxury Homes	1,994	1,356	\$173,500	\$127.95	2017	3	2/1	163
26211934	S	20	WALZ01	8707 Torcello Street	Venetian Luxury Homes	2,035	1,296	\$175,000	\$135.03	2017	3	2/1	58
95101228	S	20	WALZ01	8711 San Rocco Street	Venetian Luxury Homes	1,870	1,320	\$175,000	\$132.58	2017	3	2/1	
67678451	S	28	RELM01	7726 Sutters Field Drive	Two Worlds Sec 01	2,775	1,873	\$178,000 ↓	\$95.03	2018	3	2/1	75
81474540	S	28	UTRE01	10003 Huntington Way Drive	Huntington Village Sec 01	13,108	1,844	\$235,000 ↓	\$127.44	2020	3	3/0	90
26209310	S	28	RELM01	12506 Bexley Drive	Brookfield Sec 01 R/P A & E	7,150	2,220	\$245,000	\$110.36	2020	3	2/0	31

Source: HAR/MLS

Figure 9: Example of New Construction in Brays Oaks



Source: HAR/MLS

Townhome/Condos

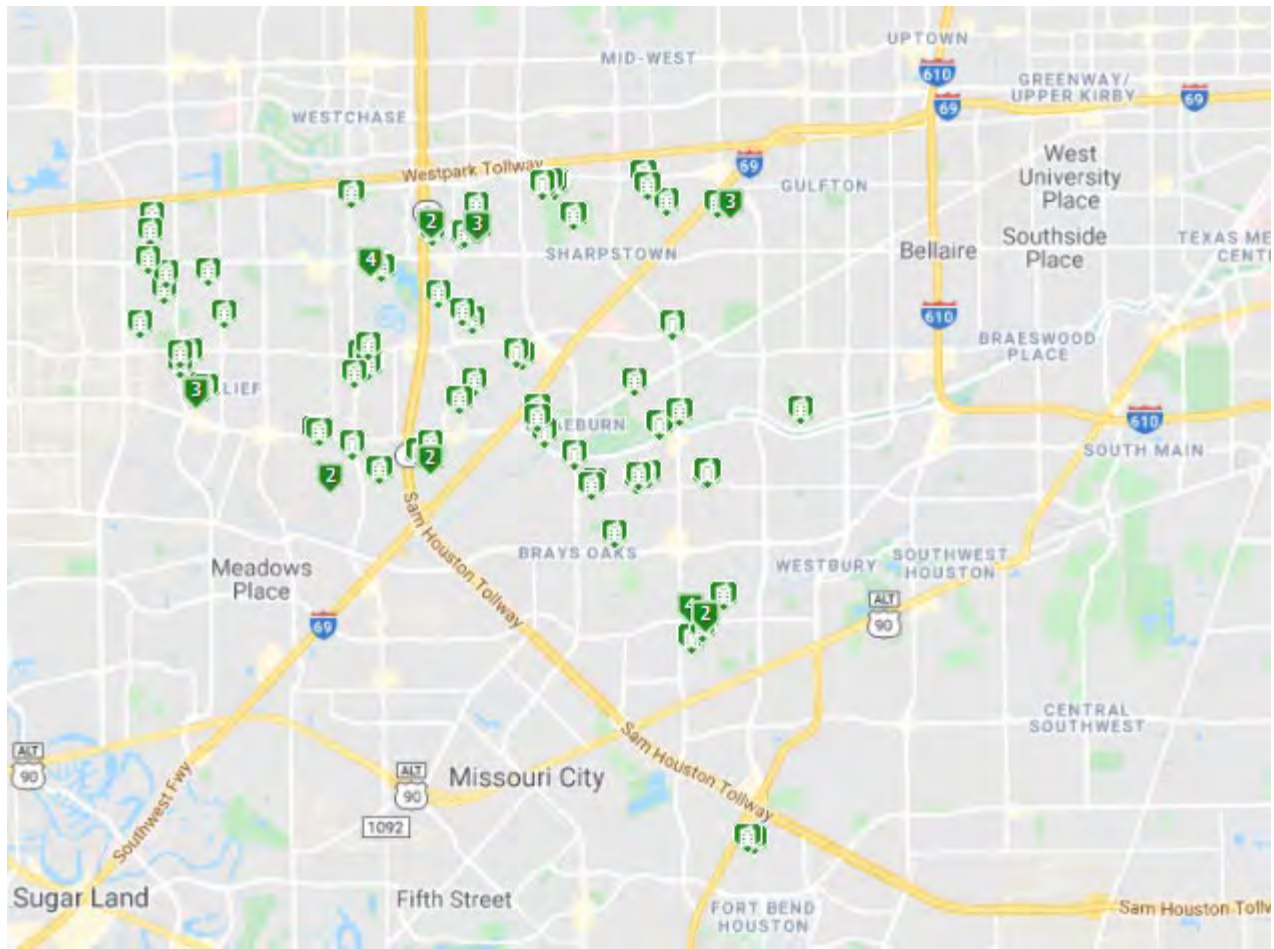
There are 64 current listings in the CMA. They are located thru-out the CMA as shown on the map (Figure 10). The listings range from \$41,500 to \$370,000.

Table 16: CMA Townhome/Condo Listings

64	SF	Yr Built	List Price	\$/SF	DOM
Min	372	1962	\$41,500	\$43.48	
Max	3220	2020	\$370,000	\$337.69	669
Average	1178	1984	\$119,066	\$105.66	51
Median	1068	1980	\$ 110,000	\$88.82	25

Source: HAR/MLS

Figure 10: Map of Townhome/Condo Listings



In the first five months of 2021, there have been 245 sales of townhomes/condos. The average sales price was \$100,013 or \$78.94psf.

Table 17: CMA Townhome/Condo Sales, 2021

245	SF	Yr Built	Sale Price	\$/SF	DOM
Min	648	1962	n/a		
Max	3468	2021	\$320,000	\$189.93	355
Average	1247	1980	\$100,013	\$78.94	39
Median	1184	1979	\$97,000	\$79.67	17

Source: Houston Association of Realtors

In 2020, there were 494 townhome/condo sales in the CMA. The average sales price was \$158,510 or \$114.00 psf. Although the sales prices are similar in 2021 and 2020, the sales price per square foot is significantly higher in 2021.

Table 18: CMA Townhome/Condo Sales, 2020

494	SF	Yr Built	Sale Price	\$/SF	DOM
Min	576	1962	n/a		
Max	3373	2013	\$400,000	\$378.07	750
Average	1255	1980	\$93,371	\$74.05	48
Median	1183	1979	\$89,434	\$73.99	22

Source: Houston Association of Realtors

In 2019, there were 503 townhome/condo sales in the CMA. The average sales price was \$149,613 or \$107.68 psf, which is significantly less than 2020/21.

Table 19: CMA Townhome/Condo Sales, 2019

503	SF	Yr Built	Sale Price	\$/SF	DOM
Min	500	1962	\$ 21,000	\$ 23.57	
Max	2280	2012	\$265,000	\$160.94	274
Average	1271	1980	\$90,417	\$70.55	40
Median	1224	1979	\$88,750	\$70.89	21

Source: Houston Association of Realtors

New Construction Townhomes/Condos

There are 7 new townhomes/condos listed for sale in the CMA. They are all located in the Turtlewood subdivision in Alief (77072). Prices range from \$188,000 to \$370,000.

Figure 11: New Construction Townhomes/Condos Listings

MLS #	Stat	AR	Office	Address	Subdivision	Loft	SF	Price	Prc/SF	YB	BR	Bth	DOM
12766268	A	28	TXGY01	6955 Turtlewood Drive S Unit#1	Turtlewood	No	810	\$188,000 ↓	\$232.10	2020	1	1/0	13
37286810	A	28	BNWG01	6955 Turtlewood Drive S Unit#2	Turtlewood	No		\$220,000		2020	1	1/0	11
3466777	A	28	BNWG01	6955 Turtlewood Drive Unit#21	TURTLEWOOD MANOR CONI		812	\$265,000	\$326.35	2019	1	1/0	11
35915121	A	28	TXGY01	6955 Turtlewood Dr Unit#116	Turtlewood	No	1,014	\$265,000	\$261.34	2020	1	1/0	13
76721293	A	28	TXGY01	6955 Turtlewood Drive S Unit#3	Turtlewood	No	1,147	\$290,000	\$252.83	2020	2	2/0	13
28104607	A	28	BNWG01	6955 Turtlewood Drive Unit#30	TURTLEWOOD MANOR CONI		918	\$310,000	\$337.69	2019	2	2/0	6
38381423	A	28	BNWG01	6955 Turtlewood Dr Drive S Uni	Turtlewood	No		\$370,000		2020	2	1/0	11

Source: HAR/MLS

Figure 12: Turtlewood Condos



There has been one new construction townhome/condo sales in 2021. The townhome is located in Brays Oaks. The sales price was \$287,750 or \$189.93 psf.

Table 20: CMA Townhome/Condo Sales, 2021

MLS #	Stat ↓	AR	Office	Address	Subdivision	Loft	SF	Price ↓	Prc/SF	YB	BR	Bth	DOM
42603173	S	17	RMS104	6037 Cypress	BRAEBURN TERRACE	No	1,515	\$287,750 ↑	\$189.93	2021	3	2/1	47

Source: Houston Association of Realtors

This community will consist of 12 homes. Per HAR, these homes feature high ceilings and side yards. Large primary suite has a walk in closet, double vanity, and oversized shower. The open kitchen has a large island, quartz counter tops, cabinetry and stainless steel appliances.

Figure 13: Braeburn Terrace Townhomes



Source: HAR/MLS

There were no sales in 2020 or 2019 of new construction condos or townhomes.

CMA High Rise Condo Sales

There are 18 active listings of high rise condos in the CMA. The listings are located The Sussex in 77036. The average list price is \$93,936 or \$104.16psf (905sf). The condos have been on the market for an average of 93 days.

Table 21: CMA High Rise Condos Listings

Status: Active (18)

Property Type: Mid/Hi-Rise Condo (18)

	SqFt	BD	FB	HB	Yr Built	List Price	LP/SqFt
Min	652	1	1		1966	\$69,000	\$80.65
Max	1,179	3	2		1966	\$139,000	\$124.22
Avg	905	2	2		1966	\$93,936	\$104.16
Median	871	2	2		1966	\$87,150	\$104.45

Figure 14: The Sussex



In 2021, there have been five sales in the CMA all at the Sussex. The prices range from \$53,000 to \$69,759 for units in this 16 story building. In 2020, there were 9 sales in this building ranging from \$48,000 to \$92,000.

There are no new construction high rise condos in the CMA.

CMA Single Family Rental Market

There are currently 217 rentals on the market for lease in the CMA. The average rental price is \$1,603 while the median is \$1,400.

Table 22: CMA Single Family Rentals Listings

Status: Active (217)

Property Type: Rental (217)

	SqFt	BD	FB	HB	# Units	Yr Built	Lot Size	List Price	LP/SqFt
Min	550		1		-	1950		\$725	\$0.47
Max	5,318	6	5	5	-	2021	542,669	\$7,000	\$2.79
Avg	1,478	3	2		-	1979	80,875	\$1,603	\$1.11
Median	1,365	3	2		-	1979	9,000	\$1,400	\$1.06

Source: HAR/MLS

In 2021, there have been 786 leases in the first five months. The average lease rate is \$1548 or \$0.96 psf. Lease prices have not increased significantly since 2020.

The list includes townhomes, condos, and single family homes.

Table 23: 2021 Rentals

Status: Sold (786)

Property Type: Rental (786)

	SqFt	BD	FB	HB	# Units	Yr Built	Lot Size	List Price	LP/SqFt	Sale Price	Close Price Adj	SP/SqFt	Price Sq Ft Adj Sold	SP/LP%	SP/OLP%	DOM
Min	500				-	1950		\$625	\$0.20	\$500	\$500	\$0.20	\$0.20	60.00%	10.00%	
Max	5,925	6	5	3	-	2021	542,669	\$5,200	\$2.19	\$5,200	\$5,200	\$2.19	\$2.19	114.29%	120.00%	1,229
Avg	1,683	3	2		-	1979	53,704	\$1,550	\$0.96	\$1,548	\$1,548	\$0.96	\$0.96	99.77%	98.64%	35
Median	1,598	3	2		-	1978	7,833	\$1,500	\$0.95	\$1,500	\$1,500	\$0.95	\$0.95	100.00%	100.00%	20

Source: HAR/MLS

In 2020 there were 2,072 leases in the CMA. The average lease rate is \$1519 or \$0.93 psf.

Table 24: 2020 Rentals

Status: Sold (2072)

Property Type: Rental (2072)

	SqFt	BD	FB	HB	# Units	Yr Built	Lot Size	List Price	LP/SqFt	Sale Price	Close Price Adj	SP/SqFt	Price Sq Ft Adj Sold	SP/LP%	SP/OLP%	DOM
Min	520	1	1		-	1950		\$595	\$0.05	\$595	\$595	\$0.05	\$0.05	71.43%	10.00%	
Max	13,120	6	6	2	-	2020	569,634	\$7,400	\$1.88	\$8,000	\$8,000	\$1.98	\$73.91	125.00%	163.88%	549
Avg	1,696	3	2		-	1977	38,233	\$1,527	\$0.93	\$1,519	\$1,519	\$0.93	\$0.96	99.57%	98.05%	39
Median	1,630	3	2		-	1977	7,700	\$1,455	\$0.92	\$1,450	\$1,450	\$0.91	\$0.91	100.00%	100.00%	24

Source: HAR/MLS

In 2019, there were 2,336 rentals in the CMA. The average rental price was \$1,486 or \$0.89 psf.

Table 25: 2019 Leases

Status: Sold (2336)

Property Type: Rental (2336)

	SqFt	BD	FB	HB	# Units	Yr Built	Lot Size	List Price	LP/SqFt	Sale Price	Close Price Adj	SP/SqFt	Price Sq Ft Adj Sold	SP/LP%	SP/OLP%	DOM
Min	576	1			-	1930		\$595	\$0.16	\$550	\$160	\$0.16	\$0.07	65.52%	9.49%	
Max	5,657	6	5	4	-	2019	542,669	\$4,995	\$1.74	\$4,800	\$20,000	\$1.74	\$11.93	154.05%	9642.86%	527
Avg	1,715	3	2		-	1977	36,453	\$1,498	\$0.90	\$1,486	\$1,493	\$0.89	\$0.90	99.35%	101.22%	44
Median	1,650	3	2		-	1977	7,605	\$1,450	\$0.88	\$1,450	\$1,450	\$0.88	\$0.88	100.00%	100.00%	31

Source: HAR/MLS

CMA New Construction Rentals

There are currently two listings of new construction homes for lease in the CMA. Both are located in 77489 (Ft Bend County).

MLS #	Stat ↓	AR	Office	Address	Subdivision	Class	SF	Price ↓	Prc/SF	Key Map	BR	Bth	DOM
89140813	A	38	GRHR01	7414 Maczali Drive	Briargate Sec 7	ACR	2,180	\$1,950	\$0.89	570Z	4	3/0	79*
88719763	A	38	RPMH01	1623 Avocet Way	Mustang Trails	SGL	2,481	\$2,400	\$0.97		4	3/0	4

Figure 15: CMA New Construction Rentals



Source: HAR/MLS



In 2021, there was one new construction home that leased in the CMA. It was located in 77085 (Houston). It was a duplex that leased for \$1500 per month.



In 2020, there were 8 leases of new construction homes in the CMA. Six were located in 77489, one in 77096, and one in 77071.

Table 26: CMA 2020 New Construction Leases

MLS #	Stat	AR	Office	Address	Subdivision	Class	SF	Price	Prc/SF	Key Map	BR	Bth	DOM
8702328	S	20	CREG02	11858 S Evelyn Circle	Fondren Park Sec 01	SGL	1,856	\$1,550	\$0.84	570L	3	2/0	4
43267302	S	38	PRMO01	2515 Remembrance Circle	Liberty Ridge	SGL	1,557	\$1,650	\$1.06		3	2/0	4
83117751	S	38	PRMO01	2711 Summer Lane	Mustang Trails	SGL	1,550	\$1,650	\$1.06		3	2/0	8
40990422	S	38	PRMO01	2714 Summer Lane	Mustang Trails	SGL	1,550	\$1,650	\$1.06		3	2/0	7
79179743	S	38	ASLI01	2446 Heritage Court	Liberty Ridge	SGL	1,487	\$1,700 ↓	\$1.14		3	2/0	41
42913394	S	38	OLIC01	2123 National Walk	liberty ridge	SGL	1,602	\$1,700	\$1.06		4	2/0	14
86625938	S	38	CREG01	2202 Patriot Bend	Liberty Ridge	SGL	1,557	\$1,725	\$1.11		3	2/0	8
86831328	S	20	NCMR01	9418 Glenfield Court	Netivot Braeswood	SGL	3,026	\$2,700 ↓	\$0.89		4	3/1	41

BOMD Residential

Single Family Resale Market

There are currently 121 homes “Active” in the BOMD. The average listing price is \$342,908 or \$163.09 psf. The BOMD includes 42% of the current 287 CMA listings.

Figure 16: BOMD Active Listings

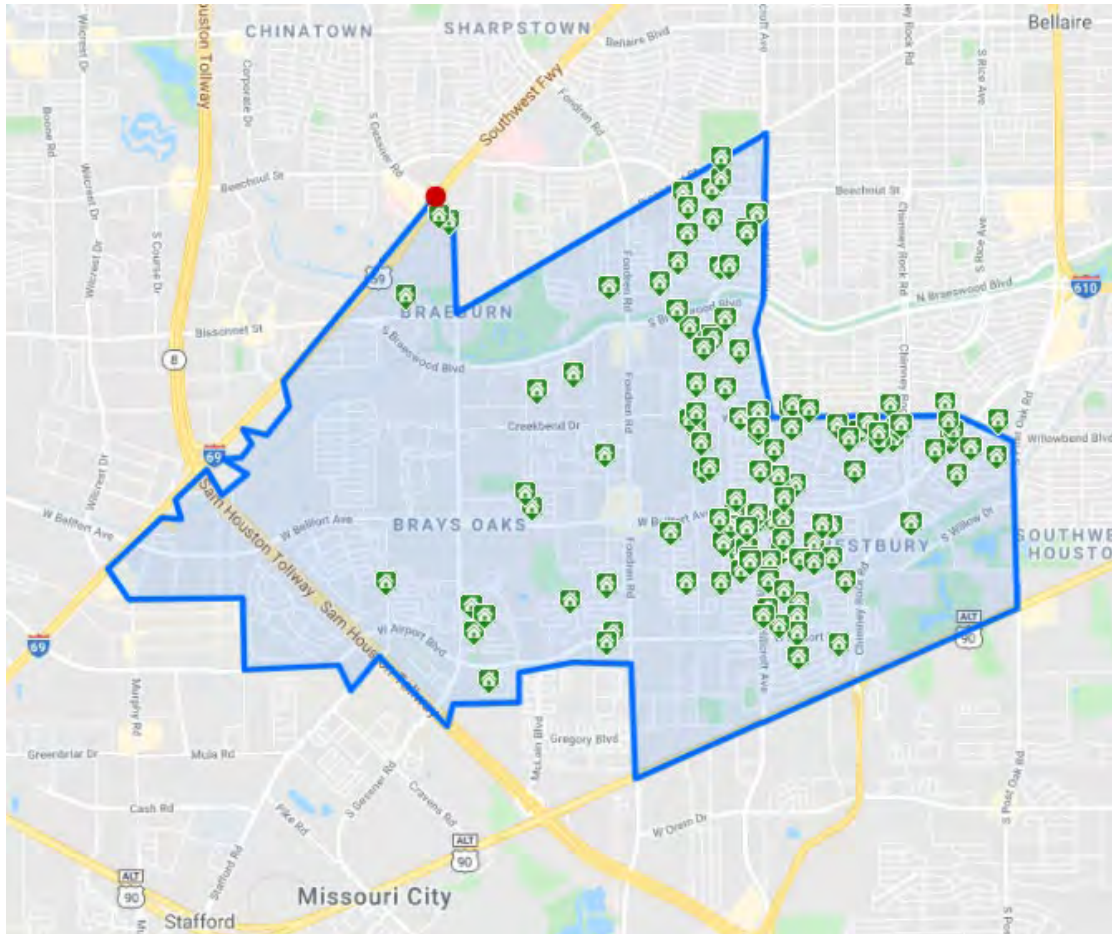


Table 27: BOMD Current Listings

121	SF	Yr Built	List Price	\$/SF	DOM
Min	1034	1950	\$90,000	\$64.38	
Max	5172	2020	\$799,000	\$373.53	468
Average	2152	1965	\$342,908	\$163.09	41
Median	2046	1960	\$325,000	\$163.83	28

Source: HAR/MLS

In the first five months of 2021, 282 homes have sold in the BOMD. The average sales price was \$270,250 or \$132.91 psf. Homes take an average of 42 days to come under contract. The sales price is approximately 6.7% higher (\$16,000) than 2020 sales. The average sales price rose 19.2% Year over Year in Houston overall so this is significantly less.

Table 28: BOMD Sales, 2021

282	SF	Yr Built	Sales Price	\$/SF	DOM
Min	904	1950	\$100,000	\$51.30	
Max	5721	2020	\$613,000	\$264.50	298
Average	2085	1968	\$270,250	\$132.12	42
Median	1989	1964	\$255,000	\$125.63	20

Source: HAR/MLS

596 homes sold in 2020 in the BOMD. The average sales price was \$253,489 or \$124.93 psf. From 2019, prices have increased over \$15,000.

575 homes sold in 2019 in the BOMD. The average sales price was \$235,118 or \$117.97 psf.

Table 29: BOMD Sales, 2019

274	SF	Yr Built	Sales Price	\$/SF	DOM
Min	948	1950	\$ 69,990	\$ 39.71	
Max	5465	2018	\$666,000	\$263.36	382
Average	2028	1968	\$235,118	\$117.97	45
Median	1988	1964	\$211,471	\$108.35	26

Source: HAR/MLS

New Construction Single Family in the Study Area (BOMD)

There are no current listings of new construction in the study area.

In 2021, four new construction homes sold in the BOMD. They were in Netivot Braeswood subdivision. The average sales price was \$380,000 or \$132psf for new construction.

Figure 17: BOMD New Construction Sales, 2021

MLS #	Stat	AR	Office	Address	Subdivision	Lot Size	SF	Price	Prc/SF	YB	BR	Bth	DOM
85958719	S	20	PBME01	9422 Glenfield Court	NETIVOT BRAESWOOD	2,340	2,941	\$372,000	\$126.49	2020	4	3/1	20
14516580	S	20	PBME01	9424 Glenfield Court	NETIVOT BRAESWOOD	2,860	2,872	\$380,000	\$132.31	2020	4	3/1	
84956949	S	20	PBME01	9420 Glenfield Court	NETIVOT BRAESWOOD	2,705	2,967	\$380,000	\$128.08	2020	4	3/1	24
82318950	S	20	PBME01	9406 Glenfield Court	NETIVOT BRAESWOOD	2,975	2,969	\$395,000	\$133.04	2019	4	3/1	*

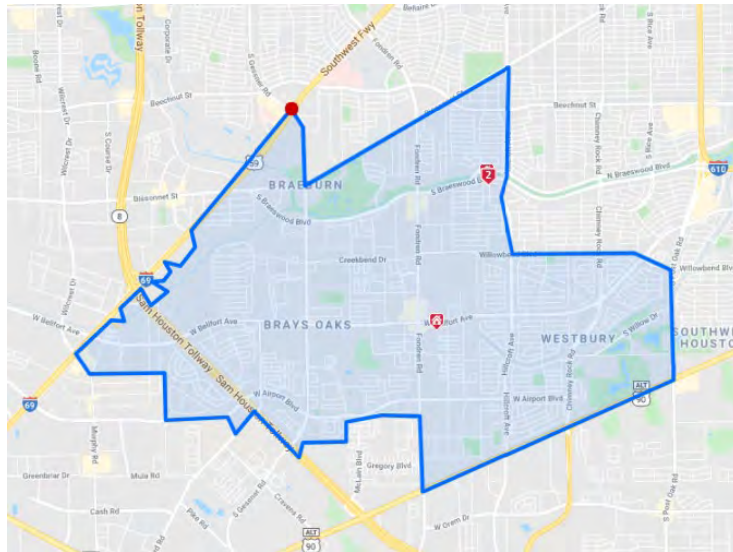
Source: HAR/MLS

Netivot Braeswood includes 12 lots in a gated community (phase 1).

Figure 18: Netivot Braeswood



Figure 19: BOMD New Construction Home Sales



Source: HAR/MLS

Townhome/Condo Market in BOMD

There are currently 23 active listings in the Study area. Prices range from \$43,900 to \$220,000 with the average at \$103,291 or \$78.66psf.

Figure 20: Location of Townhome/Condo Listings

Source: HAR/MLS

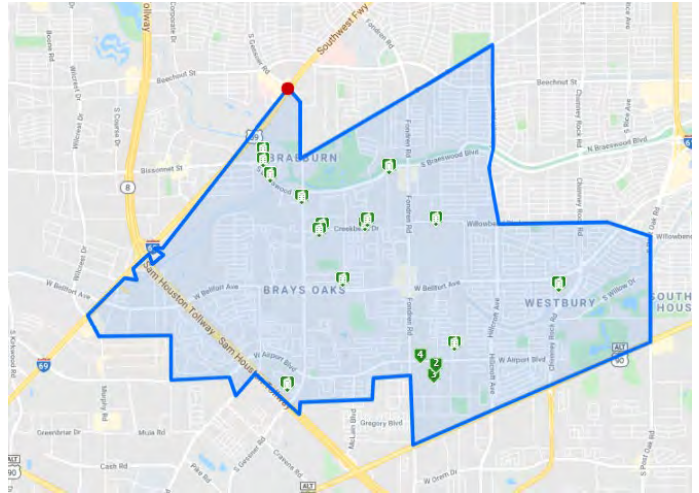


Table 30: BOMD Townhome/Condo Listings

23	SF	Yr Built	Sales Price	\$/SF	DOM
Min	684	1971	\$ 43,900	\$58.85	4
Max	3000	1985	\$220,000	\$126.22	675
Average	1324	1980	\$103,291	\$78.66	66
Median	1168	19814	\$84,999	\$77.34	23

Source: HAR/MLS

In 2021 there have been 72 sales of condos/townhomes. The sales range from \$40,000 to \$287,750 with the average at \$83,114 or \$71.06psf. Prices on average have only increased by \$5,000 since 2020.

Figure 21: 2021 BOMD Condo/Townhome Sales

Property Type: Townhouse/Condo (72)

	SqFt	BD	FB	HB	Yr Built	Lot Size	List Price	LP/SqFt	Sale Price	Close Price Adj	SP/SqFt	Price Sq Ft Adj Sold	SP/LP%	SP/OLP%	DOM	CDOM
Min	648	1	1		1965		\$40,000	\$44.13	\$40,000	\$0	\$31.57	\$0.00	71.53%	50.25%	-39	-39
Max	2,100	4	2	1	2021	444,442	\$292,900	\$193.33	\$287,750	\$287,750	\$189.93	\$189.93	109.30%	953.85%	355	409
Avg	1,142	2	2		1980	161,235	\$86,088	\$73.66	\$83,114	\$80,882	\$71.06	\$69.49	96.16%	107.15%	62	78
Median	1,108	2	2		1980	160,876	\$77,450	\$73.94	\$70,000	\$69,250	\$72.09	\$72.09	97.08%	96.84%	25	32

Source: HAR/MLS

Figure 22: Examples of BOMD Condo/Townhome Sales, High and Low



2020 sales of BOMD condos/townhomes totaled 168. The average sales price was \$78,038 or \$63.94 psf.

Table 31: BOMD Condo/Townhome Sales, 2020

Status: Sold (168)

Property Type: Townhouse/Condo (168)

	SqFt	BD	FB	HB	Yr Built	Lot Size	List Price	LP/SqFt	Sale Price	Close Price Adj	SP/SqFt	Price Sq Ft Adj Sold	SP/LP%	SP/OLP%	DOM	CDOM
Min	576	1	1		1962	981	\$950	\$0.71	\$950	\$950	\$0.71	\$0.71	68.63%	52.86%	-65	-65
Max	2,662	4	3	5	1985	444,442	\$399,000	\$377.13	\$400,000	\$400,000	\$378.07	\$378.07	114.29%	939.66%	467	603
Avg	1,211	2	2		1978	172,041	\$81,688	\$67.35	\$78,038	\$77,634	\$64.22	\$63.94	95.03%	97.00%	53	70
Median	1,120	2	2		1980	160,876	\$69,000	\$62.94	\$65,000	\$65,000	\$59.03	\$59.03	95.76%	93.62%	23	31

Source: HAR/MLS

2019 sales of BOMD Condos/townhomes totaled 172. The average sales price was \$72,688 or \$60.47 psf.

Table 32: BOMD Condo/Townhome Sales, 2019

Status: Sold (172)

Property Type: Townhouse/Condo (172)

	SqFt	BD	FB	HB	Yr Built	Lot Size	List Price	LP/SqFt	Sale Price	Close Price Adj	SP/SqFt	Price Sq Ft Adj Sold	SP/LP%	SP/OLP%	DOM	CDOM
Min	500	1	1		1962		\$28,500	\$29.15	\$23,000	\$21,278	\$23.57	\$21.80	69.36%	68.31%		
Max	2,240	4	3	2	1999	444,442	\$169,000	\$104.94	\$163,000	\$163,000	\$101.23	\$101.23	110.00%	100000.00%	263	358
Avg	1,189	2	2		1979	189,035	\$76,893	\$64.21	\$72,688	\$72,159	\$60.47	\$60.05	94.25%	707.59%	39	47
Median	1,120	2	2		1980	176,406	\$68,000	\$65.27	\$64,500	\$64,200	\$61.53	\$59.92	94.74%	93.59%	19	20

Source: HAR/MLS

New Construction Townhome/Condos in BOMD

There are currently 0 listings of new construction townhomes/condos in the District. In 2021 there was one new construction townhome/condo sale. The sale was in Braeburn Terrace.

MLS #	Stat	AR	Office	Address	Subdivision	Loft	SF	Price	Prc/SF	YB	BR	Bth	DOM
42603173	S	17	RMSI04	6037 Cypress	BRAEBURN TERRACE	No	1,515	\$287,750	\$189.93	2021	3	2/1	47

Braeburn Terrace is a 12 lot community. Phase I began in 2020.

Only one unit has sold on HAR and one is under contract. All others have sold via in-house sales department.

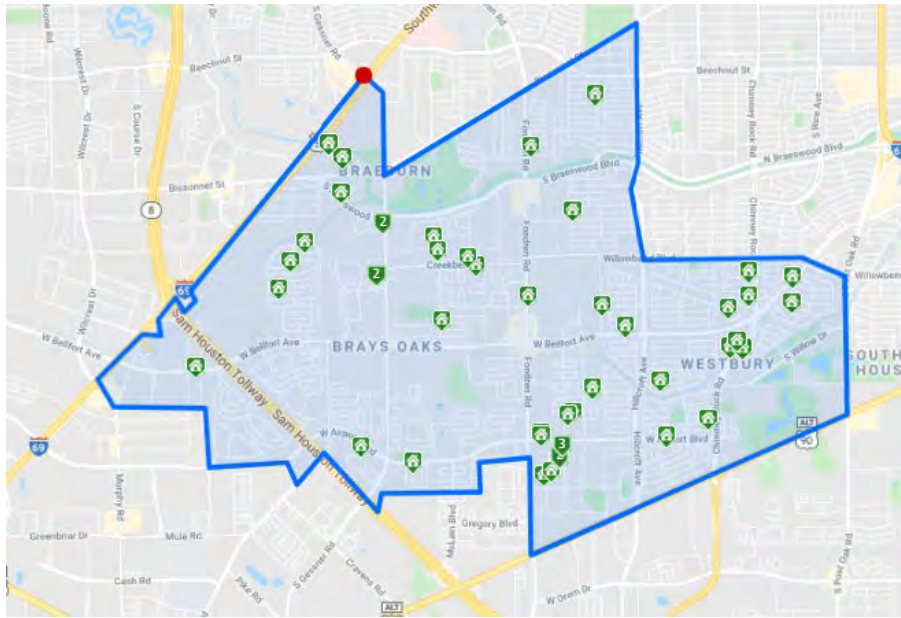


There were no new construction sales in 2020.

BOMD Rental Market

There are 50 rental listings in BOMD currently on the market. They are all condos, townhomes, and single family. The average list price is \$1,625 per month or \$1.09 psf. Rentals range from \$725 to \$6800 per month. The highest price rental is a corporate listing that is fully furnished.

Figure 23: BOMD Rental Listings



Source: HAR/MLS

Table 33: BOMD Active Rental Listings

Status: Active (50)

Property Type: Rental (50)

	SqFt	BD	FB	HB	# Units	Yr Built	Lot Size	List Price	LP/SqFt	Sale Price	Close Price	Adj	SP/SqFt	Price Sq Ft	Adj Sold	SP/LP%	SP/OLP%	DOM	CDOM
Min	684	1				1953	1,059	\$725	\$0.68	-	-	-	-	-	-	-	-	1	1
Max	5,172	5	4	2		2019	411,301	\$6,800	\$2.49	-	-	-	-	-	-	-	-	441	504
Avg	1,484	2	2			1975	80,181	\$1,625	\$1.09	-	-	-	-	-	-	-	-	47	64
Median	1,262	2	2			1979	10,357	\$1,375	\$1.06	-	-	-	-	-	-	-	-	22	24

Source: HAR/MLS

Figure 24: Rental Examples Low to High



There have been 170 leases in 2021 to date. The rentals are townhouse/condo (THC) or single family (SGL). The leases range from \$500 to \$3250 per month. The average lease was \$1479 or \$0.96 psf.

Figure 25: BOMD 2021 Rentals

Status: Sold (170)

Property Type: Rental (170)

	SqFt	BD	FB	HB	# Units	Yr Built	Lot Size	List Price	LP/SqFt	Sale Price	Close Price Adj	SP/SqFt	Price Sq Ft Adj Sold	SP/LP%	SP/OLP%	DOM	CDOM
Min	648	1	1		-	1950		\$625	\$0.43	\$500	\$500	\$0.29	\$0.29	68.97%	66.67%		
Max	4,502	5	5	2	-	2019	444,442	\$3,000	\$1.30	\$3,250	\$3,250	\$1.36	\$1.36	109.52%	120.00%	218	261
Avg	1,586	3	2		-	1973	100,693	\$1,479	\$0.96	\$1,479	\$1,479	\$0.96	\$0.96	99.80%	98.42%	37	45
Median	1,520	3	2		-	1975	9,035	\$1,463	\$0.96	\$1,450	\$1,450	\$0.96	\$0.96	100.00%	100.00%	21	23

Source: HAR/MLS

In 2020, 499 rentals transacted. They ranged from \$650 to \$3,000. The average was \$1489 or \$0.92 psf. Rentals on average take 42 days to close in this market.

Table 34: BOMD Rentals, 2020

Status: Sold (499)

Property Type: Rental (499)

	SqFt	BD	FB	HB	# Units	Yr Built	Lot Size	List Price	LP/SqFt	Sale Price	Close Price Adj	SP/SqFt	Price Sq Ft Adj Sold	SP/LP%	SP/OLP%	DOM	CDOM
Min	648	1	1		-	1950		\$650	\$0.50	\$650	\$650	\$0.50	\$0.50	85.33%	75.71%		
Max	4,684	5	4	2	-	2020	444,442	\$3,000	\$1.85	\$3,000	\$3,000	\$1.84	\$1.84	111.91%	135.29%	528	530
Avg	1,649	3	2		-	1972	64,066	\$1,489	\$0.93	\$1,479	\$1,479	\$0.92	\$0.92	99.42%	97.96%	42	51
Median	1,635	3	2		-	1972	8,600	\$1,495	\$0.92	\$1,490	\$1,490	\$0.90	\$0.90	100.00%	100.00%	28	33

Source: HAR/MLS

Potential Demand – Single Family Housing

Demand for new construction of single family homes is primarily rooted in the need to house additional population in an area. Therefore, we will quantify demand for new homes within the CMA based on the previously mentioned CDS/HGAC forecasts that have been prepared for the CMA as well as market performance within the CMA.

Table 35: Projections for the CMA (avg HGAC and CDS)

AVERAGE	2020	2025	2030	2035	2040
Population	424,167	447,740	477,449	479,993	493,372
Households	151,665	157,833	167,369	174,130	181,866
Employment	186,223	200,013	211,745	223,252	235,747

Source: CDS Community Development Strategies, H-GAC

To plan and project new housing units, the number of projected housing units is multiplied by the percentage of owners for single family homes. As shown using the 54.56% of households owning single family homes in the CMA (2021 estimate) there is a potential demand to support 3,365 new homes through 2025 based on current projections. The number increases to 5,203 by 2030.

Table 36: CMA Single Family Demand

Category	2020	2025	2030
Total current and projected CMA households	151,665	157,833	167,369
Incremental housing unit demand		6,168	9,536
CMA single family demand (54.56%) p.16		3,365	5,203

Sources: US Census, American Community Survey, PCensus, CDS

BOMD includes 25.2% of the overall CMA housing units. Application of the capture rate to the CMA single family forecasted demand leaves 848 homes by 2025 and an additional 1,311 by 2030.

Table 37: BOMD Single Family Demand

Category	2025	2030
CMA Projected Single Family Demand	3,365	5,203
BOMD housing unit demand (25.2%)	848	1,311
Study Area demand	848	1,311

Sources: US Census, American Community Survey, PCensus, CDS

Interviews with Realtors

CDS had the opportunity to interview several realtors in BOMD. These are the comments from interviews:

- Current buyer profile – how does it differ across Brays Oaks neighborhoods, is it changing – ages, occupations, where people work?
 - *Very different buyers; single or double income; doctors, lawyers,*

- Similar questions on prices – differences across neighborhoods
 - *Homes are appreciating in value due to location in Westbury/Park West*
 - *Tax rates are lower than Missouri City*
 - *Fondren SW used to be extremely expensive with 5k sf homes over \$1m; selling around \$450k now*
- Are buyers renovating / updating or do sellers do it?
 - *Mainly sellers are renovating and updating prior to listing. Otherwise, the home will go overlooked or the offer prices are less. This mainly because of the outdated floorplans and materials like laminate, wood paneling, carpet in the living area, enclosed kitchens.*
 - *Buyers are renovating.*
 - *The kitchens and baths are a must.*
- Is this a "flippers" market?
 - *This is a flippers market. For the older residents who are moving into smaller homes, senior living facilities, near family who don't want to repair or update; flippers take advantage and I have worked with some who do amazing updates.*
 - *Flippers are flipping!!*
- What attracts buyers to the area?
 - *Buyers are attracted to the large lot sizes, kept neighborhoods (due to the active HOA's,) proximity to the Medical Center and access to Loop 610, Hwy 69/59, Hwy 90 and Beltway 8*
 - *Proximity to TMC and CBD; easy access*
- Impact of flood risk
 - *Because we have learned there is a flood risk most anywhere, it doesn't really impact Brays Oaks; not as prominently as Meyerland. Besides prospective buyers are shown or are aware of the improvements in process.*
 - *2015, 2016, 2017 triple floods; values decreased significantly;*
 - *Buyers ask which flood zone and how many times flooded, not did it flood*
 - *Cost of insurance is a concern*
- Impact of Orthodox Jews (temple proximity)
 - *I have lived and worked in the area since 1981. And have not heard of or found any impact of the Orthodox Jewish community--other than on their Sabbath while walking to and from the Temple, they do not want to move out of the way while walking in the middle of the street*
 - *A lot of jewish temples/population in the district; some are renters and some are buyers*
 - *If you build near a temple (walkable) homes will sell to this community – rental and purchase – all price ranges*
- What are deterrents to buyers

- *I believe there is a tie between number 1 and 2 deterrents: Excessive number of apartments and lack of quality shopping and eating establishments such as during the early 80's to the early 2000's. The apartment complexes were originally built and marketed to singles. The apartments now house families. There are no recreational facilities for children or families. Our area does have nice parks, but not any near the concentration of apartments.*
 - *Flooding; houses that have mold because they are sitting empty*
 - *Age of housing*
 - *Schools*
 - *No retail, restaurant district/area; not walkable*
- What do potential buyers ask for that doesn't exist – what products are needed
 - *Quality stores and restaurants*
 - *Restaurants, shopping, entertainment*
 - *New patio homes*
 - *Rental housing*
 - *Entry level housing*

Recommendations and Market Opportunities:

For the broader category of single family housing, demand is currently demonstrated in BOMD through 2030. Homes are currently under construction in the \$500s and selling according to realtors and developers. Based on current market trends and interviews the following is recommended for the BOMD:

- Demolition of homes that have flooded and been left vacant. Infill development of new homes.
- CDS suggests incremental development of attached townhomes or patio single family homes on vacant or re-developable sites (including infill sites) preferably in pricing from \$200k to \$400k.
- Homes priced to attract younger families and single professionals as well as first time homebuyers should be priced from \$150,000 to \$250,000. Townhomes and or duplexes may be more cost effective to this market.
- Homes built near Jewish temples will sell in this market if they are walkable to the temple. From starter homes to over \$500k.
- Single family rentals are becoming quite popular and profitable for investors. CDS recommends that townhomes or duplexes as rental units could also be absorbed in the Study Area based on the number of renters in the district.
 - Traditional single-family home rental communities may have their own amenities or have access to the broader for-sale community's amenity package. Front yard maintenance is typically included in the rent, and the homes typically command a five to 20% (or more) premium on a rent per square foot basis over the non-professionally managed sector (homes rented out by mom and pops) of similarly sized homes of comparable quality given the level of maintenance and professional management received.
 - These conventional detached single-family homes are typically sized between 1,400 and 2,200 square feet, much larger than the "horizontal apartments" product discussed below, which appeal more to non-family households than traditional detached single-family homes. The conventional single-family rentals achieve absolute rents well above apartments, though per square foot rents are lower.

- Given the anticipated undersupply of single-family rentals for the foreseeable future, this segment represents a strong opportunity for investors, builders and developers to create new rental home communities in a variety of formats, serving a growing market.

MULTIFAMILY HOUSING

According to Marcus and Millichap (1Q21), Over the past five years roughly 212,000 households were created in Houston, ranking the metro as second among major U.S. markets behind only Dallas/Fort Worth. This trend is expected to accelerate over the next five years, resulting in the formation of an additional 240,000 households through 2025. After the median home price jumped by 13.4 percent last year to \$281,800, many people searching for residences will opt to rent. The suburbs in particular are garnering more attention from tenants who are prioritizing space after the rapid adoption of remote work and the quarantine experience. Net absorption in the suburbs totaled 12,270 units last year, led by the Katy submarket, where a net of 3,270 doors were leased.

Multifamily 2021 Outlook



82,700 JOBS
will be created

EMPLOYMENT:

The metro will fall short of recovering all of the 138,000 positions lost last year but will add back a significant share. Employment will grow by 2.7 percent in 2021, buoyed by the recovering oil and gas industries alongside a broader economic diversification.



18,020 UNITS
will be completed

CONSTRUCTION:

This year, completions will drop by roughly 800 units relative to 2020's total, but they will remain above the trailing-five-year average of 14,960 units. Projects delivered in 2021 will grow the market's inventory by 2.5 percent.



30 BASIS POINT
increase in vacancy

VACANCY:

Construction in the metro will induce some headwinds, pushing the vacancy rate up near 7.3 percent. This will be the highest year-end vacancy recording in Houston since 2016; however, the increase in availability will be less extreme than in 2020.



0.8% DECREASE
in effective rent

RENT:

Vacancy rising to a multiyear high will suppress rent as competition for tenants intensifies, particularly in areas with rapid inventory growth. The average effective rent creeps down to \$1,086 per month this year, the lowest it has been since first quarter 2018.

Supply and Demand



Rent Trends



Source: Marcus and Millichap

Apartment Data illustrates the multifamily market as of June, 2021 with occupancy at 90.1% and rental rates at \$1.23psf overall in the Houston market. The hottest markets are in the suburbs just as predicted by Marcus and Millichap.

There are 14,849 units under construction and an additional 27,942 units proposed.



June 2021

Market Line - HOUSTON

HOUSTON OVERVIEW

Occupancy: 90.1%
 Price: 1,092 \$/mo
 Rental Rate: 1.23 \$/sf/mo
 Size: 886 sf

Past 12 Months:
 2.6% Rental Rate growth
 23,055 units absorbed

Operating Supply:
 2,935 communities
 692,191 units

Recently Opened (12 mo):
 87 communities
 23,572 units

Under Construction:
 55 communities
 14,849 units

Proposed Construction:
 97 communities
 27,942 units

The box on the left displays a **snapshot** of the current market conditions.

The graph on the right displays the overall **occupancy** and effective **rental prices** over the past 24 months. These statistics are derived from a continuous survey of all apartment communities. Effective rental prices are calculated net of concessions and utility adjustments.

The table below lists the 5 **hottest submarkets** in the Greater Houston area. There are a total of 42 submarkets, and the ranking is based on the best combination of rental rate growth and absorption over the past 3 months.

History of Effective Price & Occupancy



The table below distributes and analyzes **concessions** (specials) by classification. Concessions generally are represented by three types of specials: move-in, months free, or floorplan. ApartmentData.com captures the effect of these specials and prorates them over a lease term to arrive at a percentage reduction in market or street rents.

HOTTEST SUBMARKETS Over The Past 3 Months

Rank	Submarket	Annualized Growth %	% of Mkt Absorbed
1	Heights/ Washington Ave	32.2%	4.3%
2	Montrose/ Museum/ Midtown	32.8%	3.1%
3	Katy/ Cinco Ranch/ Waterside	25.6%	3.6%
4	Woodlands/ Conroe South	27.0%	3.2%
5	Lake Houston/ Kingwood	21.6%	4.1%

CONCESSIONS

Class	Total Units w/ Concessions	% of Total Units	Citywide Effect	Average Special
ALL	289,882	42%	-2.9%	-6.5%
A	90,357	52%	-4.5%	-8.2%
B	104,470	40%	-2.1%	-5.2%
C	81,055	41%	-2.0%	-5.0%
D	14,000	23%	-1.6%	-6.4%

Source: ALN

CMA Submarket

BOMD falls in the Southwest Houston submarket. CDS will use this information to gauge how the area is performing compared to the overall Houston market.

The Southwest Houston Submarket includes the Sharpstown, Braeburn, Chinatown, and Bellaire communities along Interstate 59. Southwest Houston is also home to Gulfton, the most densely populated and diverse community in Houston. Gulfton was deemed an Opportunity Zone, offering additional tax incentives for investors.

Southwest Houston has a deep pool of renters-by-necessity, and much of the renter base is composed of blue-collar workers with a median household annual income of less than \$45,000, well below the Houston metro median household income of about \$69,000.

Pandemic-induced job losses in this submarket remain a concern. The fact that many of the submarket's jobs are lower-paying supports the case for continued affordable housing demand, of which Southwest Houston is home to a sizable portion. Investors looking to acquire older assets with the purpose of renovating and raising rents have plenty of options to choose from in Southwest Houston.

Out-of-state buyers executing value-add plays drove a significant amount of investment activity in this submarket in recent years. Though same-store pricing nearly tripled this past decade, most deals trade for well below metro average pricing owing to the submarket's generally low-quality stock.

Figure 26: Map of Submarket

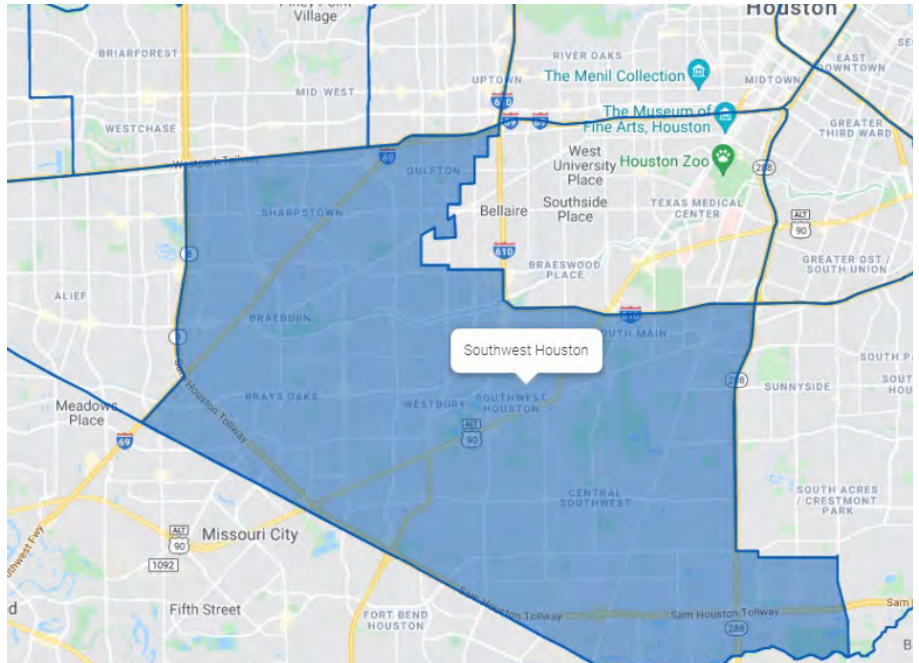


Figure 27: CMA Submarket compared to Houston Overall

INVENTORY	SUBMARKET	MARKET
Inventory Units	66,582 ↓	639,030 ↑
Existing Buildings	285 ↓	3,701 ↑
Avg Units Per Bldg	234 ↓	173 ↑
12 Mo Demolished Units	0 ↓	6 ↓
12 Mo Occupancy % At Delivery	-	16.8% ↓
Under Construction Units	155 ↓	17,231 ↓
12 Mo Construction Starts Units	0 ↓	6,998 ↓
12 Mo Delivered Units	0 ↓	16,842 ↓
12 Mo Avg Delivered Units	-	268 ↑

AVAILABILITY	SUBMARKET	MARKET
Vacancy Rate	8.3% ↓	9.2% ↓
Vacant Units	5.5K ↓	58.9K ↓
Market Asking Rent/Unit	\$868 ↑	\$1,175 ↑
Market Effective Rent/Unit	\$859 ↑	\$1,160 ↑
Concession Rate	1.1% ↓	1.3% ↓
Studio Asking Rent	\$640 ↑	\$949 ↑
1 Bedroom Asking Rent	\$768 ↑	\$1,031 ↑
2 Bedroom Asking Rent	\$983 ↑	\$1,303 ↑
3 Bedroom Asking Rent	\$1,260 ↑	\$1,592 ↑

CMA Multifamily Housing Market

The CMA includes 66,562 units in 158 properties. There are 152 additional units under construction. The vacancy rate is 8.6% which is slightly less than the overall 9.2% in the Houston market.

A small portion of the BOMD includes 77096. As a note, 77096 is included in the Bellaire submarket which is not comparable due to its location along 610 and proximity to Uptown. This submarket would skew the performance of the overall BOMD.

CMA Performance Trends

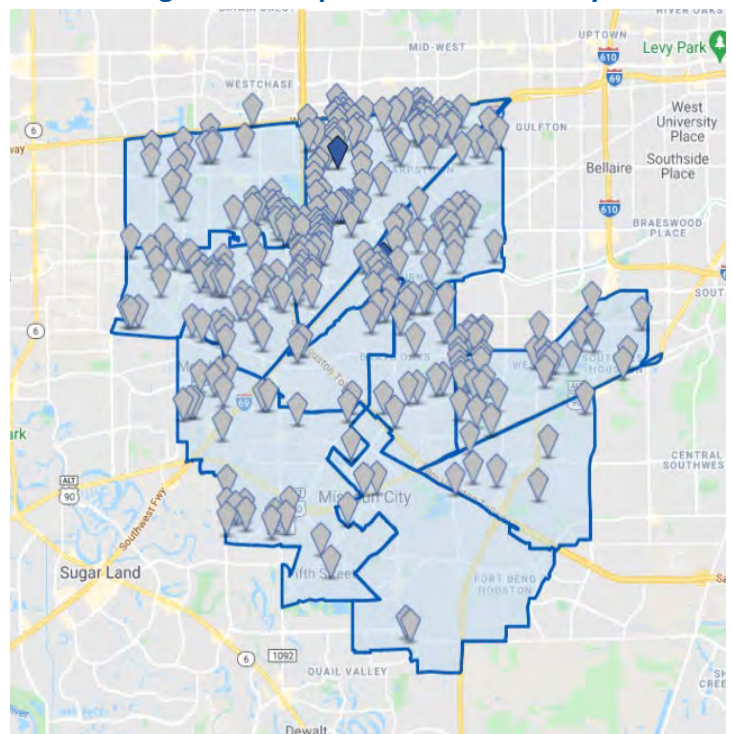
The Concession rates (amounts landlords will give up) in the CMA were fairly low in 2011. In 2012 to 2017, the rate grew from 1.5% to 3.0%. Rates have fluctuated in the past few years and are now back down to 1.5%.

Absorption has been fairly positive in the CMA. In 2015-18, absorption became negative which appears to be due to demolitions in the market. In the last 12 months absorption was positive with 761 units.

Net deliveries. Deliveries have been slow in this market with only 5 over the past 10 years. There are 152 units under construction for 2022 delivery and an additional 336 units proposed.

Market rents have continued to rise in the CMA since 2011. Currently unit rents are at \$854 on average. Rental rates overall on average are at \$1.04 psf.

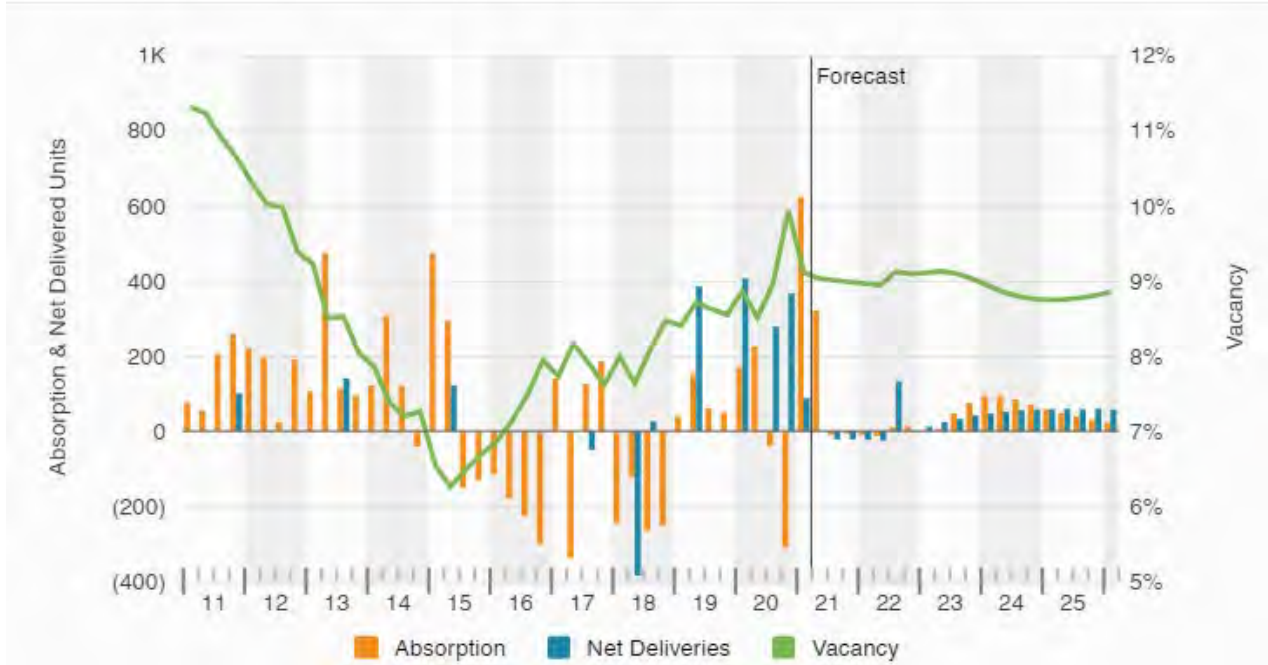
Figure 28: Map of CMA Multifamily



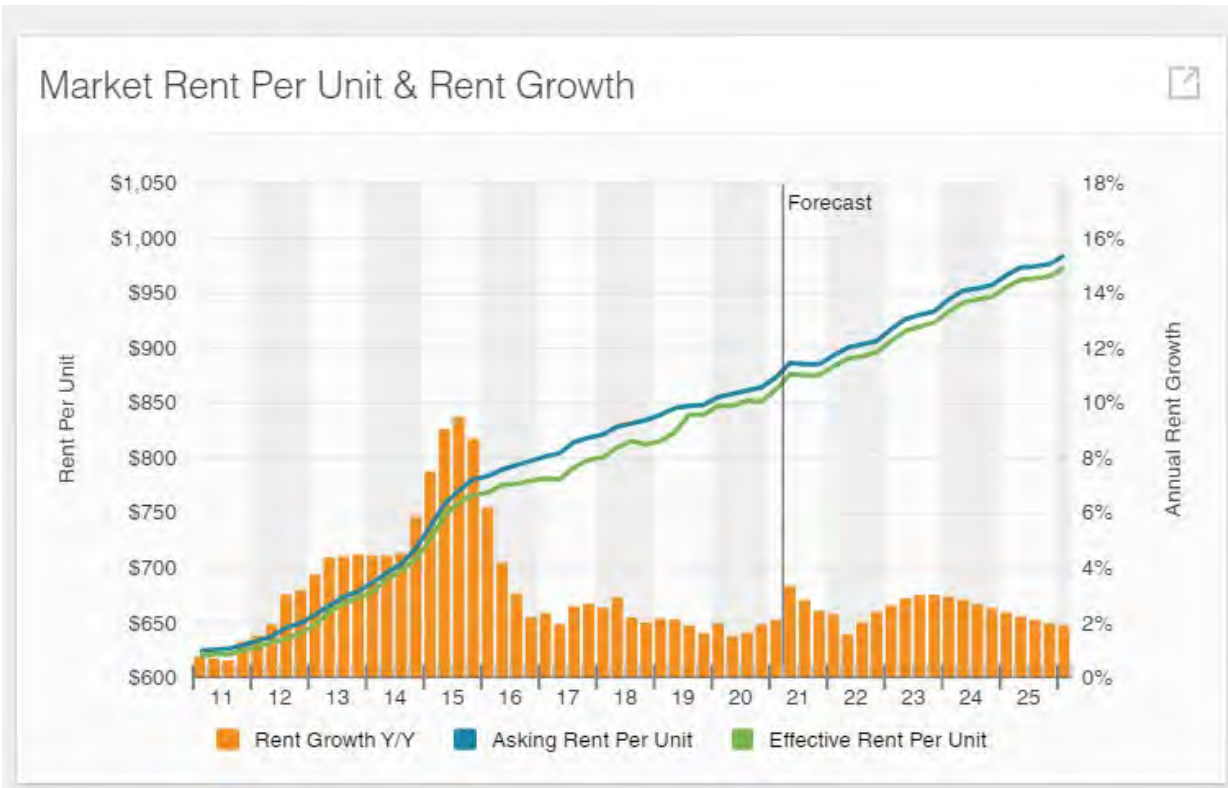
Source: CoStar

Figure 29: CMA Trends

Absorption, Net Deliveries & Vacancy



Market Rent Per Unit & Rent Growth



Source: CoStar

CMA Multifamily Supply

Zip code 77036 includes the largest percentage (32%) of multifamily units in the CMA with 21,301 units followed by 77099 with 13% (8,942 units).

There are 8,260 affordable units (12.4%) in the CMA. The unit mix includes 48% one bedroom units, 42% two bedrooms and 6% three bedrooms.

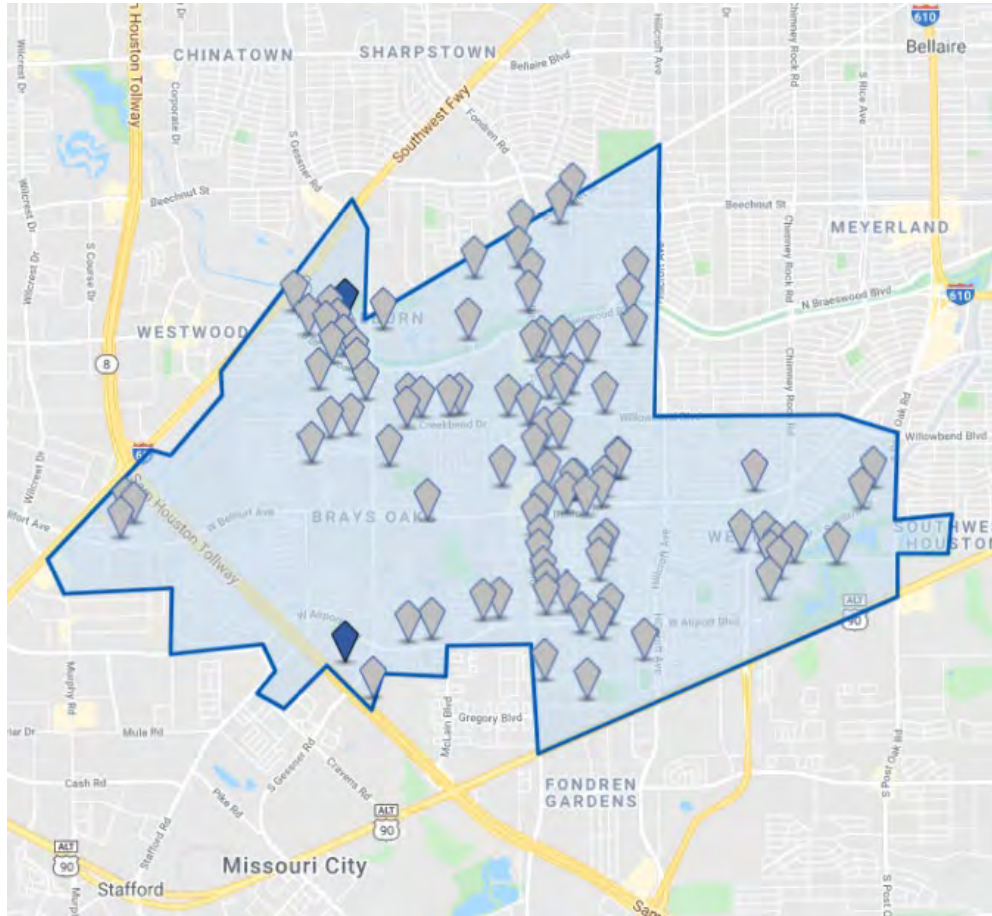
Table 38: CMA Supply by Zip Code

Property Name	Number Of Units	Avg Asking/SF	Avg Effective/Unit	Year Built	Avg Unit SF	Vacancy %
Total/Avg. 77031	3243	1.17	883.73	1979	792	
Total/Avg 77035	7267	0.99	842.17	1,977	862	7.69
Total/Avg. 77036	21301	1.00	786	1977	806	7.51
Total/Avg. 77071	3381	1.07	819	1,985	783	5.29
Total/Avg. 77072	6227	0.97	890	1,981	917	10.02
Total/Avg. 77074	7708	0.99	788	1,976	829	7.51
Total/Avg. 77085	957	0.82	743	2,004	918	5.24
Total/Avg. 77099	8942	1.07	887	1,988	857	7.83
Total/Avg. 77477	6997	1.25	1,146	1,996	927	7.56
Total/Avg. 77489	539	1.11	927	1998	847	18.9
TOTAL/AVG CMA	66562	1.04	871.02	1986	854	8.6

BOMD Multifamily Housing Market

The BOMD includes 20,756 multifamily units currently. The 12-month absorption rate was 268 units. The vacancy rate is 7.0% with rental rates at \$1.02psf. There are no units under construction or proposed in this market.

Figure 30: BOMD Multifamily Supply

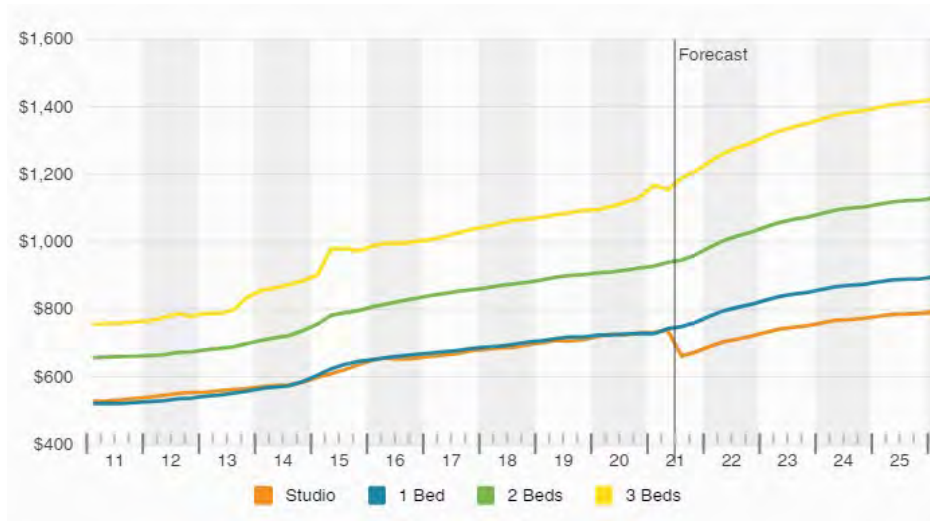


Source: CoStar

Performance Trends

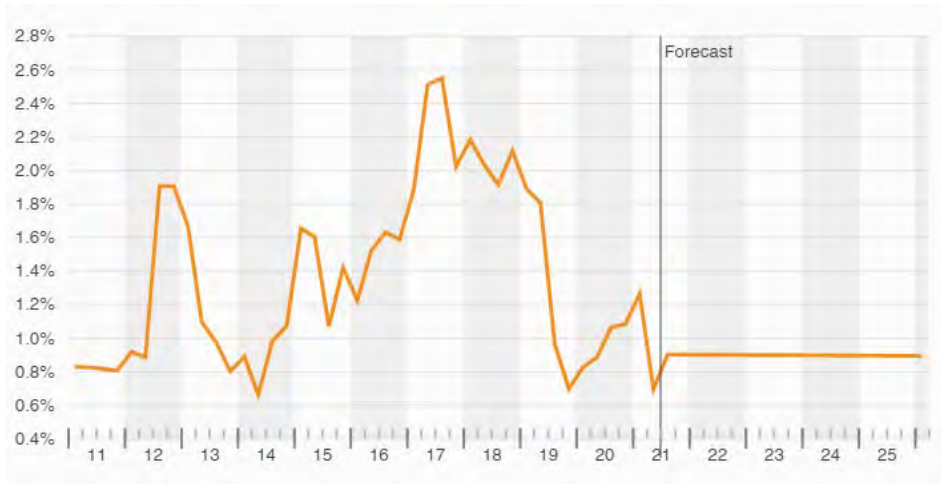
Asking rents have remained steady in this market averaging 3% annual growth. Three bedroom prices have risen the most from \$800 to \$1200 over the past five years. Currently rents range from \$672 to \$1,200 in the District.

Figure 31: Performance Trends

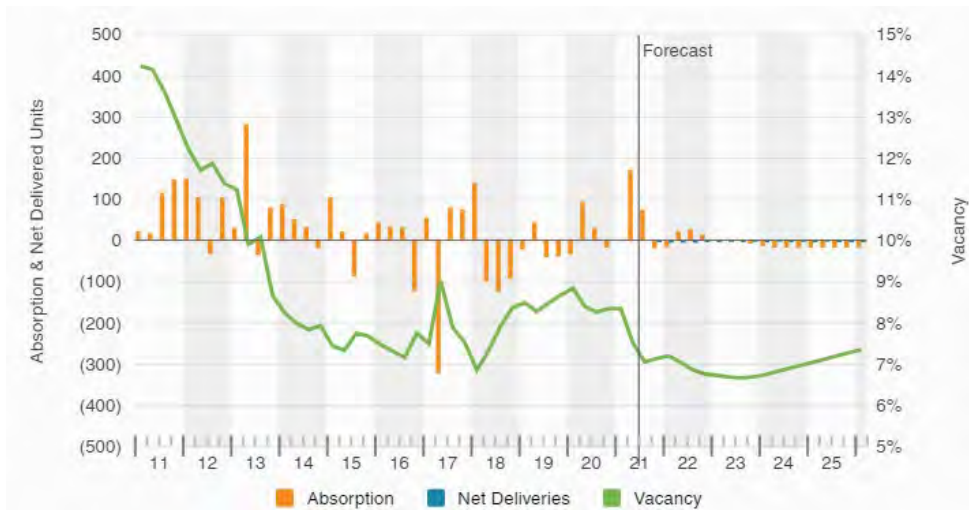


Source: CoStar

Concession rates have been up and down over the past five years varying from 0.6% to as high as 2.6%. Currently concessions are at 1.4%.



Absorption has also been up and down over the past ten years with no new construction deliveries. Vacancy has driven the absorption varying from 5.5% to 12%.



BOMD Supply

There are 20,756 units in BOMD. Of these, 8,148 (39%) are Class B and the remaining units are Class C. There are 4,449 designated Affordable units (21.4%) in this market. Of these, 1,251 are designated Senior units.

The average is 1979 with only five properties have been built since 2000. The latest was 2009. Four of these are rent restricted (Affordable).

Table 39: BOMD Multifamily Supply

Property Name	Property Address	Building Class	Number Of Units	Avg Asking/SF	Year Built	Avg Unit SF	Vacancy %	Affordable Type
Airport Crossing	8300 W Airport Blvd	B	178	1.08	1983	754	2.8	
Fondren Gardens	6677 W Bellfort St	B	12	1.13	2009	786	15.2	
Brays Oaks Village	8201-8301 W Bellfort St	B	335	0.96	1981	836	7.7	Rent Restricted
	8807 Bissonnet St	B	15		1977	1341	5.9	Affordable Units
Bob White	11889 Bob White	B	10		1983		6.9	
Rainy Meadows	12345 Bob White Dr	B	244	1.00	1982	769	5.4	Rent Subsidized
Falls of Braeburn	9707 Braeburn Glen Blvd	B	292	1.18	1976	878	15.1	
Westmount at Braesridge	11100 Braesridge Dr	B	542	1.08	1980	833	5.9	
Adora Apartments	8701 S Braeswood Blvd	B	254	0.95	1976	827	1.2	
Braeswood Atrium	8800 S Braeswood Blvd	B	122	0.74	1983	987	14.8	
Heatherwood Apartment Homes	9001 S Braeswood Blvd	B	348	0.90	1979	641	1.7	
Reserve at Braes Forest	8000-8080 Creekbend Dr	B	259	1.12	1970	726	8.9	
Creekbend Gardens	8106 Creekbend Dr	B	79	1.21	1998	550	4.0	Rent Subsidized
Beacon Hill	8110 Creekbend Dr	B	121	1.16	1983	746	2.5	

Property Name	Property Address	Building Class	Number Of Units	Avg Asking/SF	Year Built	Avg Unit SF	Vacancy %	Affordable Type
Penelope 54 Senior Apartments	8111 Creekbend Dr	B	112	1.09	2008	540		Rent Subsidized
The Heights at Post Oak	12500 Dunlap St	B	940	0.93	1972	925	10.9	Rent Restricted
Brickhaven	8900 Fondren Rd	B	780	0.92	1978	791	3.6	
Reserve at Bankside	10700 Fondren Rd	B	348	1.31	1977	802	2.0	Rent Restricted
Goldberg B'nai B'rith Towers	10909 Fondren Rd	B	302			895	5.9	Rent Subsidized
Westbury Reserve	12261 Fondren Rd	B	320	0.94	1980	801	10.9	
Oak Tree Manor Apartments	14603 Fonmeadow Blvd	B	250	1.03	2005	803	3.2	Rent Restricted
Concord at Williamcrest	10965 S Gessner Dr	B	288	0.85	2003	1250	5.4	Rent Restricted
Pebble Brook Apartment Homes	8801 Gustine Ln	B	810	0.99	1977	912	9.0	
Buena Villa Apartments	11500 Keegans Ridge Rd	B	318	0.97	1978	774	4.1	
	14430 Minetta St	B			1971			
HomeTowne at Missouri City	10014 S Sam Houston Pky W	B	108	1.01	2009	943		Rent Restricted
Vista Arbor Square Apartments	10301 Sandpiper Dr	B	320	1.04	1979	849	7.8	
Fairfield Trails	10750 Westbrae Pky	B	276	1.17	1984	788	7.7	
Crystal Falls	10950 Westbrae Pky	B	165	1.49	1984	705	1.1	
Reserve at 63 Sixty Three	6363 W Airport Blvd	C	468	1.16	1983	807	4.9	
The Summit at 7700	7700 W Airport Blvd	C	172	1.30	1982	749	5.8	
Amritta Apartment Homes	7800 W Airport Blvd	C	124	1.02	1981	764	8.1	
Jackson Square	8030 W Airport Blvd	C	73	1.00	1981	844	5.5	
Village of Fondren	6255 W Airport St	C	72	0.75	1983	1100	4.0	
	11043 Albury Dr	C	10		1982	610	8.8	
Bankside Village Apartments	6425 Bankside Dr	C	284	1.11	1978	757	7.0	
Westbury Square Apartments	5460 W Bellfort St	C	32	0.75	1963	924		
Bel Lindo Apartments	6200 W Bellfort St	C	251	0.94	1975	876	10.0	
Oakwood Villa	6201 W Bellfort St	C	284	0.92	1977	892	17.9	
Bennington Square	6300 W Bellfort St	C	313	0.89	1978	870	4.0	
San Marcos Apartments	6301 W Bellfort St	C	380	0.87	1976	755	13.5	
Brays Oaks Park Apartments	6400 W Bellfort St	C	80	1.02	1978	829	8.5	
Bellfort Village	6405 W Bellfort St	C	194	0.98	1976	919	7.2	
Southwest Terrace Apartments	10200 W Bellfort St	C	250	0.96	1977	684	8.6	
Oaks on Bissonnet	7003 Bissonnet St	C	364	1.03	1972	721	2.8	
Sharpstown Garden Apartments	7575 Bissonnet St	C	397	0.83	1960	932	10.7	
Stoneriver	8901 Bissonnet St	C	268	0.72	1974	985	3.7	

Property Name	Property Address	Building Class	Number Of Units	Avg Asking/SF	Year Built	Avg Unit SF	Vacancy %	Affordable Type
Williamstown	9200 Bissonnet St	C	272	0.97	1977	746		Affordable Units
	11983 Bob White	C	10		1983		6.9	
La Terraza Apartments	9800 Braeburn Glen Blvd	C	56	1.01	1974	707	2.7	
Villas at Braeburn	9600 Braes Bayou Dr	C	79	1.15	1968	1000	8.9	
The Crossings at Berkley Square	5900 N Braeswood Blvd	C	152	1.08	1970	785	13.1	
Falls of Braeswood Apartments	8801 S Braeswood Blvd	C	282	1.11	1976	799	29.3	
Westbury Park Apartments	12111 Burdine St	C	156		1974		0.9	Rent Subsidized
Spring Village	11810 Chimney Rock Rd	C	132	1.01	1954	1056		
Reserve at Creekbend	7600 Creekbend Dr	C	196	1.23	1977	791	4.1	
Windsor Park Apartments	7900 Creekbend Dr	C	130	1.01	1970	619	13.7	
	6230 Dumfries Dr	C	8	2.21	1981	750	12.6	
Ashford Casa Serena	6310 Dumfries Dr	C	314	0.94	1972	972	5.4	Rent Restricted
Ridgestone	8710 Fondren Rd	C	105	0.85	1970	911	10.7	
St James Place Apartments	9109 Fondren Rd	C	323	1.12	1969	755	3.7	
Stone Forest Apartments	9801 Fondren Rd	C	296	0.93	1978	844	10.9	
Westhollow Apartments	10001 Fondren Rd	C	207	0.92	1975	835	2.7	
Braeswood Oaks Apartments	10555 Fondren Rd	C	240	0.89	1976	968	10.8	
Willows	10919 Fondren Rd	C	346	1.05	1978	869	7.8	
Los Arcos Apartments	11315 Fondren Rd	C	516	1.01	1977	1037	2.9	
Toro Place	12101 Fondren Rd	C	320	1.11	1982	769	13.1	
Westbury Crossings	12211 Fondren Rd	C	240	1.24	1983	751	4.2	
Brookbend Apartments	12265 Fondren Rd	C	252	1.06	1983	696	9.8	
Ranchwood Apartments	5251 Gasmer Dr	C	224	1.15	1979	698	4.0	
Las Villas Del Parque	5555 Gasmer Dr	C	187	1.02	1971	814	4.6	
Westbury Manor Apartments	5565 Gasmer Dr	C	157	1.07	1973	745	5.9	
Piccadilly Place Apartments	5570 Gasmer Dr	C	176		1975		8.6	
Crescent Place	10222 S Gessner Dr	C	120	1.08	1984	791	1.3	
Woodscape Apartments	9707 S Gessner Rd	C	544	1.10	1977	782	0.0	
Falls of Maplewood	9600 Glenfield Ct	C	108	1.35	1973	651	0.9	
Meyerland Court	9700 Glenfield Ct	C	169	1.22	1977	781	3.6	
Wesley Gardens	8700 Gustine Ln	C	336	0.82	1977	834	6.9	
Buena Vista Apartments	11505 Keegans Ridge Rd	C	250	0.98	1977	734	5.4	
Carlyle Place	11025 Larkwood Dr	C	220	0.83	1977	883	2.7	Rent Subsidized

Property Name	Property Address	Building Class	Number Of Units	Avg Asking/SF	Year Built	Avg Unit SF	Vacancy %	Affordable Type
Arbor Village	6298 Ludington Dr	C	102	0.90	1983	1178	3.4	
Ludington	6655 Ludington Dr	C	126	0.82	1980	978	11.2	
Braes Timbers	8323 McAvoy Dr	C	24		1958		20.0	
Brays Villas	10402 Sandpiper Dr	C	286	1.08	1977	798	22.0	Rent Subsidized
The Townhomes on Peacock Hill	12247 Sunset Meadow Ln	C	211	1.17	1980	1116	4.1	
Lone Star Living	10680 Westbrae Pky	C	180	2.80	1985	671	28.4	Rent Restricted
Villa Rosa Apartments	5151 Willow Dr	C	168	0.84	1974	760		
Silver Springs Apartments	5022 S Willow Dr	C	210	1.15	1978	790	5.0	
Regal Pointe Apartments	6111 Willowbend Blvd	C	152	1.19	1977	762	3.3	
Total/Averages			20746	1.02	1979	830	7.5	

Source: CoStar

Unit Mix

The unit mix includes 672 Studios, 9,775 one bedrooms, 8,959 two bedrooms and 1,170 three bedrooms and 14 four bedrooms. Due to the low supply and obvious demand in the three bedroom market, prices for this unit have increased significantly (per trends, Figure 31).

Studio asking rent is \$1.40psf; one bedrooms \$1.12psf; two bedrooms \$0.99psf; three bedrooms \$0.94psf and four bedrooms \$0.98psf.

Vacancy is highest in four bedrooms at 10% followed by two bedrooms at 7.5%. Studios have the lowest vacancy at 6.05% followed by three bedrooms at 6.16%.

Interviews with Stakeholders, Management, etc. Of Multifamily in the BOMD

- Current renter profile – how does it differ across Brays Oaks neighborhoods, is it changing – ages, occupations, where people work
 - OUR PROPERTIES ARE LOW INCOME ROUGHLY 35% BLACK 65% HISPANIC . HAS NOT CHANGED
 - Renter profile is typically working class – with a widespread age range (first time renters to retired).
 - Residents typically work within retail/restaurants/construction or within the medical industry.

- Do prices differ across neighborhoods - which ones are higher? lower?
 - ALL OUR ARE ROUGHLY THE SAME PRICE
 - Prices do differ across neighborhoods South Braeswood, Northfield are on the higher end. Properties located South of West Belfort near W. Airport to Main St. are typically on the lower spectrum.

- What attracts renters to the area?
 - LOW RENTS AND REASONABLY GOOD ACCESS TO THEIR PLACE OF EMPLOYMENT
 - Growing up in the area, proximity to Medical Center without the higher cost and ease of access to major freeways. Additionally, easy access to many parts of Houston, via the Metro bus system.

- Impact of Orthodox Jews (temple proximity)? Are there a great many renters in this classification?
 - WE HAVE NO JEWISH RENTERS
 - Not yet. Most of the families relocating to the Northfield area are attracted because of the affordable home prices compared to the places they are leaving ie NY and California. Many do rent short term but probably only remain as renters for an avg of 2-3 years. As the community continues to grow and home prices rise there is a strong chance that the rental base will also grow. I would estimate the own/rent ratio is 80/20.
 - I have several properties where the Jewish population are my main renters. The average rent is \$1psf or \$1200 per month.

- What are deterrents to renters?
 - THEY WANT TO SAFEST PLACE THEY CAN GET FOR A PRICE THEY CAN AFFORD
 - Perception of crime in the area and the amount of buses utilizing the roads and what appear to be homeless wandering the roads. Also, many businesses within the area haven't been well kept or in need of maintenance.

- What do potential renters ask for that doesn't exist – what products are needed?
 - LESS DRUG DEALERS, LOWER CRIME
 - Washer/Dryers connections or actual appliance within the unit. Better retail and restaurants (fine dining, national restaurant chains, etc.).

- Could higher prices be achieved with newer products?
 - NEW CARS COST MORE THAN USED ONES
 - Yes

- Will a Class A property lease in this market?
 - NO
 - Yes, because there are none in the area.

- Why have no Class A products been constructed in this market?
 - NOT WHERE PEOPLE THAT CAN AFFORD HIGH RENT WANT TO LIVE
 - The current market rental rate is about \$1 psf average. To justify the costs of new construction the leasing rates probably need to be in the \$1.40+ range. Currently of the roughly 40 apartment communities only a handful have rents in the \$1.20+ range. There were a few newer properties built just south of the district in the last 15 years. They are not at this threshold. Without incentives it would definitely be a gamble for a developer.

- Are more affordable products needed?
 - NO
 - No, there is plenty of affordable product in the area.

- Are Active Adult products needed?
 - NO
 - Yes, there are I believe 3 currently in the area.

- Do Single family rentals compete with apartments?
 - NO
 - Not in general, as homes are typically higher to rent. Rental homes are typically \$1,600 and up.

- SF rentals are very prominent in this market, why? Is it due to condition, age of multifamily products?
 - SOME PEOPLE WANT A HOUSE
 - Larger families drawn to the area that can't be accommodated by multifamily product, along with a sense of community, associated with local churches. Probably most importantly they can't qualify for a mortgage and don't have the down payment needed.

- Any other thoughts on multifamily?
 - IT IS A SLOW PROCESS TO IMPROVE A NEIGHBORHOOD. AS BETTER RENTERS MOVE IN, HIGHER RENTS ALLOW OWNERS TO UPGRADE...BUT IT IS INCREMENTAL AND TAKES YEARS.
 - IF A PROPERTY IS PURCHASED BY AN INVESTOR WHO JUST WANTS TO MILK IT FOR CASH FLOW, WE NEED TO REACT ASAP AND CONVINCED THE INVESTOR OTHERWISE BY GETTING THE WORD OUT TO POTENTIAL RENTERS TO AVOID THAT PROPERTY....GETTING THE WORD OUT IS NOT DONE EFFECTIVELY AND SOMEONE NEEDS TO FIGURE OUT HOW TO DO IT BETTER.
 - Increasing conditions of subpar communities. Improving the retail will really help the apartments.

Potential Demand – Multifamily Housing

Demand for new market rate multifamily apartments is primarily rooted in the need to house additional population in an area. Therefore, we will quantify demand for new apartments within the CMA based on the previously mentioned CDS/HGAC forecasts that have been prepared for the CMA as well as market performance within the CMA.

Table 40: Projections for the CMA (HGAC and CDS avg.)

AVERAGE	2020	2025	2030	2035	2040
Population	424,167	447,740	477,449	479,993	493,372
Households	151,665	157,833	167,369	174,130	181,866
Employment	186,223	200,013	211,745	223,252	235,747

Source: CDS Community Development Strategies, H-GAC

To plan and project new housing units, the number of projected housing units is multiplied by the percentage of renters for multifamily homes (5 units or more). As shown using the 44.6% of households renting in the CMA (2021 estimate) there is a potential demand to support 2,598 new units through 2025 based on current units under construction and proposed. By 2030 there will additional demand for 4,253 units. In the last 12 months absorption was positive with 761 units. The forecasted demand appears to be reasonable based on household growth and absorption.

Table 41: CMA Multifamily Demand

Category	2020	2025	2030
Total current and projected CMA households	151,665	157,833	167,369
Incremental housing unit demand		6,168	9,536
CMA multifamily demand (44.6%) - 5+units		2,750	4,253
Less CMA Pipeline Units		-152	
CMA Multifamily Demand		2,598	4,253

Sources: US Census, American Community Survey, PCensus

In 2021, BOMD had an estimated 20746 units or 31% of the total CMA multifamily units. Application of the capture rate to the CMA multifamily forecasted demand results in 810 units by 2025 and an additional 1,325 units by 2030 based on projected demand. Absorption has been positive with 268 units over the past 12 months. Based on current absorption the estimate appears slightly high. CDS suggests 300 units by 2025 and another evaluation closer to 2025 to determine estimates thru 2030.

It is not unreasonable to assume the BOMD could capture more than 300 units. However, new units have not been built in this market very recently and market rents are on the low end of the spectrum. Realtors, Property Managers, and Stakeholders have differing opinions on whether or not a Class A property will thrive in this market. Therefore, the market needs to be tested for new construction with 100 units at a time in phases. Location will be key to the success of a new property.

Table 42: BOMD Multifamily Demand

Category	2025	2030
CMA Projected Multifamily Demand	2,598	4,253
BOMD Multifamily unit Capture Rate (31%)	810	1,325
CDS Suggested units based on absorption	300	300

Sources: CDS Community Development Strategies

Conclusions and Recommendations

There is demand in BOMD to justify a new Class B+/A apartment project of 100 units by 2025 (phase 1). Rents in this area currently range from \$0.94psf to \$1.40psf on average by unit. For a Class A to be feasible the rents would need to be higher. CDS recommends locating new units within walking distance of a Jewish temple or amenities such as hiking trails, lakes, outdoor theater, etc.

SENIOR HOUSING

CMA Age Restricted Units (Senior/Active Adult)

Per CoStar there are 1,251 Senior/Age Restricted/Active Adult units in the BOMD of which all are income restricted (Affordable). Approximately 16,000 Seniors are in the BOMD. Of those in the BOMD, 61.4% are currently renting. With average household incomes ranging from \$24,235 to \$47,699 the units would need to be Affordable.

Although this study did not include an analysis on Active Adult, based on the current population and lack of Active Adult housing, CDS recommends a study into the demand for this product.

RETAIL MARKET

National View

According to Marcus and Millichap Consumer spending is well ahead of pre-pandemic level. Although core retail sales dipped 0.8 percent from April to May, expenditures are 15.7 percent above the February 2020 level as stimulus funds and amplified unemployment benefits flooded the economy with additional capital. Monthly gains are anticipated to be modest this year as further direct cash payments are unlikely. Only one more bill can be passed through the Senate with the reconciliation process, and resistance to additional large spending legislation is gaining momentum. Rising inflationary concerns are giving some legislators on Capitol Hill pause. Core inflation jumped 3.8 percent last month, the largest gain in more than three decades. The producer price index, meanwhile, soared 6.6 percent on an annual basis. Collectively, the sharp rise in prices will prompt more caution among budget hawks.

As of mid-June, nearly all states have lifted the restrictions that most negatively impact brick-and-mortar retail stores. California and New York, two of the largest states by population, withdrew nearly all restrictions associated with COVID-19 as nationwide case positivity rates fell to the lowest levels since the beginning of the pandemic. Barring the emergence of a variant that skirts existing vaccinations, retailers that have struggled with capacity restrictions should benefit in the coming months. Restaurants, in particular are already seeing an increase in traffic, posting a 1.6 percent rise in sales last month relative to February of 2020.

While it may take some time for Americans to get acclimated to normal life 20.0 following lockdowns that lasted approximately 15 months, retail sales are already beginning to stabilize on a monthly basis. Furthermore, 17.5 more people are using services, which are not reflected in the Census Bureau's advanced estimate. For example, "A Quiet Place Part II" recently surpassed \$100 million in domestic box office receipts, the first movie to break that threshold since the onset of the health crisis. Visits to gyms, meanwhile, were only 23 percent lower than pre-pandemic levels at the end of May.

Although monthly sales only rose 1.8 percent between April and May, a stronger gain is anticipated through the end of the year. Future spending will flow into fewer operating restaurants after some states estimate as many as 33 percent of dining places permanently closed. Vacancy in single-tenant buildings has climbed 70 basis points to 5.3 percent since the end of 2019, though the introduction of new concepts should stem the tide of emptying buildings and support spending.

Houston Overall – 2Q2021

The centerpiece of the Houston economy, the energy sector, has been recuperating jobs as per barrel prices heighten alongside greater demand for production amid more people traveling. Mass vaccination is also helping the service sector recover positions, while a broader economic diversification is ongoing with firms relocating into and expanding operations in the metro. Companies attracting personnel from outside the market and people migrating in for quality-of-life considerations support a household expansion of 5.5 percent over the next three years, well above the national 3.0 percent gain. After dropping by 6 percent year over year in the second quarter, total metro retail sales improved to 7 percent higher annually at year end, and momentum carried into 2021 will underpin greater space absorption.

Tenants secured for large projects in the pipeline. As of February of this year, roughly 62 percent of the space set to finalize in 2021 already had a lease in place. Additionally, the majority of the projects larger than 100,000 square feet were 75 percent to 100 percent pre-leased. These developments include the open-air Houston Farmer's Market north of the city

center within the Inner Loop, as well as a Regal Cinemas and Life Time Fitness near the Woodlands. Limited available stock entering the market will direct tenants to recently vacated floor plans, assisting the retail recovery in 2021.



Retail 2021 Outlook



82,700 JOBS
will be created

EMPLOYMENT:

Employment conditions in the metro will improve at a similar pace to the nation as a whole this year. The job count will expand by approximately 2.8 percent, but Houston faces a multi-year recovery after 209,200 positions were lost in 2020.



2,025,000 SQ. FT.
will be completed

CONSTRUCTION:

Delivery volume will plummet in 2021 and come in well below the trailing-five-year average of 5.3 million square feet finalized. Less pressure on the supply side should help the sector recalibrate after completions outnumbered absorption by a factor of four last year.



0 BASIS POINT
change in vacancy

VACANCY:

Vaccinations that allow for increased physical shopping and entertainment will foster greater tenant demand for retail space in 2021. This boost in leasing amid a decade-low influx of arrivals should keep vacancy firm at 6.6 percent in Houston.



1.8% INCREASE
in asking rent

RENT:

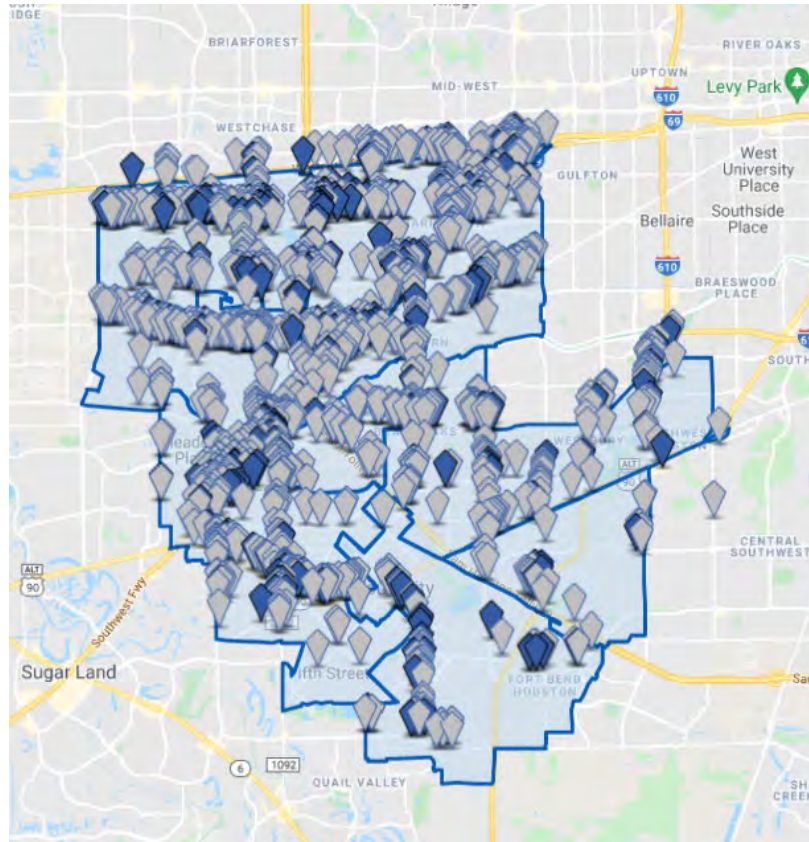
The average asking rent will remain on an upward trajectory for the 10th straight year, reaching \$18.42 per square foot. Rates increased last year despite difficult conditions as a robust household growth outlook sustained tenants' desire to rent space.

CMA Retail Market

The CMA retail market is large with 26.9 million square feet in 1,418 properties. The vacancy rate is low at 6.0% with market rents at \$17.01psf. The last 12 months had positive absorption of 46.7k sf in this market.

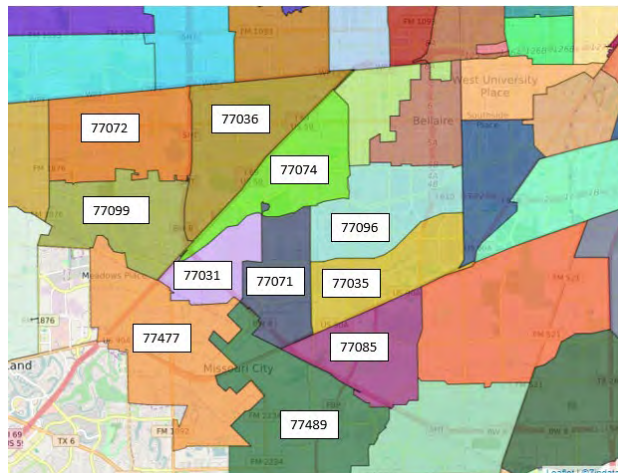
Retail is seen thru-out the CMA with large concentrations along major roadways.

Figure 32: CMA Retail



Source: CoStar

Figure 33: CMA ZIP Codes



CMA Performance Trends

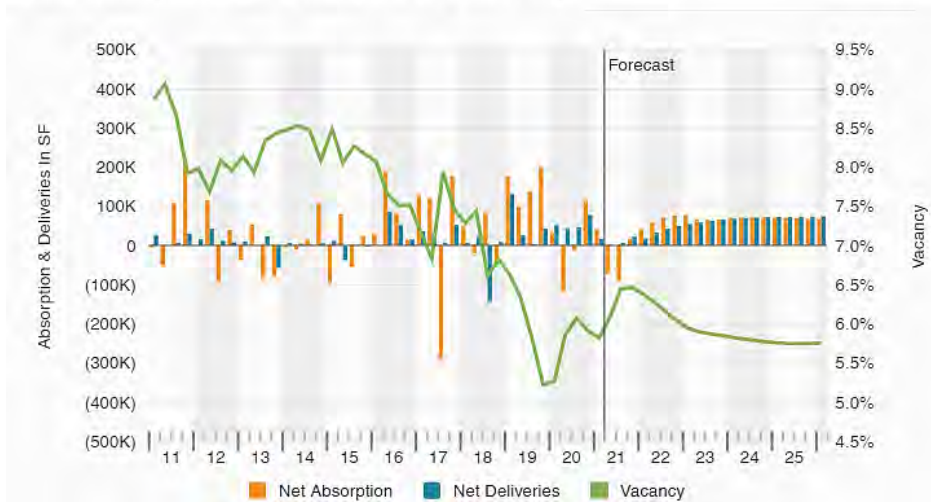
Vacancy on average has been at 6.62% over the past five years. Varying from 5.83% to 7.43%, this market is very stable.

Absorption has positive over the past five years varying from 34,427 square feet to 387,493 sf with an average of 210,857.

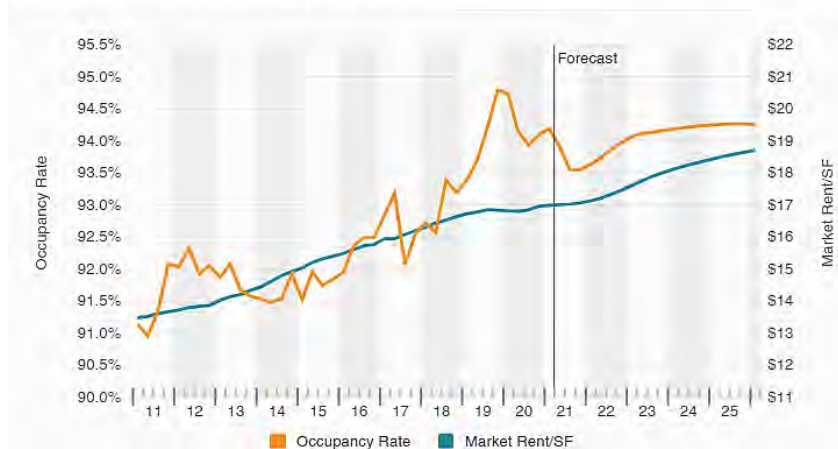
Market rent has remained in the \$16 range over the same period varying slightly from \$16psf to \$17.01psf (currently) with the 5 year average at \$16.45psf.

Figure 34: CMA Performance Trends

Net Absorption, Net Deliveries & Vacancy



Occupancy & Market Rent Per SF



Source: CoStar

CMA Future Supply

There is an additional 39,304 sf of retail under construction with 538,390sf proposed. The following is a list of the anticipated supply in the CMA.

The District is located in 77031, 77071, 77096, and 77035. It does not appear that new retail will be coming to this area in the following table of new construction. Stafford will be receiving a large quantity of the new retail with 216,066sf.

Most of the Stafford development will be built on W Airport Blvd. in a development known as The Grid. The Grid is a creative mixed-use reinvention of the former Texas Instruments campus. Spanning 192 acres, The Grid will integrate 350,000 square feet of destination retail and restaurant concepts, 2,400 residential units, 500,000 square feet of office space, multiple hotel brands and concepts, a premier health club, a luxury cinema, a network of pocket parks, jogging and bike trails and activated public space, together in a walkable urban district.

Figure 35: The Grid



Table 43: CMA Future Retail

Property Address	Property Name	PropertyType	City	Year Built	RBA
11707 W Airport Blvd		Retail	Meadows Place	2021	10,500
2915 S Main St		Retail	Stafford	2021	14,754
4223 S Main St	Building 5	Retail	Stafford	2021	9,750
5803 Fondren Rd		Retail	Houston	2021	2,000
12201 Southwest Fwy	Panda Express	Retail	Stafford	2021	2,300
CMA Under Construction Retail					39,304
12925 Bellaire Blvd		Retail	Houston	2022	14,801

Property Address	Property Name	PropertyType	City	Year Built	RBA
W Belfort Ave	Future Retail - Site 23	Retail (Community Center)	Houston	2021	13,000
7511 S Gessner Rd		Retail	Houston	2022	4,700
3623 S Main St	Phase II	Retail (Strip Center)	Stafford		16,000
11754 Bellaire Blvd	Pad A	Retail (Community Center)	Houston	2021	20,380
11800 Bellaire Blvd	Pad B	Retail (Community Center)	Houston	2021	7,000
Highway 59 & Airport Blvd	X	Retail (Airport Retail)	Stafford	2021	5,000
Highway 59 & Airport Blvd	Q	Retail (Airport Retail)	Stafford	2021	5,000
Highway 59 & Airport Blvd	O	Retail (Airport Retail)	Stafford	2021	5,000
Highway 59 & W Airport Blvd	M	Retail (Airport Retail)	Stafford	2021	5,000
Highway 59 & W Airport Blvd	C	Retail (Airport Retail)	Stafford	2021	5,000
S Kirkwood Rd & Bellaire Blvd	Pad C	Retail (Community Center)	Houston	2021	2,283
1217 Network Dr	Costco	Retail (Airport Retail)	Stafford	2022	148,262
10565 W Sam Houston Pky S		Retail	Houston	2022	281,658
6500 Southwest Fwy		Retail	Houston	2021	5,306

CMA Business Profiles

There are 2,963 retail businesses in the CMA. The total employees are 25,799. Only 44 businesses in the CMA include 100 or more employees. There are an additional 1,235 accommodation and food services businesses in the CMA.

Figure 36: CMA Business Profiles

2021 Business Profiles: Major Sectors by Select 2-3 Digit NAICS Codes	CMA				
	NAICS Code	Total Businesses	Total Employees	Sales in Thousands of Dollars	Businesses with 100 or more Employees
Total Businesses	All	18,741	150,844	\$36,228,777,810	187
Dominant Sector		Healthcare and Social Assistance	Retail Trade	Wholesale Trade	Retail Trade
Dominant Subsector		Healthcare and Social Assistance	Healthcare and Social Assistance	Wholesale Trade	Educational Services
Retail Trade	44-45	2,963	25,799	\$7,666,246,967	44
Motor Vehicle and Parts Dealers	441	543	6,717	\$2,778,221,000	13
Furniture and Home Furnishing Stores	442	172	1,613	\$437,258,000	1
Electronics and Appliance Stores	443	171	1,574	\$444,496,000	5
Building Material and Garden Equipment and Supplies	444	132	1,439	\$569,858,000	4
Food and Beverage Stores	445	425	4,645	\$1,081,112,000	11
Health and Personal Care Stores	446	320	1,826	\$484,413,250	1
Gasoline Stations	447	104	436	\$523,088,000	0
Clothing and Accessories Stores	448	400	2,098	\$288,105,000	3

2021 Business Profiles: Major Sectors by Select 2-3 Digit NAICS Codes	CMA				
	NAICS Code	Total Businesses	Total Employees	Sales in Thousands of Dollars	Businesses with 100 or more Employees
Sporting Goods, Hobby, Book, and Music Stores	451	116	830	\$158,225,000	0
General Merchandise Stores	452	196	2,783	\$521,277,000	5
Miscellaneous Store Retailers	453	268	1,390	\$311,679,000	1
Nonstore Retailers	454	116	448	\$68,514,717	0
Accommodation and Food Services	1,235	13,483	\$873,840,000	9	1,235
Accommodation	86	1,010	\$110,545,000	2	86
Food Services and Drinking Places	1,149	12,473	\$763,295,000	7	1,149

Source: US Census, American Community Survey, PCensus

CMA Consumer Buying Power

A critical factor in consideration for commercial retail development is the buying power of the market area that a potential development site is located in. Buying income can be measured by the level of disposable or expendable income from consumers in a market area. The CMA's effective buying income of \$56,425 on average per household is considered quite moderate. The county's is considerably higher at \$78,546.

Table 44: CMA Effective Buying Income

Category	Number	% of Total
Total Households	153,733	
EBI Less than \$15,000	20,623	13.41%
EBI \$15,000 to \$24,999	21,380	13.91%
EBI \$25,000 to \$34,999	21,690	14.11%
EBI \$35,000 to \$49,999	29,026	18.88%
EBI \$50,000 to \$74,999	27,272	17.74%
EBI \$75,000 to \$99,999	16,506	10.74%
EBI \$100,000 to \$124,999	6,915	4.50%
EBI \$125,000 to \$149,999	4,050	2.63%
EBI \$150,000 to \$199,999	2,735	1.78%
EBI \$200,000 to \$249,999	734	0.48%
EBI \$250,000 to \$499,999	2,102	1.37%
EBI \$500,000 or more	700	0.46%
2021 Average Effective Buying Income	\$56,425	

Source: US Census, American Community Survey, PCensus

CMA Retail Sales Trends

The CMA includes zip codes 77072, 77036, 77074, 77096, 77035, 77085, 77489, 77477, 77099, 77031, and 77071. The District is located almost entirely in 77031 and 77071 with a small portion in 77035.

As seen in Table 47, the General Merchandise NAICS category, has shown the greatest increase in sales up \$99,605,525 from 2018 to 2019. The largest decrease in sales from 2018 to 2019 was Motor Vehicles and Parts. Sales decreased overall by \$85,358,119.

Table 45: Actual Retail Sales in the CMA by Zip Codes, 2018 to 3Q2020

NAICS Code	NAICS Category	2018	2019	3Q2020	Change from 2018-2019
441	Motor Vehicle & Parts Dealers	\$2,355,916,989	\$1,941,838,523	\$1,272,861,568	\$(414,078,466.00)
442	Furniture & Home Furnishings	\$152,290,253	\$170,596,704	\$109,575,658	\$18,306,451.00
443	Electronics and Appliance Stores	\$316,565,358	\$299,022,206	\$181,061,025	\$(17,543,152.00)
444	Building Material & Garden Equipment	\$143,802,050	\$174,920,931	\$131,486,350	\$31,118,881.00
445	Food & Beverage Stores	\$908,023,359	\$989,165,826	\$781,416,265	\$81,142,467.00
446	Health & Personal Care Stores	\$394,779,323	\$465,204,947	\$314,836,203	\$70,425,624.00
447	Gasoline Stations	\$397,076,390	\$424,680,591	\$251,771,849	\$27,604,201.00
448	Clothing & Clothing Accessories	\$390,130,881	\$393,527,449	\$242,845,330	\$3,396,568.00
451	Sporting Goods, Hobby, Book, & Music	\$76,255,380	\$57,822,024	\$45,017,297	\$(18,433,356.00)
452	General Merchandise	\$504,328,734	\$603,934,259	\$426,812,778	\$99,605,525.00
453	Miscellaneous Store Retailers	\$321,038,723	\$333,871,630	\$223,461,857	\$12,832,907.00
454	Non-store Retailers	\$211,364,412	\$231,628,642	\$272,659,453	\$20,264,230.00
Grand Total		\$6,171,573,870	\$6,086,215,751	\$4,253,807,653	\$(85,358,119.00)

Source: Texas Comptroller of Public Accounts for 2017-2020

Retail Surplus/Leakage

Comparing 2019 actual sales to projected expenditures, when expenditures exceed actual sales this indicates leakage. The aggregate expenditure estimates for the CMA are higher in all categories with the exception of Building Material and Garden Equipment and Non-Store retailers. This indicates that residents outside the CMA are shopping inside the CMA for all other items. The category representing the highest surplus is Motor Vehicles and Parts followed by Food and Beverage Stores (including grocery).

Leakage exists in Building Material and Garden Equipment and Non-Store retailers as shown in table 48. This indicates opportunities in the CMA for new retailers in these categories.

Table 46: Comparison of Actual Sales with Expected Household Expenditures for CMA

BUSINESS CATEGORY DESCRIPTION	Actual Sales 2019 Supply	Total Expenditures Demand	Surplus or (Leakage)
Motor Vehicles and Parts (441)	\$1,941,838,523	827,197,441	\$1,114,641,082
Furniture and Home Furnishings Stores (442)	\$170,596,704	38,084,772	\$132,511,932
Electronics and Appliance Stores (443)	\$299,022,206	75,277,393	\$223,744,813
Building Material & Garden Equipment (444)	\$174,920,931	194,986,872	(\$20,065,941)
Food and Beverage Stores (445)	\$989,165,826	603,335,298	\$385,830,528
Health and Personal Care Stores (446)	\$465,204,947	95,960,295	\$369,244,652
Gasoline Stations (447)	\$424,680,591	369,430,406	\$55,250,185
Clothing and Clothing Accessories Stores (448)	\$393,527,449	119,021,061	\$274,506,388
Sporting Goods, Hobby, Book, and Music Stores (451)	\$57,822,024	45,652,183	\$12,169,841
General Merchandise Stores (452)	\$603,934,259	524,039,153	\$79,895,106
Miscellaneous Store Retailers (453)	\$333,871,630	75,359,762	\$258,511,868
Non-store Retailers (454)	\$231,628,642	475,058,046	(\$243,429,404)

Source: Texas Comptroller of Public Accounts 2021, PCensus

CMA PRIZM Segments

Psychographic analysis is used to identify consumer segments and match retail demand categories in the trade area(s). CDS has broken down the market area resident populations utilizing a consumer segmentation methodology. This system is used to understand and profile the population in the market area for the purpose of targeting the largest consumer lifestyle segments. Every household is defined in terms of 66 demographically and behaviorally distinct groups. Specific lifestyle segments will be quantified and ranked for the trade area. The top segments, described in this section, are correlated to likes, dislikes and purchase behavior relative to retail goods and services. The largest household segment in the CMA is Multi-Culti Mosaic (24.09%) followed by Low Rise Living (16.14%). The CMA is characterized by ethnic diversity, lower middle incomes, and tech savvy households.

Table 47: Top 10 PRIZM Segments of the Population in the CMA, 2021

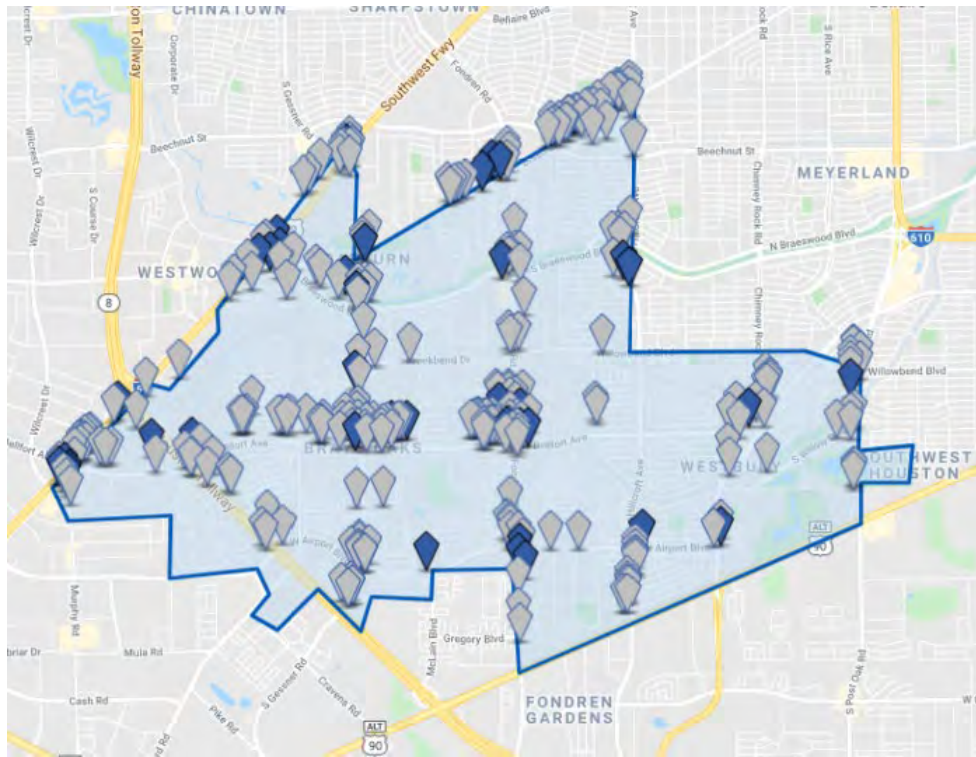
Households by PRIZM Segment	Households	% of Total Households
42 Multi-Culti Mosaic	37,029	24.09%
An immigrant gateway community, Multi-Culti Mosaic is the urban home for a mixed populace of Hispanic, Asian, and African-American singles and families. This segment is characterized by many first-generation Americans who are striving to improve their economic status.		
63 Low Rise Living	24,809	16.14%
The most economically challenged urban segment, Low-Rise Living is home to mostly middle-aged, ethnically diverse singles and single parents. Unlike their low income peers, they rank above average in their use of technology - perhaps influenced by their urban, fast-paced environment.		
45 Urban Modern Mix	13,462	8.76%
In Urban Modern Mix, lower middle class singles and couples reside in ethnically diverse neighborhoods in or near the city center. Despite only average overall technology use, they are frequent online shoppers for everything from jeans to groceries.		
43 City Roots	10,453	6.80%
Found in urban neighborhoods, City Roots is a segment of middle class mainly white-collar workers, typically living in older homes they've owned for years. In these ethnically diverse neighborhoods residents are working hard, avid soccer fans, and enjoy traveling to Central and South America.		
56 Multi-Culti Families	8,998	5.85%
Multi-Culti Families are middle age, urban households with moderate means. Often bilingual, they enjoy a wide variety of media and are average in their overall use of technology.		
30 Pools & Patios	4,909	3.19%
Pools & Patios is a segment of middle-aged suburban families. In these stable neighborhoods graced with backyard pools and patios, residents work as white-collar managers and professionals, and are now at the top of their careers. They are above average technology users, often researching products and shopping online.		
36 Toolbelts Traditionalists	4,309	2.80%
Like many other older segments, Toolbelt Traditionalists have empty nests. If something needs to be fixed, they are likely to do the work themselves with their own power tools or paint. They enjoy the benefits of AARP and are frequent QVC and HSN shoppers.		
35 Urban Achievers	4,269	2.78%
Urban Achievers are midscale, middle aged, ethnically diverse homeowners in urban neighborhoods with established careers and college degrees. They are active participants in their communities and strong supporters of their local professional sports teams.		
33 Second City Startups	3,890	2.53%
In Second City Startups, young to middle-aged families have settled in neighborhoods within smaller cities and metro areas. These families are ethnically diverse and are more likely to have a military affiliation of some kind and have average technology use.		
66 New Beginnings	3,544	2.31%
Filled with younger, mostly single adults, New Beginnings is a magnet for adults in transition. Many of its residents are singles and couples just starting out on their career paths in service jobs or starting over after recent divorces or company transfers. New Beginnings households tend to have the modest living standards typical of transient apartment dwellers.		

Source: US Census, American Community Survey, PCensus

BOMD Retail

The map below illustrates retail locations in the BOMD Competitive Market Area (CMA). As seen retail is located thru-out the district along major roadways.

Figure 37: Map of Retail Locations in the BOMD



Source: CoStar

The BOMD includes 4,592,522 square feet of space in 299 buildings. The vacancy rate is 5.4% with rental rates on average at \$16.94 psf. There is currently 0 square feet under construction. The 12-month absorption rate was 85.5k sf.

BOMD Performance

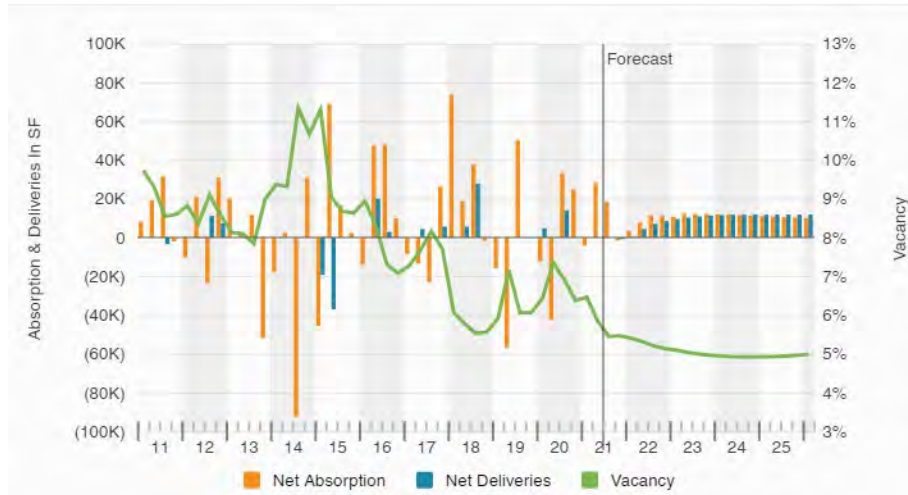
Absorption has been fairly positive in this market with a 5 year average of 37,510sf while vacancy has been at 6.58%. Rent growth has averaged 1.8% while rents were at \$16.31psf over the past 5 years.

Figure 38: BOMD Retail Performance



Source: CoStar

Figure 39: BOMD Absorption, Vacancy, and Deliveries



BOMD Inventory

Table 48: BOMD Retail Supply

Property Address	Property Name	Year Built	Year Renovated	Average Weighted Rent	Percent Leased	RBA
5817-5847 W Airport Blvd	Hillair Village Shopping Center	1964		13.25	87.37	38000
9826 W Belfort	Belfort Retail	2018		18	0.00	5500
6555-6595 W Belfort St		1984		13.32	74.94	24716
6671-6675 W Belfort St		1999		16	82.72	19095
8200-8290 W Belfort St		1981		9	84.19	37147
8330 W Belfort St		2015		23	86.17	9400
8703-8785 W Belfort St	West Belfort Shopping Center	1983	2009	18	73.54	51400
6715 Bissonnet St		2020		24	86.86	14000
7433 Bissonnet St	Bissonnet Square	1980		15	73.13	16560
9223 Bissonnet St		2004		14.4	0.00	7800
9301 Bissonnet St	Westwood East Shopping Center	1985		16.63	35.73	39179
12303 Chimney Rock		2000		17.25	0.00	2960
9700-9950 Fondren Rd	Fondrenwood Shopping Center	1977		12.47	91.54	163641
11240 Fondren Rd	Fondren Southwest Village	1978	1988	18	100.00	196905
11266 Fondren Rd	Fondren Southwest Village	1978	1992	18	90.79	82317
12515 Fondren Rd		1980		7.51	83.11	23622
12525 Fondren Rd	Argyle Plaza	1978		3.05	82.93	42652
9902-9924 S Gessner Dr	Gessner S, 9902	1979		18	92.45	15900
10800-10850 S Gessner Dr	Westbrae Plaza	1999		12.96	81.03	39000
8400 S Gessner Rd		1977		24	100.00	10200
9601-9649 S Gessner Rd		1980	2007	18	90.72	20738
9802-9814 Hillcroft Ave	Maplewood Strip Center	1970		12	90.15	8375
9704-9730 Hillcroft St	Maplewood Square Center	1975		12.64	44.66	30585
8710 Lugary Dr		1980		15	100.00	8800
9615-9695 Southwest Fwy	Westwood Village Shopping Center	1975		15.28	67.77	37065
9501-9533 S US 59 Hwy		1978	1985	18	96.27	65602
5415-5427 W Airport Blvd		1960		-	100.00	6000

Property Address	Property Name	Year Built	Year Renovated	Average Weighted Rent	Percent Leased	RBA
6403 W Airport Blvd		1999		-	100.00	5000
6706 W Airport Blvd		2004		-	100.00	10615
8035 W Airport Blvd		1984		-	100.00	26658
8550 W Airport Blvd	CVS Pharmacy	2002		-	100.00	12125
8600 W Airport Blvd		2000		-	100.00	9879
8621 W Airport Blvd	W Airport Plaza	2005		-	100.00	18000
8660 W Airport Blvd		2001		-	100.00	8100
9218 Alberene Dr				-	100.00	4935
11125 Albury	Albury Center	1979		-	100.00	10235
11127-11137 Albury Dr	Union Food Store	1981		-	100.00	5368
6235 Beechnut St		1988		-	100.00	1891
8300 Bellfort Ave		1981		-	100.00	5644
8320 Bellfort Ave		1987		-	100.00	2020
8519 Bellfort Ave	Popeyes	1985		-	100.00	1507
8599 Bellfort Ave		2000		-	100.00	2433
8601 Bellfort Ave		1986		-	100.00	3060
8885 Bellfort Ave		2004		-	100.00	8931
9414 Bellfort Ave		1984		-	100.00	9695
9420 Bellfort Ave		1981		-	100.00	4907
10001 Bellfort Ave		2006		-	100.00	17500
10500 Bellfort Ave	Building 1	1984		-	100.00	20667
9140 Bellfort St		1986		-	100.00	2826
9250 Bellfort St		1979		-	100.00	2109
7730 W Bellfort		1986	2005	-	100.00	3303
8531 W Bellfort		1984		-	100.00	4860
7700 W Bellfort Ave		1985		-	100.00	12639
7720 W Bellfort Ave		1994		-	100.00	1009
7760 W Bellfort Ave		1985		-	100.00	2882
7764 W Bellfort Ave		1981		-	100.00	4658
8690 W Bellfort Ave		1981		-	100.00	2100
8723 W Bellfort Ave	Subway	1983		-	100.00	900
5320 W Bellfort St	Autozone	1986		-	100.00	6404
5410 W Bellfort St		1959		-	100.00	15614
6550 W Bellfort St	O'Reilly Auto Parts	1984		-	100.00	16641
6570 W Bellfort St		1984		-	100.00	12000
6675 W Bellfort St	Walgreens & JP Morgan Chase	1999		-	100.00	19216
7515 W Bellfort St	The Shops at West Bellfort	1977		-	50.00	10000
7701 W Bellfort St		1983		-	100.00	1283
7701 W Bellfort St		1983		-	100.00	2609
7701-7737 W Bellfort St	Village Place Shopping Center	1981		-	100.00	99676
7710 W Bellfort St	Speedemissions	1990		-	100.00	1862
7711 W Bellfort St	Village Place Shopping Center	1983		-	100.00	81253
7750 W Bellfort St	Brident Dental	2017		-	100.00	4312
7754 W Bellfort St	Pollo Campero	2016		-	100.00	2800
8310 W Bellfort St		1981		-	100.00	8100
8400 W Bellfort St		1992		-	100.00	1306
8411 W Bellfort St	Southwest Professional Bldg I	1984		-	100.00	13400
8500-8550 W Bellfort St	Bellfort Southwest Shopping Center	1984	1987	-	100.00	30190
8541-8543 W Bellfort St	Bellfort Square Shopping Center	1978		-	100.00	40100

Property Address	Property Name	Year Built	Year Renovated	Average Weighted Rent	Percent Leased	RBA
8598 W Bellfort St		1989		-	100.00	6600
8600 W Bellfort St		2000		-	100.00	10980
8610 W Bellfort St		2001		-	100.00	424
8703 W Bellfort St		1983		-	100.00	50655
8875 W Bellfort St		2004		-	100.00	2060
8885 W Bellfort St		2004		-	100.00	13908
8895 W Bellfort St		2006		-	100.00	11112
9010 W Bellfort St		1995		-	100.00	6784
9130 W Bellfort St		1986		-	100.00	10164
9244 W Bellfort St		1980		-	100.00	5982
10310 W Bellfort St		2004		-	100.00	18778
10410 W Bellfort St		2004		-	100.00	7800
10470 W Bellfort St	59 Plaza	2007		-	100.00	14282
6401 Bissonnet St		1960		-	100.00	3869
6417-6433 Bissonnet St	Bissonnet, 6425	1967		-	100.00	14000
6521 Bissonnet St		1965		-	100.00	2047
6543 Bissonnet St		1976		-	100.00	9024
6545 Bissonnet St		1976		-	100.00	6253
6611 Bissonnet St		1985		-	100.00	29360
6625-6631 Bissonnet St		1960		-	100.00	4248
6703 Bissonnet St		1960		-	100.00	1200
6711 Bissonnet St		1970		-	100.00	707
6803 Bissonnet St		1977		-	100.00	2990
6817 Bissonnet St		1969		-	100.00	2100
6905 Bissonnet St		1974		-	100.00	5211
7205-7309 Bissonnet St	Fondren Shopping Center	1971	1999	-	29.59	28045
7206 Bissonnet St		1994		-	100.00	2102
7215 Bissonnet St		1970		-	100.00	10908
7565 Bissonnet St		1979		-	100.00	2250
7667 Bissonnet St		1980		-	100.00	4788
7717 Bissonnet St	A NAM GAS	1975		-	100.00	1500
7800 Bissonnet St	Building 1			-	100.00	18489
8520 Bissonnet St		1993		-	100.00	2710
11113 Braesridge Rd	Fondren Center	1980		-	100.00	34422
5925 S Braeswood Blvd		1979		-	100.00	3200
6603 S Braeswood Blvd	Braesgate	1972		-	100.00	14520
6665 S Braeswood Blvd	Citgo	1972		-	100.00	2389
8520-8530 S Braeswood Blvd	Braeswood Retail Center	1964		-	100.00	5248
8550 S Braeswood Blvd	S Braeswood Shopping Center	2002		-	100.00	10800
8602-8674 S Braeswood Blvd	Braesner Village Shopping Center	1978		-	96.27	89931
8700 S Braeswood Blvd	Braeswood Center	1994		-	100.00	7250
8900 S Braeswood Blvd		1974		-	100.00	9500
8128 Braewick Dr		1970		-	100.00	4400
8210 Cantrell St	B & P Automotive	1996		-	100.00	6884
11500 Chimney Rock	Home Depot	1996		-	100.00	105000
11800 Chimney Rock	Chimney Rock Shopping Ctr	1965		-	100.00	45447
10929 Chimney Rock Rd		1970		-	100.00	6789
11017 Chimney Rock Rd		1990		-	100.00	1241

Property Address	Property Name	Year Built	Year Renovated	Average Weighted Rent	Percent Leased	RBA
11310 Chimney Rock Rd	Chase Bank	1975		-	100.00	12131
11320-11340 Chimney Rock Rd	Westbury Triangle	1962	2011	-	84.90	67306
11403 Chimney Rock Rd		1966	1980	-	100.00	7000
11612 Chimney Rock Rd		1968		-	100.00	2966
12223 Chimney Rock Rd	Auto Works International	1965		-	100.00	3500
8103 Creekbend Dr		2004		-	100.00	18123
5906 Cypress St		1955		-	100.00	1697
11419 Dover St		2008		-	100.00	6700
6535 Dumfries Dr		1976		-	100.00	99375
8006 Dunlap St		1970		-	100.00	2590
8008 Dunlap St		1970		-	100.00	2208
9309 Fondren Rd		1972	2011	-	100.00	5800
9600 Fondren Rd	Fondren Brays Center	2003		-	100.00	10000
9603-9645 Fondren Rd	Braesgate	1972	1997	-	100.00	76862
9722 Fondren Rd		1977		-	100.00	4000
10600 Fondren Rd		2018		-	100.00	19674
11092 Fondren Rd	Fondren Southwest Village North	1980		-	100.00	5400
11096 Fondren Rd		1980		-	100.00	1279
11101 Fondren Rd		1980		-	100.00	1967
11102 Fondren Rd				-	100.00	3944
11121 Fondren Rd		1980		-	100.00	1600
11220 Fondren Rd		1978		-	100.00	3360
11281 Fondren Rd		1980		-	100.00	5000
11290 Fondren Rd		1978		-	100.00	2016
11311 Fondren Rd		2009		-	100.00	3312
11313 Fondren Rd		1978		-	100.00	13030
11322-11386 Fondren Rd	Bellfort Fondren Center	1979		-	100.00	17500
11386 Fondren Rd		1978		-	100.00	43500
12138-12150 Fondren Rd	Fondren Center	1983		-	100.00	9000
12250 Fondren Rd		1998		-	100.00	6516
12260 Fondren Rd		1979		-	100.00	3200
12303 Fondren Rd	Shell	1976		-	100.00	2002
12304 Fondren Rd		1981		-	100.00	9237
12309 Fondren Rd	Fondren Square	1986		-	100.00	16405
12335-12355 Fondren Rd	Fondren Square	1987		-	87.83	63293
12675 Fondren Rd		2004		-	100.00	6033
13001-13011 Fondren Rd	Fondren/ S. Main Center	1966		-	100.00	6267
8412 Gessner Rd		1977		-	100.00	17039
8606 Gessner Rd		1977		-	100.00	1305
9898 Gessner Rd		2007		-	100.00	2329
10898 Gessner Rd		1985		-	100.00	2678
11152 Gessner Rd		2003		-	100.00	4672
11200 Gessner Rd		2005		-	100.00	4396
11902 Gessner Rd		2008		-	100.00	9957
12420 Gessner Rd		2005		-	100.00	4628
12600 Gessner Rd	Mobil	1995		-	100.00	5274
12609 Gessner Rd		1995		-	100.00	3330
8440-9575 Gessner St	Gessner Plaza	1992		-	100.00	24263

Property Address	Property Name	Year Built	Year Renovated	Average Weighted Rent	Percent Leased	RBA
10090 S Gessner		1985		-	100.00	2448
8700-8704 S Gessner Dr	Gessner Square	1997		-	100.00	51098
10702-10766 S Gessner Dr	Westbrae Landing Shopping Center	1987		-	100.00	33400
11242 S Gessner Dr		2001		-	100.00	43094
12250 S Gessner Dr		2004		-	100.00	4400
12400 S Gessner Dr		1996		-	100.00	3388
12611 S Gessner Dr	Walgreens Drug Store	2003		-	100.00	14560
8525 S Gessner Rd		1980	2007	-	100.00	2664
9659-9661 S Gessner Rd		1970		-	100.00	4250
10303 S Gessner Rd		1972		-	100.00	2439
12405 S Gessner Rd		2008		-	100.00	1188
12605-12609 S Gessner Rd		2009		-	100.00	14628
12615 S Gessner Rd		2010		-	100.00	3390
9400-9423 Glenfield Ct	Glenfield Court	1977		-	100.00	8500
12620 Hillcroft	Body Shop	1976		-	100.00	3000
12630 Hillcroft	Body Shop on Hillcroft	1999		-	100.00	20000
7818 Hillcroft Ave	Hillcroft	1966		-	100.00	14473
9606 Hillcroft Ave		1995		-	100.00	23814
9700 Hillcroft Ave		2002		-	100.00	39989
12550 Hillcroft Ave	Olympia Market	1972		-	100.00	10000
12604 Hillcroft Ave		1983		-	100.00	2606
7940 Hillcroft Ct		1960		-	100.00	6001
7802 Hillcroft St				-	100.00	1870
8402 Hillcroft St	Phillips 66	1983		-	100.00	3658
12403 Hillcroft St		1990		-	100.00	6727
12405 Hillcroft St		1994		-	100.00	4982
12505 Hillcroft St		1978		-	100.00	6000
12602 Hillcroft St		1976		-	100.00	5903
12604 Hillcroft St		1983		-	100.00	2753
9916 Honeywell Rd		1976		-	100.00	2277
6006 Maple St		2005		-	100.00	7584
11214 Plainfield Rd		1973		-	100.00	8000
10720 S Post Oak	Chevron	2000		-	100.00	2797
11410 S Post Oak		1980		-	100.00	3198
10800-10806 S Post Oak Rd	S. Post Oak/Willowbend	1997		-	100.00	47866
10806 S Post Oak Rd		1999		-	100.00	5600
10810-10814 S Post Oak Rd		1962		-	100.00	54000
10829 S Post Oak Rd	Meineke	1975		-	100.00	2752
10902-10924 S Post Oak Rd		1999		-	100.00	40821
11112 S Post Oak Rd		1956	2013	-	100.00	3500
11120 S Post Oak Rd		1957	1991	-	100.00	23000
11210 S Post Oak Rd		1980		-	100.00	14592
11402 S Post Oak Rd		1974		-	100.00	1040
11444 S Post Oak Rd		1980		-	100.00	26000
9408 Ronda Ln		1981		-	100.00	5000
10949 Sam Houston Pky				-	100.00	4835
11650 Sam Houston Pky		2004		-	100.00	10967
11700 Sam Houston Pky		2004		-	100.00	7692
11810 Sam Houston Pky		2000		-	100.00	9311

Property Address	Property Name	Year Built	Year Renovated	Average Weighted Rent	Percent Leased	RBA
10945 S Sam Houston Pky		2020		-	100.00	4725
11861 S Sam Houston Pky		2005		-	100.00	5920
10890 S Sam Houston Pky W		2003		-	100.00	6007
11002 S Sam Houston Pky W		1999		-	100.00	5304
11831 S Sam Houston Pky W	Master Furniture	2006		-	100.00	8000
6600 Sanford	Community of Faith Church	1985		-	100.00	10340
7600-7676 Sanford Rd	Sanford Retail Center	1980		-	100.00	34485
11000 Sanford Rd		2008		-	100.00	6300
8601 Southwest Fwy		1991		-	100.00	1891
8607 Southwest Fwy		2000		-	100.00	5863
8677 Southwest Fwy		1977		-	100.00	25709
9110 Southwest Fwy		1977		-	100.00	9482
9120 Southwest Fwy		1975		-	100.00	70613
9711 Southwest Fwy	Budget	1993		-	100.00	5640
9811 Southwest Fwy		1988		-	100.00	1091
9951 Southwest Fwy	Performance Mazda of Houston	2008		-	100.00	25000
10500 Southwest Fwy	Building 2	1984		-	100.00	9113
10777 Southwest Fwy		1994		-	100.00	30270
11027 Southwest Fwy		1990		-	100.00	2500
11031 Southwest Fwy		1962		-	100.00	1375
11231-11265 Southwest Fwy						
		1984		-	100.00	40190
11231-11285 Southwest Fwy	SW59 @ 8	1976		-	100.00	96279
11285 Southwest Fwy		1984		-	100.00	9561
11285 Southwest Fwy	Building 2	1984		-	100.00	2136
11407 Southwest Fwy		1984		-	100.00	6663
11503 Southwest Fwy		1986		-	100.00	6537
11565 Southwest Fwy	Fry's	2004		-	100.00	148097
11615 Southwest Fwy		1976		-	46.14	5087
11623 Southwest Fwy		1976		-	100.00	1750
11625 Southwest Fwy		1999		-	0.00	15000
11631 Southwest Fwy		1970		-	100.00	6000
10118 Thurleigh St	South of West Belt	1955		-	100.00	4800
8333-8373 S US 59 Hwy	Southwest Frwy, 8333	1977		-	100.00	14248
9426 West Belfort		1979		-	100.00	1150
540-662 Westbury Sq	Westbury Square Shopping Village	1959	1991	-	100.00	70000
11803 Wilcrest Dr		1976		-	66.67	10800
11805-11853 Wilcrest Dr		1976	1991	-	91.21	109424
11853 Wilcrest Dr		1976		-	100.00	672
11935 Wilcrest Dr		1976		-	100.00	2848
5025 S Willow Dr		1993		-	100.00	11673
6565 Willowbend Blvd		1975		-	100.00	6746
6275 W Airport Blvd	Shell	1983		-	100.00	3600
7629 W Belfort St	Whataburger	1979		-	100.00	2738
8454 W Belfort St				-	100.00	24992
9461 W Belfort St	Shell	2012		-	100.00	7260
10490 W Belfort St		1995		-	100.00	6017
6751 Bissonnet St	Aldi	2016		-	100.00	20000
6755 Bissonnet St		1970		-	100.00	1125

Property Address	Property Name	Year Built	Year Renovated	Average Weighted Rent	Percent Leased	RBA
6802 Bissonnet St		1985		-	100.00	5826
7605 Bissonnet St		1970		-	100.00	6406
9322 Bissonnet St	Exxon	1985		-	100.00	1104
5911 S Braeswood Blvd		1978		-	100.00	3487
8545 S Braeswood Blvd	CM Pawn	1977		-	100.00	4824
9002 S Braeswood Blvd		1974		-	100.00	5125
8373 Creekbend Dr		2008		-	100.00	6160
6013 Cypress St		1952		-	100.00	1200
8452 Fondren Rd	End Cap Fondren at Bissonnet	2017		-	100.00	5537
10610 Fondren Rd		2018		-	100.00	8118
11302 Fondren Rd		1997		-	100.00	1781
12923 Fondren Rd		2007		-	100.00	7700
11910 Fondren Meadow Dr		2012		-	100.00	11123
8623 S Gessner Dr		1976		-	100.00	5051
9922 S Gessner Rd		1978		-	100.00	8800
12405 S Gessner Rd		2008		-	100.00	3053
9106 Hillcroft St		1972		-	100.00	2589
12413 Hillcroft St		1968		-	100.00	2280
12417 Hillcroft St		1981		-	100.00	3672
9566 Honeywell St		2005		-	100.00	2456
10650 SW Plaza Ct		1992		-	100.00	4289
10798 S Post Oak Rd	Payless ShoeSource	2000		-	100.00	2816
10801 S Post Oak Rd		1970		-	100.00	1856
11801 S Sam Houston Pky W		2004		-	100.00	17644
11831 W Sam Houston Pky S		2005		-	100.00	5700
9080 Southwest Fwy	Olive Garden	1991		-	100.00	9314
9533 Southwest Fwy		1979		-	100.00	2880
11855 Wilcrest Dr	Popeyes	1976		-	100.00	3000
5512-5518 S Willow Dr				-	100.00	6820
6031 Willowbend Blvd	Valero	1960		-	100.00	2439
Total/Averages		1986	1998	15.49	96.48	4,592,522

Source: CoStar

BOMD Consumer Buying Power

A critical factor in consideration for commercial retail development is the buying power of the market area that a potential development site is located in. Buying income can be measured by the level of disposable or expendable income from consumers in a market area. BOMD's effective buying income of \$57,906 is similar to the CMA's at \$56,425.

Table 49: BOMD Effective Buying Income

Category	Number	% of Total
Total Households	37,905	
EBI Less than \$15,000	5,107	13.68%
dEBI \$15,000 to \$24,999	5,553	15.23%
EBI \$25,000 to \$34,999	5,450	14.89%
EBI \$35,000 to \$49,999	6,781	18.88%
EBI \$50,000 to \$74,999	6,390	16.77%
EBI \$75,000 to \$99,999	3,904	9.90%
EBI \$100,000 to \$124,999	1,758	4.24%
EBI \$125,000 to \$149,999	1,080	2.52%
EBI \$150,000 to \$199,999	853	1.93%
EBI \$200,000 to \$249,999	226	0.45%
EBI \$250,000 to \$499,999	628	1.23%
EBI \$500,000 or more	175	0.30%
2017 Average Effective Buying Income	\$57,906	

Source: US Census, American Community Survey, PCensus

BOMD Retail Business Profiles

There are 325 retail businesses in BOMD with 2,934 employees. Only 5 retail businesses in BOMD have 100 or more employees, they appear to be motor vehicles and food stores (grocery, etc.).

Figure 40: BOMD Retail Businesses

2021 Business Profiles: Major Sectors by Select 2-3 Digit NAICS Codes	CMA				
	NAICS Code	Total Businesses	Total Employees	Sales in Thousands of Dollars	Businesses with 100 or more Employees
Total Businesses	All	2,021	14,671	\$3,441,772,906	18
Dominant Sector		Retail Trade	Retail Trade	Retail Trade	Retail Trade
Dominant Subsector		Unclassified	Healthcare and Social Assistance	Wholesale Trade	Food and Beverage Stores
Retail Trade	44-45	325	2,934	\$986,147,302	5
Motor Vehicle and Parts Dealers	441	71	913	\$448,401,010	2
Furniture and Home Furnishing Stores	442	20	105	\$26,550,996	0
Electronics and Appliance Stores	443	16	222	\$68,514,347	1
Building Material and Garden Equipment and Supplies	444	12	62	\$24,329,922	0
Food and Beverage Stores	445	56	906	\$221,540,702	3
Health and Personal Care Stores	446	29	191	\$51,774,764	0
Gasoline Stations	447	8	30	\$35,628,841	0

2021 Business Profiles: Major Sectors by Select 2-3 Digit NAICS Codes	CMA				
	NAICS Code	Total Businesses	Total Employees	Sales in Thousands of Dollars	Businesses with 100 or more Employees
Clothing and Accessories Stores	448	37	136	\$24,722,740	0
Sporting Goods, Hobby, Book, and Music Stores	451	7	30	\$6,031,979	0
General Merchandise Stores	452	23	168	\$30,962,960	0
Miscellaneous Store Retailers	453	27	120	\$44,444,692	0
Nonstore Retailers	454	18	52	\$3,244,348	0
Accommodation and Food Services	102	1,005	\$66,021,905	0	102
Accommodation	9	36	\$4,117,932	0	9
Food Services and Drinking Places	93	969	\$61,903,973	0	93

Source: PCensus

BOMD Retail Sales Trends

As seen in the table below, Food and Beverage Stores has shown the greatest increase in sales up \$53,092,408 from 2018 to 2019. The largest decrease in sales from 2018 to 2019 was in the Motor Vehicles and Parts category. Overall sales increased by \$62,962,140 from 2018 to 2019.

Table 50: Actual Retail Sales in BOMD, 2018 to 3Q2020 (77031 AND 77071)

NAICS Code	NAICS Category	2018	2019	3Q2020	Change from 2018-2019
441	Motor Vehicle & Parts Dealers	\$26,869,865	\$20,866,234	\$30,560,520	\$(6,003,631)
442	Furniture & Home Furnishings	\$6,297,526	\$4,993,779	\$179,920	\$(1,303,747)
443	Electronics and Appliance Stores	\$5,166,294	\$5,602,863	\$2,055,423	\$436,569
444	Building Material & Garden Equipment	\$14,159,826	\$15,782,195	\$12,842,960	\$1,622,369
445	Food & Beverage Stores	\$108,834,875	\$161,927,283	\$72,849,674	\$53,092,408
446	Health & Personal Care Stores	\$24,767,908	\$26,195,890	\$18,911,651	\$1,427,982
447	Gasoline Stations	\$29,983,640	\$34,301,938	\$21,828,070	\$4,318,298
448	Clothing & Clothing Accessories	\$23,332,019	\$25,494,437	\$15,085,455	\$2,162,418
451	Sporting Goods, Hobby, Book, & Music	\$4,051,781	\$1,862,527	\$0	\$(2,189,254)
452	General Merchandise	\$39,435,072	\$39,147,245	\$28,234,414	\$(287,827)
453	Miscellaneous Store Retailers	\$10,650,253	\$16,005,485	\$6,088,002	\$5,355,232
454	Non-store Retailers	\$2,920,027	\$7,251,350	\$5,550,855	\$4,331,323
Grand Total		\$296,469,086	\$359,431,226	\$214,186,944	\$ 62,962,140

Source: Texas Comptroller of Public Accounts for 2017-2020

Retail Surplus/Leakage

Comparing actual sales to projected expenditures there is leakage in several categories. The aggregate expenditure estimates for BOMD are higher in most categories. This indicates that residents are shopping outside the District for all items with the exception of Food and Beverage and Health and Personal Care items. The category representing the highest leakage is Motor Vehicles followed by No store retailers.

Leakage exists in Motor Vehicles, Furniture, Electronics, Building Materials, Gasoline, Clothing, Sporting Goods, General Merchandise, Miscellaneous and Non store retailers. These are opportunities for new retailers in BOMD.

Table 51: Comparison of Actual Sales with Expected Household Expenditures for BOMD

BUSINESS CATEGORY DESCRIPTION	Actual Sales Supply	Total Expenditures Demand	Surplus or (Leakage)
Motor Vehicles and Parts (441)	\$20,866,234	201,652,337	(\$180,786,103)
Furniture and Home Furnishings Stores (442)	\$4,993,779	9,410,908	(\$4,417,129)
Electronics and Appliance Stores (443)	\$5,602,863	18,401,476	(\$12,798,613)
Building Material & Garden Equipment (444)	\$15,782,195	48,971,148	(\$33,188,953)
Food and Beverage Stores (445)	\$161,927,283	147,142,086	\$14,785,197
Health and Personal Care Stores (446)	\$26,195,890	23,806,775	\$2,389,115
Gasoline Stations (447)	\$34,301,938	89,204,453	(\$54,902,515)
Clothing and Clothing Accessories Stores (448)	\$25,494,437	28,871,101	(\$3,376,664)
Sporting Goods, Hobby, Book, and Music Stores (451)	\$1,862,527	11,114,690	(\$9,252,163)
General Merchandise Stores (452)	\$39,147,245	127,802,990	(\$88,655,745)
Miscellaneous Store Retailers (453)	\$16,005,485	18,455,437	(\$2,449,952)
Non-store Retailers (454)	\$7,251,350	116,497,187	(\$109,245,837)

Source: Texas Comptroller of Public Accounts 2020, PCensus

Examples of BOMD Retail

Figure 41: Examples of Study Area Retail/Commercial





Interviews with Realtors

CDS spoke with several persons involved in the commercial real estate market in the District and obtained the following perspectives.

Overall State of the Market

- Retail space is overbuilt in the BOMD.
- Since the mid-2000s, there has been a significant increase in interest from retail businesses to locate in the BOMD.
- There has been a trend toward renovations at retail properties in the District, especially around Fondren and West Belfort.
- More properties need to renovate, both facades and landscaping (but must be careful about how its done).

Target Consumer Markets

- Retail business are targeting the working class renters.
- Business like the density of residential population.
- Businesses are attracted by the traffic counts on the thoroughfares.
- The renter population has moved up a bit in income levels.
- Chains and businesses targeting more affluent residents (homeowners) are missing from the area.

Occupancy and Lease Rates

- Occupancy has always been at high levels.
- Lease rates have come up.
- Property owners are typically raising rates \$5 to \$7 post-renovation. This is hard for some smaller businesses.
- We are offering free rent to qualified tenants (not religious groups, prefer daytime businesses).

Nature of Businesses

- Many religious groups renting space – not good synergies with other businesses because they only draw people during hours when other businesses aren't open.
- Small businesses owners live nearby (not necessarily in the District).
- Small business owners are mostly from outside the District.

Potential Future Growth and Needs

- The area needs more national / regional chains.
- The District needs more entertainment and leisure activity businesses.
- The District needs more businesses that target the more affluent residents.

Estimating Supportable Retail in the CMA and BOMD

According to research provided by CoStar, July 2017, sales per square foot at all but a few public retailers have declined to an average of around \$325 in recent years, down from nearly \$375 in the early 2000s.

Applying this average per square foot sales to the estimated expenditures in the CMA, there is support for 634,835 sf in the CMA over the next five years. The CMA includes 26.9 million sf currently with an additional 39,304 sf under construction and an additional 538,390 sf under construction.

Table 52: Supportable Retail in the CMA

CMA							
Consumer Buying Power Retail Store Types	2020 Aggregate Expenditure Estimate	%	2025 Aggregate Expenditure Estimate	%	Increase in Sales	Avg. Sales PSF	Supportable Retail SF From Expenditures
Total Specified Consumer Expenditures	\$8,436,852,879						
All retail stores (NAICS 44-45)	\$3,443,402,680	40.81%	\$3,898,100,889	40.79%	\$454,698,209	\$375	1,212,529
Less Under Construction and Proposed							-577,694
Supportable Retail							634,835

Source: CoStar

The BOMD includes 17% of the overall CMA retail supply with 4.59 million sf. This would lead the analyst to estimate that the BOMD could absorb up to 108,000 sf of the anticipated demand. However, the BOMD expenditures estimate is negative over the next five years based on population, income, etc. At this time, CDS does not recommend additional retail.

Table 53: Supportable Retail in the BOMD

BOMD							
Consumer Buying Power Retail Store Types	2020 Aggregate Expenditure Estimate	%	2025 Aggregate Expenditure Estimate	%	Increase in Sales	Avg. Sales PSF	Supportable Retail SF From Expenditures
Total Specified Consumer Expenditures	\$2,066,634,936		\$1,547,858,644				
All retail stores (NAICS 44-45)	\$841,330,589	40.68%	\$628,851,486	40.63%	(212,479,103)		0

Source: CoStar

Conclusions and Recommendations:

- A dense population of working-class households combined with older properties with moderate lease rates has resulted in the District being a magnet for small businesses that serve these residents.
- Despite a substantial population of more affluent homeowners, because the overall market area demographics tilt toward the working class renters, more upscale retail businesses, especially chains, are not yet attracted to the District.
- There seems to be a general equilibrium in terms of total demand versus supply of space at present.
- CDS is not recommending additional total retail inventory in the District at this time, especially given additional supply already planned in the CMA.
- Rather than construction of additional inventory, CDS recommends improvement and even transformation of existing retail properties to enhance aesthetic appeal and placemaking. The challenge will be to retain the small businesses needed and desired by the working class renters, which in many cases also add to the variety and texture of the District in a positive way. These businesses have limited tolerance for increased lease rates unless their sales volume also increases.

- The affluent homeowners are underserved for businesses that target them. However, given the nature of the demographics, the availability of the desired businesses in nearby areas such as Meyerland and Bellaire, plus the upcoming Grid development in Stafford, attracting such businesses will require a special environment and development opportunity that assures a strong flow and appeal for affluent customers. A generic retail strip center environment will not likely suffice. A placemaking effort to create a more vibrant atmosphere and compelling public or quasi-public space that generates traffic and exposure, and even draws customers from out of the area, will be needed. Upscale residential on-site of such a development will help in terms of creating the image and supporting human activity. New construction space in such a project is likely to have considerably more expensive lease rates than existing space in the area, so most small businesses may not be able to locate there. Creating this place while incorporating desired existing small businesses will be a challenge, if that is what is desired.

CDS Community Development Strategies

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Brays Oaks
Livable Centers
Study

Transportation Analysis



Prepared by TJKM

Brays Oaks Livable Centers Study

TECHNICAL MEMORANDUM

Task Two: Concept Plan & Recommendations

Date: October 25, 2021

To: Rebecca Leonard, Principal in Charge

Abby Gillfillan, AICP, Project Manager;

From: Aldo Fritz, AICP

Subject: HGAC Phase 2 Concept Plan & Recommendations Update (Transportation)

Task One of the Brays Oaks Livable Center Study focused on conducting an overall Needs Assessment for the Brays Oak District. The Needs Assessment was a comprehensive analysis of the transportation network with an emphasis on determining the existing conditions of the study area. The analysis highlighted specific gaps within the network and determined possible improvements that could serve to allow mode sharing, pedestrian accessibility, bicycle access & usage, transit accessibility & access, intermodal integration, and enhancement of safety for all modes.

General Findings of Task One:

- Study area has sufficient sidewalks; but their conditions need to be evaluated
- Level of Mobility (overall congestion) is considered to be tolerable throughout the study area during A.M. & P.M. peak times, except for along US Route 59
- There were over 2,642 collisions between 2016-2020. (53% led to a possible injury) Intersections with most of collisions are Fondren & Belfort Avenue and Belfort Avenue & Beltway 8.
- There were over 159 Bicycle/Pedestrian collisions between 2016-2020. The intersection of Fondren & Belfort Avenue has the most crashes within the study area.
- The highest number of collisions (582 collisions) were observed in 2019 and the lowest number of collisions (496) were observed in 2020.
- The most collisions occurred at non-intersection locations. 45% of all collisions (1187 collisions) occurred on at non-intersection locations whereas 31% (817 collisions) occurred at intersections
- All Corridors except for one (Willowbend Blvd/Creekbend Dr.) within the study area have a level of stress: LTS 4: High traffic stress. Only "strong and fearless" bicyclists feel comfortable while bicycling. These routes have high-speed limits, multiple travel lanes, limited or non-existent bicycle lanes and signage, and large distances to cross at an intersection.
- 67% of collisions occurred in daylight and 25% occurred in the dark on streets with street lights.

- A large majority, 75% of all collisions, occurred during clear weather conditions while 15% collisions were reported to occur during cloudy weather and 7% during rainy weather.
- Preliminary analysis during Task One concluded that the roadway network showed two corridors as good candidates for complete streets /road diet improvements due to their existing ROW and design. The recommended streets were detailed below:
 - a. Creekbend Dr from S. Gessner Rd to Fondren Rd
 - b. Willowbend Blvd from Fondren Rd to Albury Dr.

In addition, roadway segments with large medians such as Chimney Rock Rd indicate that space may allow for the installation of a bike lane instead of a road reconfiguration.

General Findings of Task Two

Task Two, Concept Plan & Recommendations, the project team analyzed the needs assessment and determined categories of improvements that would help with the integration of multimodal transportation. The four categories that served as the focus for task two were:

1. Intersection Safety: One intersection was chosen to highlight potential improvements that can severely deter traffic collisions, enhance safety, and provide for opportunities to use different modes of transportation.

Primary Intersection: Belfort Avenue and Fondren Road

- 175 collisions in last 5 years (2016-2020) involving 533 persons
 - Averaging 35 collisions per year
2. Road Diets: Task I presented preliminary findings depicting 2 possible locations for road diets based on traffic demand. Upon further evaluation, the list was adjusted to one recommended site.
 - a. Creekbend Dr from S. Gessner Rd to Fondren Rd
 3. Sidewalk Improvements
 4. Bus Shelters

Improve Intersection Safety

In a Vision Zero Policy environment, every location where people are injured or die due to traffic crashes is important. This includes people walking through parking lots, cyclists riding on sidewalks, buses turning, motorists changing lanes, as well as intersections. When one analyzes data showing the frequency of crashes, time and again it points to intersections as an important focus for engineering solutions.

The Federal Highway Administration provides a safe systems approach to traffic engineers to use a data driven process that isolates locations by the types of collisions reported and the likely factors contributing to the crash. The Brays Oaks Livable Centers Study focused improvements on major roadways and connections where low- and high- comfort bicycle facilities are proposed. The roadways included are:

1. Airport Boulevard
2. Belfort Avenue
3. Braeswood Boulevard
4. Chimney Rock Road
5. Creekbend Drive
6. Fondren Road
7. Gessner Road
8. Hillcroft Avenue
9. Post Oak Road
10. Riceville School Road
11. Willow Bend Boulevard

One high-crash intersection in the Brays Oaks study area is at Fondren Road and Bellfort Avenue. The data shows that speeding and failure to respect the traffic signal are the two causes most often cited by law enforcement at the scene of the crash. Fondren Road is six lanes with a posted speed limit of 35 mph and Bellfort Avenue is four lanes also with a speed limit of 35 mph. The following presentation of data is for a crash history of five years beginning in January 1, 2016 to December 31, 2020:

- Bellfort Avenue and Fondren Road Intersection
 - 175 collisions in last 5 years (2016-2020) involving 533 persons

- Averaging 35 collisions per year

Belfort Avenue and Fondren Road Intersection Collisions Analysis Charts are shown in Figure 1 to Figure 6.

Figure 1 - Collisions by Severity

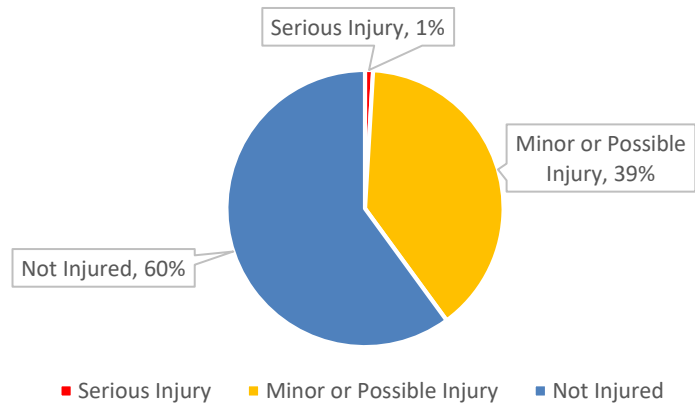


Figure 2 - Collisions by Severity and Year

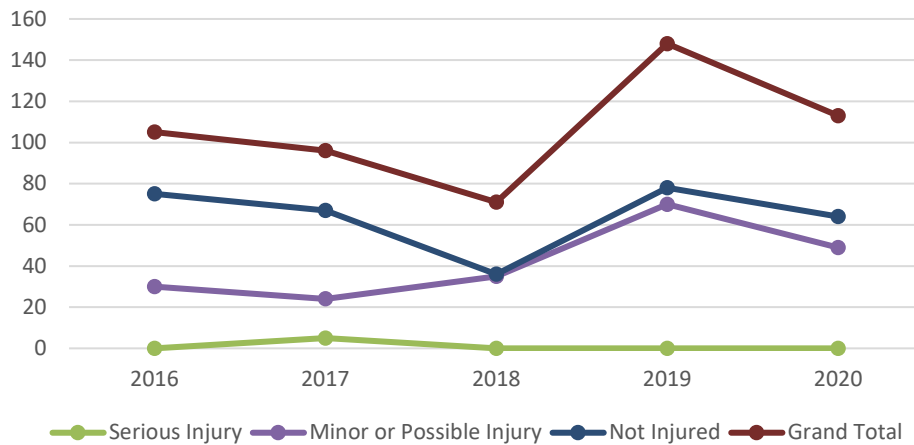


Figure 3 - Collisions by Mode

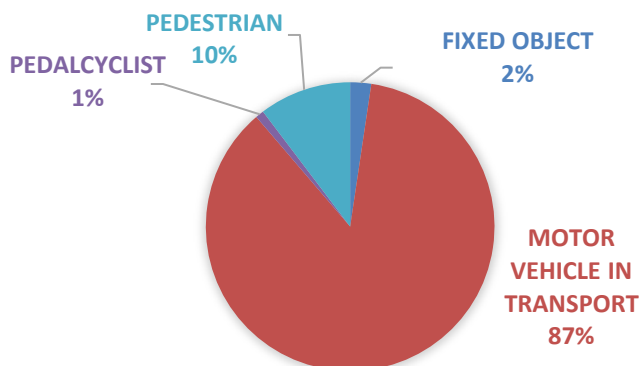


Figure 4 - Top Contributing Factors of Collisions

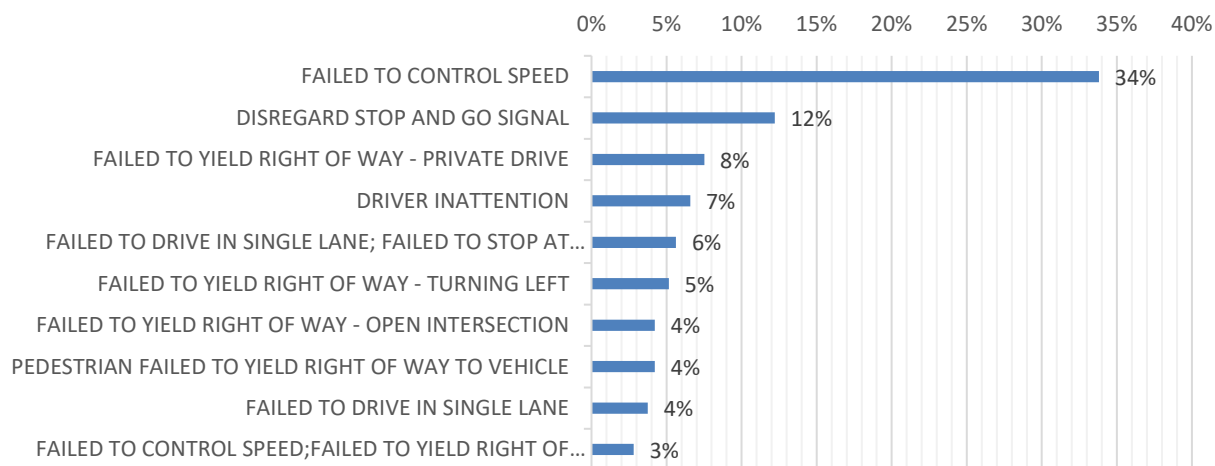


Figure 5 - Manner of Collision

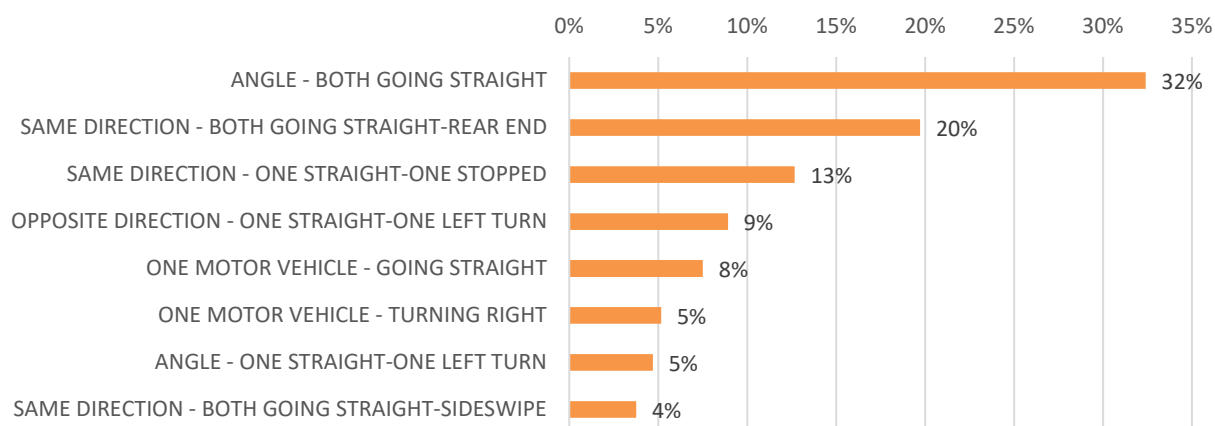
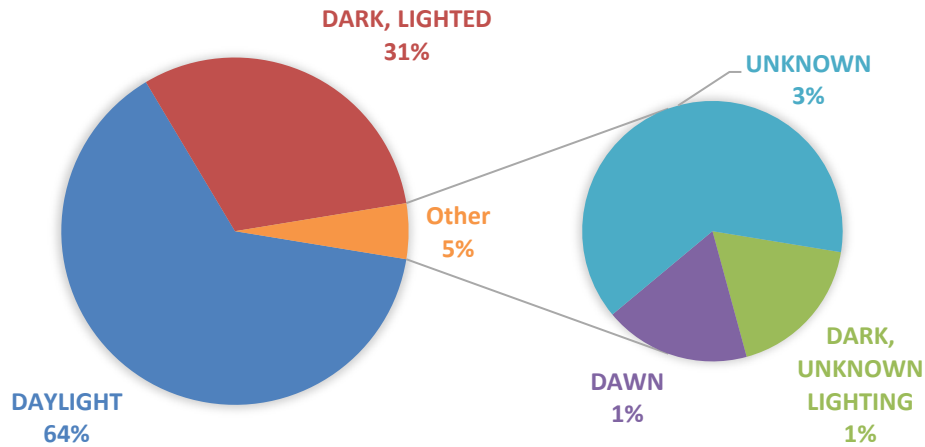


Figure 6 - Lighting Condition during Collision



Intersection Safety Improvements Objectives – the following four objectives were identified by the – road dietteam as guiding principles for translating the crash history into meaningful and place-specific recommendations.

- Provide safe access for all modes of transportation
- Improve the character and identity of the place thereby improving economic opportunity
- Improve the transportation efficiency of the intersection
- Integrate traffic calming designs and transit amenities

Recommendations:

Intersection recommendations prepared by TJKM for the Bellfort Ave/Fondren Rd intersection are as follows. It may not be essential to implement all of these recommendations at this intersection, but the following list can be used by the City to consider.

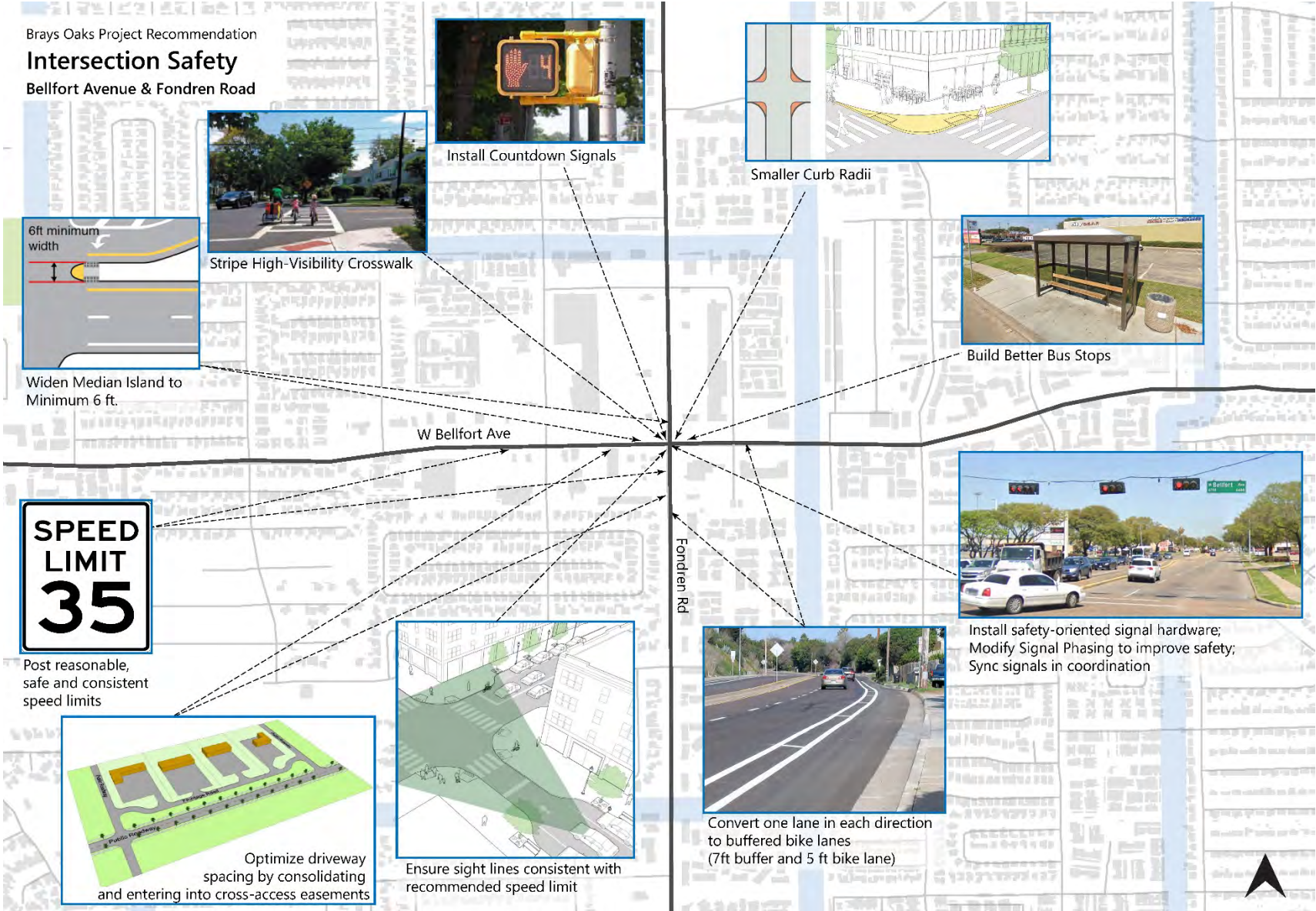
- *Install safety-oriented signal hardware*
- *Modify signal phasing to improve safety*
- *Synchronize signals in coordination*
- *Post reasonable, safe and consistent speed limits*
- *Ensure sight lines that are consistent with recommended speed limits*
- *Optimize driveway spacing by consolidating and entering into cross-access easements between adjacent retail property owners*
- *Widen median islands to a minimum of six feet wide*
- *Convert one lane in each direction on Fondren Rod to create buffered bike lanes (7ft buffer and 5 ft bike lane) in each direction*
- *Stripe high-visibility crosswalks*
- *Install countdown pedestrian signals and employ pedestrian phased timing*

- *Smaller curb radii at curb returns*
- *widen sidewalks to a minimum of six feet and preferably 10 feet*
- *build better bus stops*
- *close median openings that don't serve an interconnected secondary street network*
- *prohibit right turns on red in all directions*
- *Prohibit left turns in all directions and install new signals at upstream and downstream intersections to allow lefts there and interconnect those secondary streets to create streets that effectively bypass the Fondren / Bellfort intersection*
- *Plant street trees that provide shade to pedestrians*
- *Incentivize property owners to redevelop adjacent sites and build new taller buildings at the back of sidewalk and create secondary street system to support the primary streets (Fondren and Bellfort).*

It is important to mention that the Fondren Road project is currently under way with the city of Houston. Paid for by the City of Houston & TXDOT, The City of Houston Fondren Road Improvement Project ((MPO ID 17093, CSJ No 0912-72-38) is redesigning the corridor with a reduction of lanes from six to four lanes along with enhanced pedestrian amenities like crosswalks, markings, and bicycle facilities. The project team did meet with the representatives from the city of Houston on September 22, 2021. City staff expressed the importance for the Brays Oaks Management District to stay engaged with the city during their redesign of Fondren road and to share concerns and ideas for the project.

Figure 7 shows the some of the recommended improvements at the intersection of W Bellfort Avenue and Fondren Road.

Figure 7 - Bellfort Ave and Fondren Rd Intersection Safety Improvements

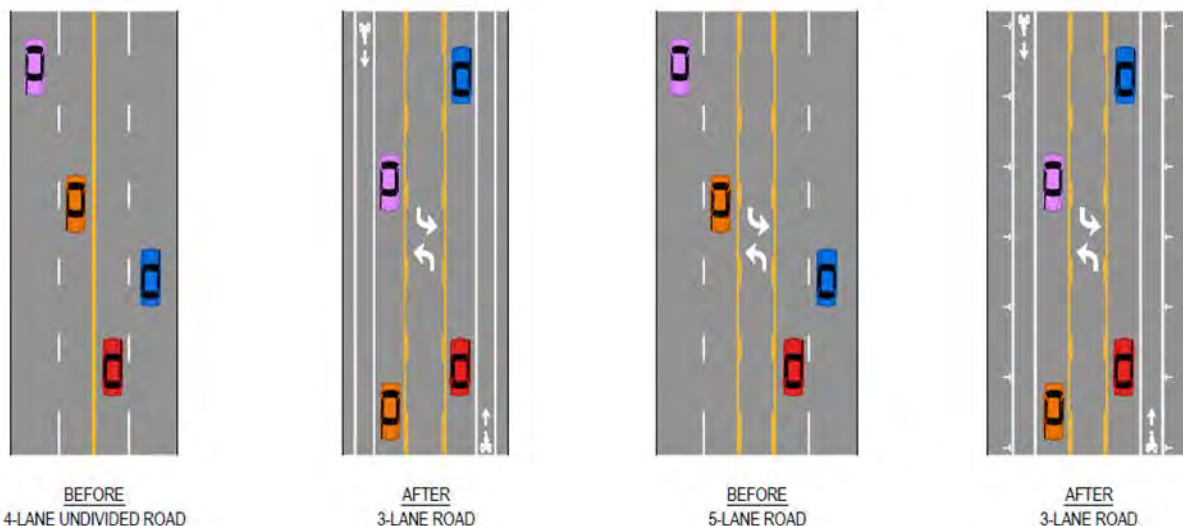


Road Diet

A road diet is the implementation of an alternate road design that reduces the number of travel lanes and/or the width of the roads. Also known as lane reductions or road channelization, Road diets have the potential to achieve systemic improvements while creating a safe environment for pedestrians, bicyclists, and users of all modes of transportation.

“Road diets” are often conversions of four-lane undivided roads into three lanes (two through lanes and a center turn lane), as shown in Figure 8. The residual street space can be utilized for bike lanes, street parking, transit lanes, raised medians, pedestrian refuge islands, sidewalks and/or curbside delivery and pick-up areas. In short, existing street space is reallocated from traffic lanes to other uses while maintaining the same curbs and curb-to-curb pavement width. If planned as a part of a street overlay or pavement resurfacing project, a road diet conversion can be relatively inexpensive and cost-effective.

Figure 8 - Typical Road Diet Basic Design



Under most ADT volumes, road diets have minimal effect on motorist delay because left-turning vehicles are moved into an exclusive two-way left-turn lane. At ADTs above approximately 20,000 vehicles, there is a greater likelihood that traffic congestion will increase to the point of diverting traffic to alternate or parallel streets. (Source: Road Diet Informational Guide: FHWA Safety program, November 2014, section 1.2.2, page 5, https://safety.fhwa.dot.gov/road_diets/guidance/info_guide/).

Road diets offer potential benefits to pedestrians, bicyclists and motorists. On a typical four-lane street, drivers change lanes to pass slower vehicles (such as vehicles stopped in the left lane in a midblock location waiting to make a left turn to a driveway). In contrast, drivers' speeds on two-lane streets are limited by the speed of the lead vehicle. Thus, road diets may reduce vehicle speeds and vehicle interactions during lane changes, which has been proven to reduce the number and severity of vehicle-

to-vehicle crashes in most cases. Based on studies conducted by FHWA, road diets have been observed to bring about a crash reduction of 19 to 47 percent. Pedestrians benefit because they have fewer lanes of traffic to cross, and also because motor vehicles are likely to be moving more slowly and further from the sidewalk.

METHODOLOGY

In determining the feasibility of a roadway for a road diet, there are nine criteria to evaluate. Parameters to be assessed when a road diet conversion is considered include:

1. Inclusion on an adopted plan (e.g. Bicycle Master Plan)
2. Roadway characteristics
3. Parallel routes
4. Traffic volume
5. Access points, turning volume and patterns
6. Collision analysis
7. Frequent stop and slow-moving vehicles
8. Weaving and speed
9. Pedestrian and bicycle activity

Based on above criteria and further analysis, only one roadway study corridor is proposed for a road diet.

1. Creekbend Drive: Gessner Road to Fondren Road

The criteria are introduced above to provide a basis for the evaluation and analysis of the Creekbend Drive study corridor which is described in the next sections.

1. INCLUSION ON ADOPTED PLAN (BICYCLE MASTER PLAN)

There are no bike facilities proposed on **Creekbend Drive** as per City of Houston Bike Plan. Bike lanes on Creekbend will connect to proposed off-street bike facilities near a power easement which runs parallel to Creekbend in the north. Proposed shared on-street bike path on cross connected streets such as Braes Forest Drive and Braesridge Drive provides connection to existing Brays Bayou trail system.

Currently, as per City of Houston Capital Improvement Projects (CIP), reconstruction of drainage and paving improvements is ongoing on the study segment.

2. ROADWAY CHARACTERISTICS

The role of the roadway in the overall transportation system should be evaluated, specifically with regards to possible trade-offs between multimodal, vehicular mobility, access and safety and possibly other factors. The conversion should support the Future Land Use Plan. The intended, current and

future function of the roadway should be considered to determine the feasibility for conversion. The feasibility of converting a four-lane undivided roadway to three-lanes is more likely to succeed if the roadway is already acting as a de-facto three-lane roadway. That is, if the volume of left-turn traffic is already high, then the inside lanes are operating as de-facto left-turn lanes.

3. PARALLEL ROUTES

Depending on the traffic volume, a road diet may result in slower speeds and some decrease in level of service, however, if parallel routes exist which may offer an alternative, these may be considered as well. Therefore, the potential impacts to parallel routes should be considered when evaluating implementation of a road diet.

S Braeswood Boulevard and W Bellfort Avenue serve as parallel routes to Creekbend Drive. There are a total of 9 cross-connected streets that could provide connection to parallel routes.

4. TRAFFIC VOLUME

Existing Average Daily Traffic (ADT) and future daily and peak-hour vehicle volume data is used to evaluate conversion of a four-lane undivided roadway to a three-lane roadway. Peak-hour volume typically represents 8 to 12 percent of ADT. In general, road diets operate most successfully on roadways with less than 20,000 ADT (Road Diet Informational Guide: FHWA Safety program, November 2014, section 3.3.5, page 17, https://safety.fhwa.dot.gov/road_diets/guidance/info_guide/). Roadways carrying higher volumes may experience congestion and diversion to parallel routes when possible.

The Iowa Guidelines (Road Diet Informational Guide: FHWA Safety program, November 2014, section 3.3.6, page 17, https://safety.fhwa.dot.gov/road_diets/guidance/info_guide/) considering the operation of a road diet, suggest the following conclusions assuming that the roadway has a 50/50 directional split and the peak hour volume is 10% of the roadway ADT:

- A Road Diet is nominally feasible when roadway peak hour volume is at or below 750 vehicles per hour per direction (vphpd) during the peak hour.
- A road diet could be implemented cautiously when peak hour volume is between 750 to 875 vphpd during the peak hour.
- A road diet is less likely feasible and may reduce vehicular LOS on an arterial when the peak hour volume is above 875 vphpd during the peak period.

ADT on Creekbend Drive and Airport Boulevard for 2021 is 11,198 and 13,956 respectively. Considering, 50/50 directional split and 10% of ADT is a peak hour volume, there are approx. 560 vphpd on Creekbend Drive and 700 vphpd on W Airport Boulevard.

5. ACCESS POINTS, TURNING VOLUMES AND PATTERNS

Roads with a greater number of access points will be better candidates for road diet conversions. Creekbend Drive has frequent driveways that provide access to adjacent businesses and residences.

For this reason, the proposed road diet will better serve existing land use in the study area than the current four-lane street.

6. COLLISION ANALYSIS

As mentioned earlier road diet projects have reduced the rate and frequency of crashes and their severity. One objective of a road diet conversion is safety of all road users. The expected reduction in crashes and severity that results from a road diet conversion may primarily be the result of a reduction in speed and speed variability along the roadway, a decrease in the number of conflict points between vehicles, less lane changing, and improved sight distance for left-turn vehicles on the converted roadway.

*TJKM conducted collision analyses on **Creekbend Drive** study segment considering a five-year period from January 1, 2016 to December 31, 2020. TJKM collected collision data from Texas Department of Transportation's Crash Record Information System (CRIS). Over the five-year period, 97 collisions were reported involving 238 persons, out of which 1 pedestrian and 1 bicyclist collision. 10 collisions occurred with parked vehicles and 13 with fixed objects. The primary factors contributing to the 97 reported collisions include unsafe speed, unsafe lane change, right-of-way violation at stop sign and driveways, with the most frequent being unsafe lane change. The majority of recorded collision-type was angle collisions and collisions while turning left. Other collision types observed include sideswipe, rear end, and hit object collisions. TJKM observed that 66 percent of collisions were property-damage only collisions and 26 percent of collisions resulted in injuries noted by pain for one or more victims.*

7. FREQUENT STOP AND SLOW-MOVING VEHICLES

The number and frequency of slow-moving vehicles using the roadway and/or those making frequent stops should be considered when evaluating a road diet proposal. Slow moving vehicles will have a greater impact on the operation of a three-lane roadway than on a four-lane roadway. The primary reason for the increased impact along three-lane roadways is a result of the inability of motorists to legally pass frequent-stop and/or slow-moving vehicles. The feasibility of a road diet conversion may be uncertain if there is a large number of frequent-stop and/or slow-moving vehicles using the roadway especially during peak travel periods.

One potential mitigation measure to minimize the impact of frequent-stop vehicles is to provide pull-out areas at specific locations along the corridor. This lends itself to the ease of entering and exiting the travel lanes and allows through traffic to pass easily.

8. WEAVING AND SPEED

Weaving on an arterial street occurs when one or more motorists frequently change lanes to pass slower moving vehicles, left-turning vehicles, vehicles turning right or entering an on-street parking space. Weaving frequency and associated speeds experienced on a four-lane roadway vary when compared to those on a three-lane roadway. The average vehicle speed and speed variability usually decreases with a road diet conversion from a four-lane roadway to a three-lane cross-section. The

need to “calm” or reduce vehicle speeds is often a reason for road diet conversions. The inability to change lanes or pass along a three-lane roadway results in lower vehicle speed variability than along a four-lane undivided roadway. Weaving or lane changing should not occur along a three-lane roadway. Lane changing along four-lane undivided roadways is done for lane positioning purposes and to bypass turning vehicles. The ability to make these maneuvers decreases as volumes increase, however, it can have safety and congestion impacts. The change in weaving and speeds is dependent on the current operation of the four-lane roadway; the impacts should be small if the existing roadway is already operating as a de facto three-lane roadway.

9. PEDESTRIAN AND BICYCLIST ACTIVITY

The volume and safety of existing and potential pedestrian and bicycling activity should be considered when evaluating a road diet conversion. For pedestrians and bicyclists, the slower and consistent speed of the road diet conversion are more desirable. A three-lane roadway produces fewer conflict points between vehicles and crossing pedestrians, and reduced complexity of the street operating condition generally leads to more attentive motorists who will see pedestrian and bicycling activity quicker. Separate bike lanes and/or sidewalks may be possible to add using the extra right-of-way.

Recommendations

The study team identified 8 roadway segments in the study area to evaluate as candidates for a road diet. The top criteria are four lane undivided roads carrying less than 20,000 vehicles per day (average daily traffic volume or ADT). Streets that are part of an interconnected network with appropriate (primarily non-residential) parallel streets no more than one mile away are important too. Roads that serve destinations or land use types that are known to generate walking and bicycling activity such as residential, retail, parks, schools, libraries and community centers. Based on aforementioned criterion, roadway corridors shown in Table 1 were considered for the road diet for Creekbend Drive study roadway segments.

Creekbend Drive: Gessner Road to Fondren Road

The proposed lane configuration would reduce the number of travel lanes from four to three, with one through lane in each direction and an exclusive left-turn lane at intersections (a continuous two-way left-turn lane between intersections), and continuous and connected bicycle lanes with buffer along the study segment. There is a need to identify alternative locations for disrupted on-street parking due to proposed improvements. Figure 9 and Figure 10 illustrates the existing and proposed cross-section of the lane geometry and width dimensions.

Table 1 - Potential Roadway Diet Segments in Brays Oaks

#	Segment	Length (mi)	No. of lanes in each direction	2021 Annual Daily Traffic*	Notes
1	Willowbend: Albury Dr to Bellfort Avenue	1.75	1	8,833	Not enough ROW
2	Creekbend: Gessner Rd to Fondren Rd	1.2	2	11,198	On street Parking may be an issue
3	Airport: Fondren Rd to Chimney Rock Rd	1.57	2	13,956	Road diet would include removal of center median (not recommended)
4	Airport: Riceville School Rd to Fondren Rd	1.78	2	16,967	Road diet would include removal of center median (not recommended)
5	Hillcroft: Willowbend to Airport Blvd	1.5	2	17,396	Not enough Contiguous ROW
6	Braeswood: Bob White Dr to Hillcroft	0.56	2	19,353	Road diet would include removal of center median (not recommended)
7	Chimney Rock: Willowbend to Airport Blvd	1.62	2	19,572	Not enough Contiguous ROW
8	Gessner: Bissonnet St to Airport Blvd	2.4	2	22,227	Road diet would include removal of center median (not recommended)

Figure 9 - Existing Cross-section of Creekbend Drive

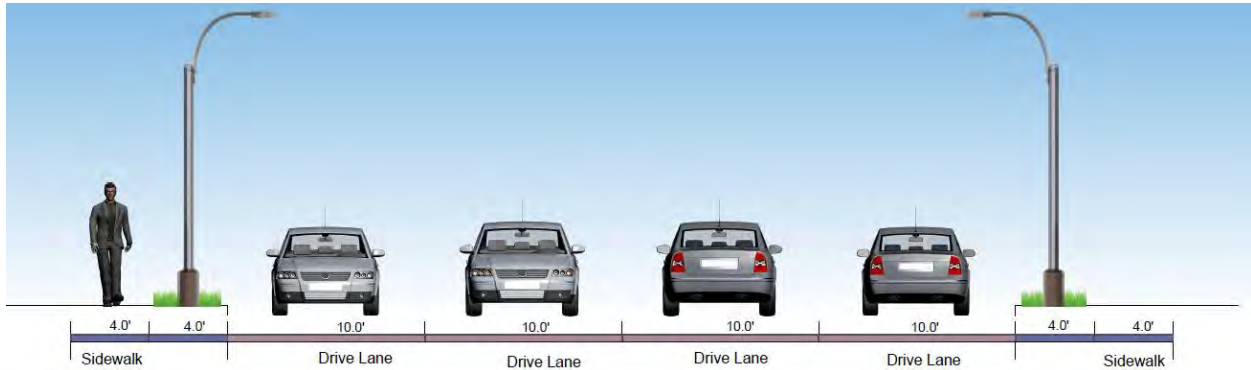
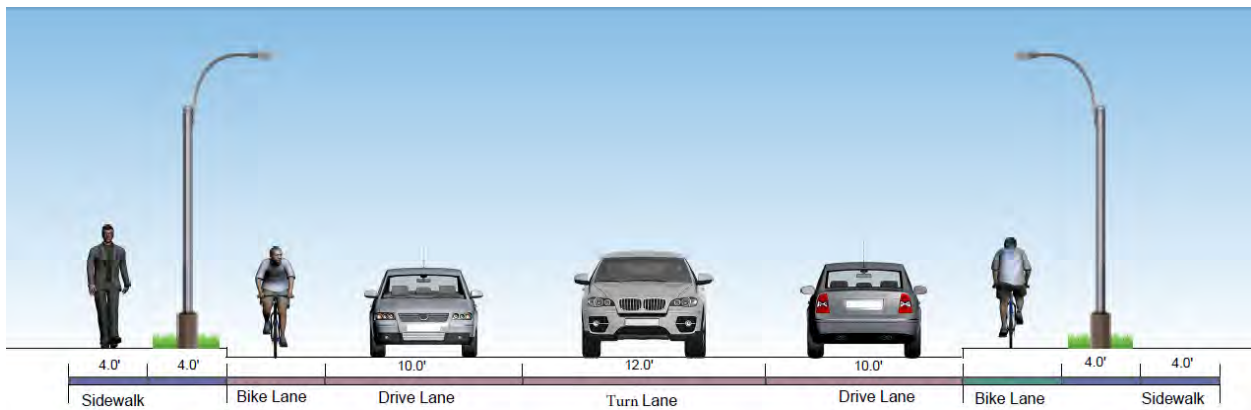


Figure 10 - Proposed Cross-section of Creekbend Drive



For this scenario, the existing lane configuration would be maintained on the side streets along the corridor. Existing left-turn and right-turn pockets would be maintained at all the signalized intersections. Storage lengths for left-turn pockets is assumed to increase with the road diet scenario to reduce queue overflow at the signalized intersections.

On street parking is currently allowed between the hours of 11 pm to 6 am along Creekbend from Braescreek Drive to Sandy Shoals Dr. Further analysis is recommended to determine the true need for parking along the corridor. A Parking Occupancy Study would help determine the capacity of the parking, areas of high usage, and help provide recommendations on where and parking should be located. The specified time allotted for on street parking does present an opportunity to implement a hybrid solution which implements multi-purpose lanes which would allow for bike lanes during the day and parking during the night.

The implementation of bike lanes along the Creekbend corridor could ultimately provide connectivity between the multi-family residential neighborhoods located along the corridor and other major corridors like Fondren rd. and Gessner rd.

It is important to mention that representatives of the Brays Oaks Management District did request the team to look at the potential of a road diet along Ludington Drive. This road does not have enough right of way (ROW) to make adjustments like a reduction of a lane.

Sidewalk assessment and improvement program

The presence of sidewalks is very important to support the safety, comfortability, and activities of pedestrians within a neighborhood. Sidewalks form an essential component in a transportation network and is something that is often overlooked. Many times sidewalks provide for an essential mode of transportation for specific demographics that do not own a car or for those that just decide not to own a car due to personal reasons. During our site visit, it was observed that the width and height of many sidewalks were found to not meet city standards, many sidewalks had obstacles like overgrown tree roots, garbage, and parked vehicles. In addition, several sidewalks were cracked, severely damaged, or lacked ADA accessibility.

Recommendations:

- *Develop a district-wide sidewalk assessment and improvement program focusing on access to schools, community centers and assets.*
- *Prioritize sidewalk projects to including gap closure, those in need of repair and streets that have no sidewalk at all. The focus should be on:*
 - *Repair or build accessible pathways for people with disabilities – going beyond the minimum ADA requirements to achieve universal design (intuitive mobility for all.)*
 - *Adding and/or improving sidewalk network connections around schools, parks, and other neighborhood assets*
 - *Work with the City of Houston to identify and remediate dangerous sidewalk conditions*
 - *Identify where connections can be made for greatest value for the community*

Bus Shelter Improvement Program

A transit stop is a primary interface between users and the transit system. A well-designed stop will encourage ridership and provide comfort, security, information, and a place to rest. Improving bus stops by providing shelters, seating, signage, and sidewalks is relatively inexpensive and popular among riders. Well-designed bus shelters are not just aesthetically pleasing but they also provide for accessibility to people of limited resources and physical capability. During the team's site visit, a variety of bus shelters were observed to have been damaged, vandalized, or with faulty equipment.

Recommendations:

- *To align with METRO's New Bus Network and key goals of better service and accessibility, identify existing or future bus shelters and stops to improve and enhance for transit users.*
 - *Partner with METRO to prioritize upgrades such as; Improve the overall comfort of transit users by installing covered and lighted shelters to encourage usage when service is available*
 - *Provide clear visibility and safer access to transit vehicles by expanding loading and unloading pads*
 - *Provide essential information related to transit schedules and connections with digital signage and maps*
 - *Review traffic signals along the route to identify ways for reduced time spent at red lights*

Transportation Analysis/Existing Conditions

Brays Oaks Livable Centers Study

Houston, Texas

August 6, 2021



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APPENDICES

Appendix A: Planning Documents and Relevant Contents

Appendix B: Traffic Count Data Worksheets

Appendix C: Field Work Notes

Appendix D: List of Community Workshop Transportation Related Comments

EXECUTIVE SUMMARY

Brays Oaks is a recognized management district within the City of Houston, Texas, shown in **Figure 1**. The Brays Oaks Livable Center Study has a focus within the boundaries of the Brays Oaks Management District (BOMD), hereafter referred to as “Brays Oaks” or “The District”, which was established in 2005 for purposes of improving the quality of life for area residents, promoting opportunities for reinvestment, and reaffirming the community as one of the best in Houston to live, work, and play. The Transportation

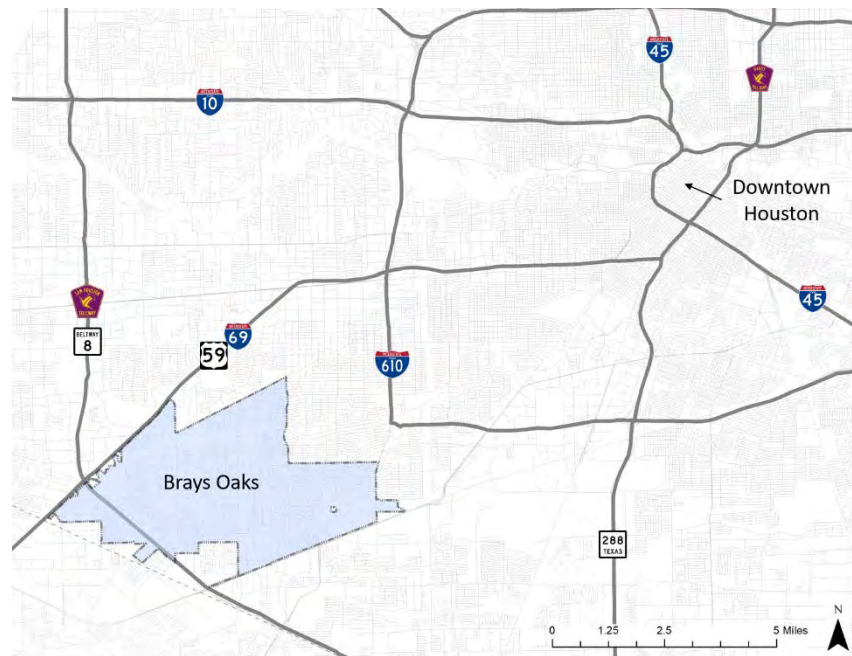


Figure 1: Regional map showing location of Brays Oaks

Analysis for the Brays Oaks Livable Centers Study was conducted in two phases. The first phase took on a quantitative perspective analyzing data provided from a variety of different sources like the Texas Department of Transportation (TxDOT) and the Houston-Galveston Area Council (H-GAC). Phase II included a qualitative approach that involved team members evaluating the transportation network first hand through a series of walking and bike tours along with feedback from the public and stakeholders. The purpose of the transportation analysis is to highlight specific gaps or deficiencies within the network with the hope to later identify the types of improvements to facilitate pedestrian accessibility, bicycle access and usage, transit access, intermodal integration, and enhancement of safety for all modes. Future tasks will include recommendations for specific complete streets improvements, new recommended improvements for each street classification, and if needed, new roadways.

The following summarizes the initial findings of the existing conditions section of the Transportation Analysis.

PLANNING CONTEXT/LITERATURE REVIEW

Plans from the City of Houston, Harris County, and the Houston-Galveston Area Council (H-GAC) create a foundation that informs short-term decision-making and long-term planning. This review focuses on vision, goals, and potential projects within the Brays Oaks Management District (BOMD) study area. The intent of the transportation analysis is to build on relevant prior planning efforts and be consistent with City and regional guidelines and principles. Studies and planning documents reviewed for the transportation analysis include:

1. Houston-Galveston Area Council 2045 Regional Transportation Plan (RTP) (2019)

2. Plan Houston General Plan (2015)
3. City of Houston Bike Plan (2017)
4. Brays Oaks Management District Streetscape Master Plan (2021)
5. Brays Oaks Management District Strategic Branding Plan (2021)
6. Brays Oaks Economic Development Strategic Plan (2020)
7. Brays Oaks Parks and Trails Master Plan (2020)
8. Hillcroft Avenue Healthy Connections Corridor Study (2020)
9. Westbury Community Garden Master Plan (2016)

GENERAL FINDINGS

- The BOMD study area has continuous sidewalks but much of it is in fair to poor condition and nearly all sidewalks are too narrow for two people to walk side-by-side.
- Congestion levels are acceptable during morning and evening peak times, except along US-59/IH-69.
- 2,642 injury collisions occurred over a recent five-year period of which 147 resulted in a fatality or serious injury.
- Fondren Road/West Bellfort Avenue and West Bellfort Avenue/Beltway 8 are intersections with a high frequency of collisions.
- There were 159 bicycle/pedestrian-involved injury collisions in five years.
- Most collisions occurred at non-intersection locations; a total of 45% of all injury collisions.
- Willowbend Boulevard and Creekbend Drive are the only major streets in the BOMD study area to have a low level of stress for bicycling. All other major streets have high-speed limits, multiple travel lanes, limited or non-existent bicycle lanes and signage, and/or large crossing distances.
- The average amount of driving per person in Brays Oaks is 22.68 miles per day.
- Bicycling and walking infrastructure (such as sidewalks, bicycle lanes, crosswalks, pedestrian push buttons at traffic signals, etc.), are in fair to poor condition in most locations in the study area.
- The District has public rights-of-way that may become good transportation assets; the network of bayous and drainage channels may be transformed into future transportation corridors.
- Findings from the community outreach generally found that Brays Oaks residents desire more street enhancements. They are concerned about safety while walking and biking around the District.

Preliminary analysis of the roadway network shows two corridors as candidates for roadway reconfiguration and pedestrian infrastructure enhancements. These corridors are chosen based on their existing Right of Way and existing infrastructure that is currently in place. The recommended streets are:

- Creekbend Drive from South Gessner Road to Fondren Road
- Willowbend Boulevard from Fondren Road to Albury Drive

Additional evaluation should consider:

- Roadway segments with large medians such as Chimney Rock Road currently show excessive space that can be repurposed for street enhancements and upgrades.

These recommendations will be further refined in later phases of the Livable Centers Study and take into account resident comments.

CHAPTER 1: INTRODUCTION



Figure 2: Example of a Complete Street in the Mueller district of Austin
(Source: City of Austin)

This Transportation Analysis is being conducted as part of the Brays Oaks Livable Centers Study, sponsored by the Brays Oaks Management District and the Houston-Galveston Area Council (H-GAC). These small area studies have been conducted across the Houston area since 2008, with the aim of creating more livable places where people can live, work, and play with less reliance on cars. They encourage mixed land uses, walkable, connected communities, and the implementation of complete streets. Complete streets are streets that provide access for

all modes of transportation (auto, bicycle, pedestrian, and transit), and are safe for all ages and abilities.

Through that lens, the purpose of this Transportation Analysis is to present existing conditions of the transportation network of Brays Oaks; how and where people move about the District; and where multi-modal improvements (such as sidewalks, bike lanes, new crosswalks, etc.) are most needed. Traffic in Houston has been steadily increasing as the population of the city has exploded over the last decade. Metro Houston added more than 250 people each day last year, boosting the region's population to nearly 7.0 million. In order to accommodate the continued growth, the city's transportation system must be responsive and meet the needs of residents and visitors. TJKM studied existing conditions within the BOMD Livable Centers study area to understand current infrastructure and its deficiencies. This includes not only analyzing the roadway system, but also examining opportunities for street enhancements or improvement that include complete streets implementation, transit services, improving safety on the system, and opportunities to reduce vehicle miles traveled (VMT) which is the number of vehicles on the road multiplied by the number of miles driven. Each of these opportunities for street enhancements or improvement will contribute to the development of a balanced and sustainable transportation system for the BOMD Livable Centers study area.

The TJKM team pulled data from a variety of sources to get a clearer picture of the state of the transportation system in Brays Oaks. The categories of data we analyzed are listed below:

- Existing roadway classifications, traffic volumes, and roadway operations
- Existing bicycle and pedestrian network
- Existing transit services
- Existing collision data from 2016-2020
- Baseline vehicle-miles traveled (VMT) analysis for the City
- A list of possible corridors that are more amenable to complete streets implementation

In addition to doing an in-depth analysis of the topics above, the TJKM team conducted a three-day field survey by walking, biking, and using transit around the District. The team surveyed major arterial roadways for deficiencies and potential improvements. Examples of items that the team looked for could be broken sidewalks, presence of a bike lane, lack of places to cross the street, and more. This was combined with the first of three community workshops where the project team presented existing conditions in the District, and listened to community concerns about where they would like to see more improvements to transportation. Public input ranged from transportation suggestions to water/sewer infrastructure, housing, amenities and many other topics. TJKM took notes on all comments and provided them to the District and to H-GAC staff.

Figure 3: Looking south along Fondren Avenue



CHAPTER 2: PLANNING CONTEXT

Planning Documents

This section details relevant planning documents that will support the BOMD Livable Centers Study. These documents have identified goals, policies, and potential improvements that may apply to the study area. The following sub-sections describe the purpose and function of each document reviewed. A table summarizing relevant policies within these documents as pertaining to the district is included as **Appendix A**.

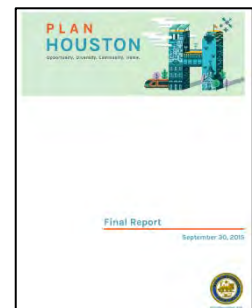
Houston-Galveston Area Council 2045 Regional Transportation Plan (RTP) (2019)

Updated in 2019, the Regional Transportation Plan sets the stage for transportation investments in the greater Houston area. The plan includes an analysis of future transportation needs and recommended projects. Currently, there are a number of projects proposed within the BOMD Livable Centers study area, including roadway improvements along Fondren Rd, transit improvements along South Gessner Rd, High-occupancy Vehicle (HOV) lanes along US-59, and future Bus Rapid Transit (BRT) service along Beltway 8.



Plan Houston General Plan (2015)

Adopted in 2015, Plan Houston lays out the goals, objectives, and performance metrics by which the City will achieve the community's vision and goals of how Houston will grow. One of the transportation-related goals is to create an affordable multi-modal network citywide. It also includes two online tools: performance indicators to track the community's progress towards meeting the vision and goals and a planning coordination tool that displays local plans.



City of Houston Bike Plan (2017)

Houston's bike plan, adopted in 2017, lays out the long term vision for building out Houston's bicycle network. The plan includes an evaluation of existing conditions, sets a vision and goals for the plan, provides a toolbox of bicycle facilities, maps out the planned facilities, and provides implementation strategies. Several facilities are planned in the BOMD Livable Centers study area including several off-street paths along canals/bayous, as well as bike lanes on West Bellfort Avenue, West Airport Boulevard, Hillcroft Avenue, and Chimney Rock Road. Several other roadways are planned to have shared bicycle facilities.



Brays Oaks Management District Streetscape Master Plan (2021)

This plan is intended to be a resource to the district as it moves forward with potential public improvements and provide recommendations for streetscape and wayfinding improvements. It includes an assessment of existing streetscapes along major corridors within the BOMD Livable Centers study area. Recommendations that came out of the Plan include potential gateways, art box installations, a Wayfinding Signage Master Plan, and landscape concept alternatives, along with costs, phasing, and potential funding sources.



Brays Oaks Management District Strategic Branding Plan (2021)

The purpose of the Strategic Branding Plan is to provide a guide to prioritize marketing resources and projects over the next five years. Tasks included surveys of both external and internal audiences to better understand perceptions of the District, identification of preferred marketing tools, stakeholder outreach, and an economic and demographic scan. Recommendations include a brand promise, core messaging, a branding vision, and marketing goals.



Brays Oaks Economic Development Strategic Plan (2020)

The Economic Development Strategic Plan assesses current economic conditions, takes stock of current assets, and creates a path toward economic prosperity that can be implemented by the Management District. In several locations, transportation and encouraging non-auto modes is recognized as an under-utilized asset, primarily because of the bayous and drainage canals that crisscross the area. Eight concepts are presented and recommendations are made to implement them.



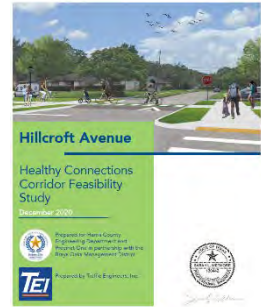
Brays Oaks Parks and Trails Master Plan (2020)

The Parks and Trails Master Plan is intended to be a strategy for developing park and recreational facilities within the BOMD Livable Centers study area. The Plan builds on past planning efforts in 2010 and 2013, but specifically targets a selection of projects that can be handled and addressed now and within the next five to ten years. Elements include plan goals and objectives, a summary of existing facilities, a needs assessment, and recommendations.



Hillcroft Avenue Healthy Connections Corridor Feasibility Study (2020)

As part of the Harris County Precinct One’s initiative to provide safe and healthy transportation options, this study assesses the feasibility of creating a north-south multi-modal corridor connecting Braes Bayou Greenway to the Sims Bayou Greenway. It includes an assessment of the neighborhood context, baseline conditions in the area, and recommended improvements to the Hillcroft Ave corridor. The recommendations include building a shared use trail. Four access corridors are proposed in each direction from the proposed shared use path: along Hillcroft Ave north and south of the proposed path, as well as along a proposed trail on Willow Waterhole Bayou. Recommendations also include pedestrian and bicycle routes within each access corridor. The report includes an implementation plan with cost estimates, timelines, and renderings.



Westbury Community Garden Master Plan (2016)

Westbury Community Garden is a seven-acre garden located near Hillcroft Road in the eastern part of the BOMD Livable Centers study area. The purpose of the master plan is to take stock of existing conditions at the site and recommend improvements to the site for the future (including to address the persistent issue of flooding).



CHAPTER 3: EXISTING FACILITIES



Figure 4: Brays Bayou Trail looking west

Study Area

Before developing the BOMD Livable Centers Study Complete Streets recommended improvements, it is necessary to compile a list of all existing transportation facilities (roadways, sidewalks, bicycle lanes/paths, etc.) and near-term/future improvements. This section summarizes the existing roadway system, transit, pedestrian and bicycle facilities within the study area. This provides a baseline for recommending and prioritizing already proposed improvements during the development of the BOMD Livable Centers Study. Figure 4 shows the Brays Bayou Trail. The study area includes the entirety of the BOMD boundaries, which are roughly described as Bissonnet Street and Willowbend Boulevard to the north; South Post Oak Road to the east; US-90A, Beltway 8, and West Airport Blvd to the south; and US-59/IH-69 to the west. The study area is illustrated below in **Figure 5**.

Figure 5: Study Area

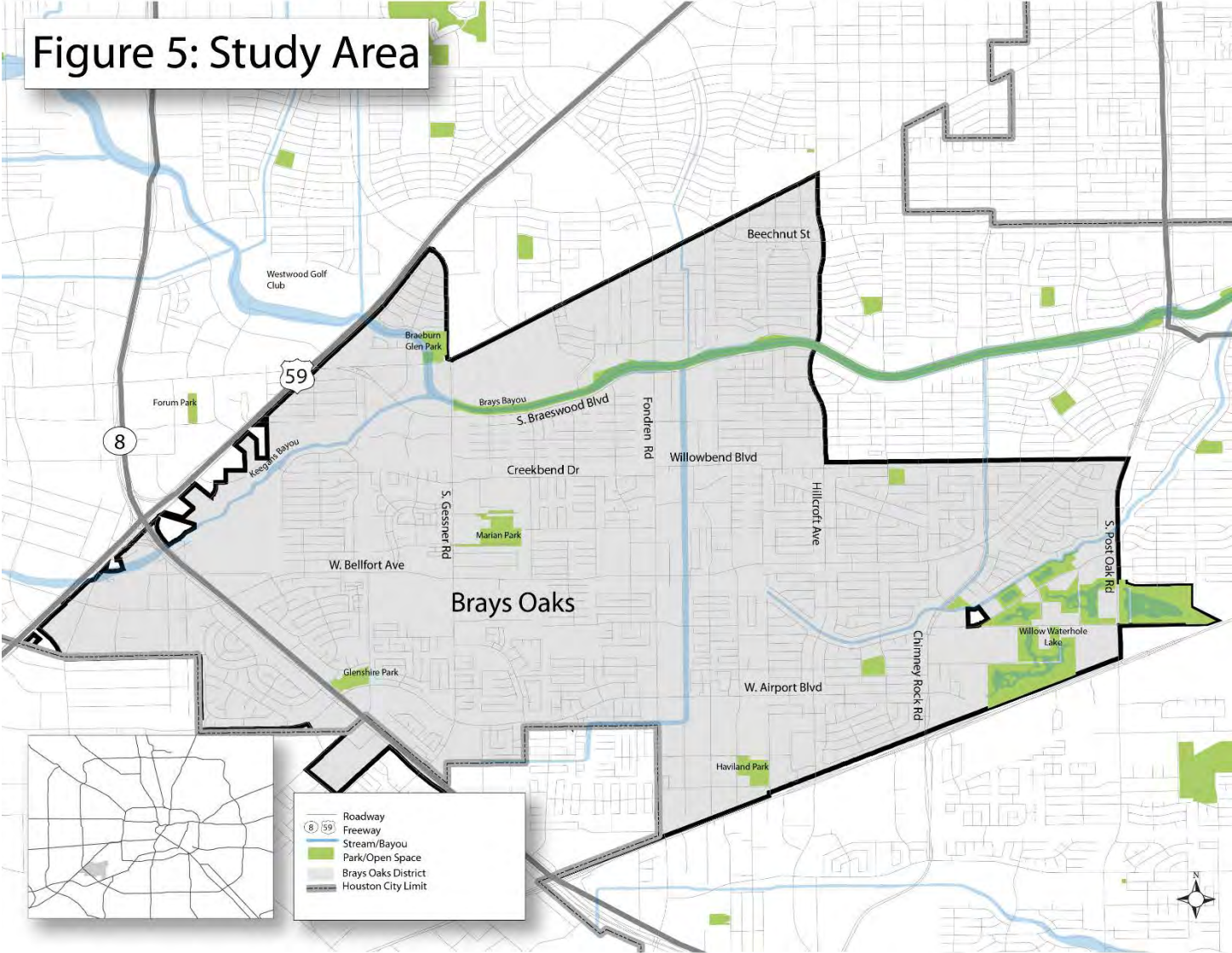




Figure 6: Broken sidewalk along South Gessner Road

Existing Transportation Facilities

EXISTING PEDESTRIAN FACILITIES

Walkability is defined as the ability to travel easily and safely between various origins and destinations without having to rely on automobiles or other motorized travel. The ideal “walkable” community includes wide sidewalks, a mix of land uses such as residential, employment, and shopping opportunities, a limited number of conflict points with vehicle traffic, and easy access to transit facilities and services.

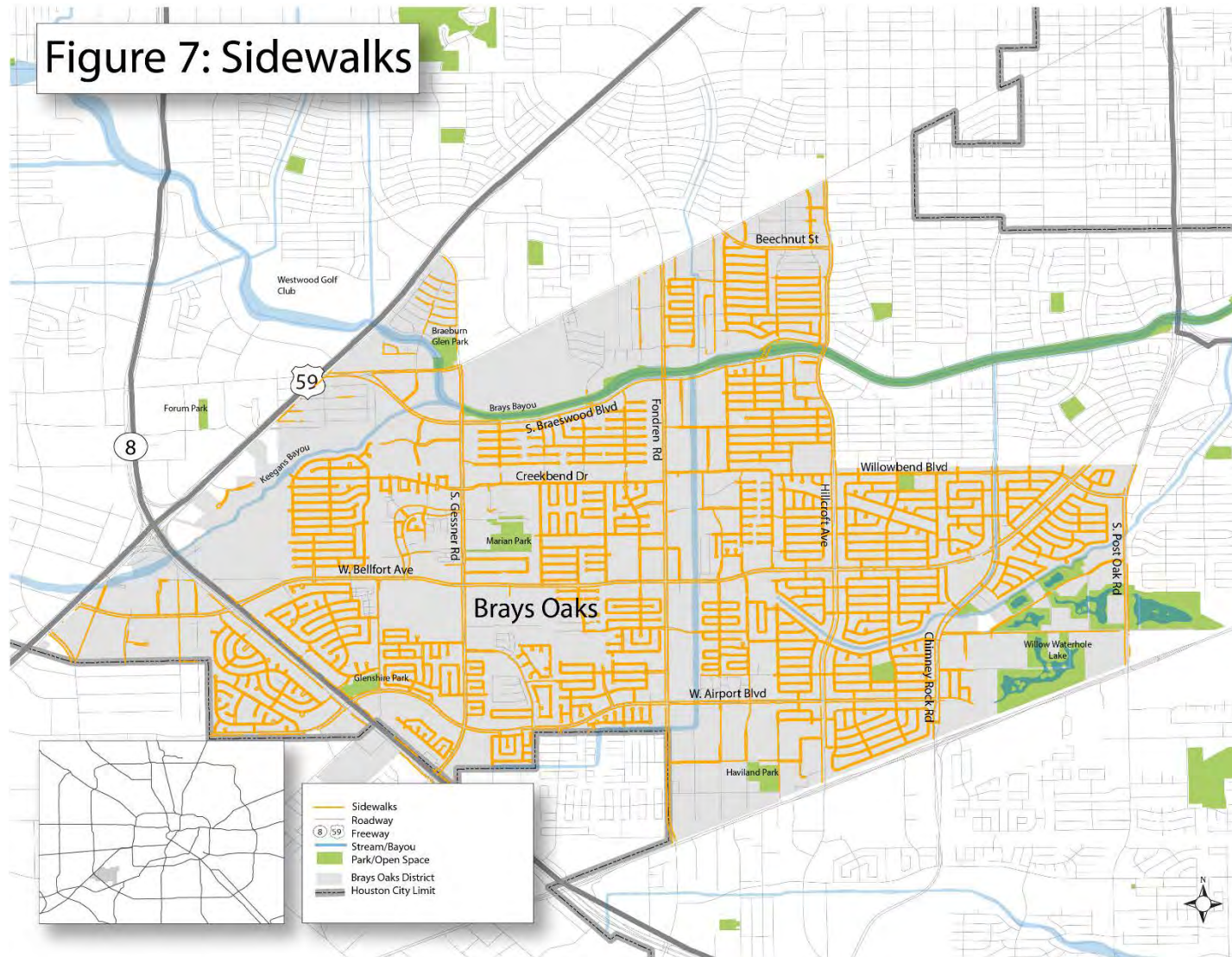
Pedestrian facilities include, but are not limited to, crosswalks, sidewalks, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access destinations such as institutions, businesses, public transportation, and recreation facilities.

In general, there are pedestrian facilities, transit stops and shelters along most of the project roadways. However, the condition varies and the width of most of the sidewalks are five feet wide or less, which is not wide enough for two people to walk together. The

project team observed many sidewalks in poor condition with cracks and missing segments that would be difficult to navigate for those with a visual or physical disability. Pedestrian crossings are typically only provided at major arterial intersections with an occasional mid-block crossing. However, the project team observed that some of these crossings (particularly the mid-block crossings) did not have ramps for those with limited mobility to utilize. Many transit stops also did not have sidewalks leading up to them, or shelters/benches to rest on.

Figure 7 illustrates the existing sidewalk network within the BOMD Livable Centers study area.

Figure 7: Sidewalk Network in Brays Oaks



EXISTING BICYCLE FACILITIES

A key element to any livable area is having high quality bicycle facilities that allow for safe and convenient travel throughout the area on a bicycle. Bicycle facilities are designated as the following:

- Dedicated On-Street Bicycle Facilities provide separate travel from vehicle lanes within the roadways. These include the standard bike lane, buffered bike lane, separated bike lane and side path.
- Non-Dedicated On-Street Bicycle Facilities are where bicyclists share the street with motor vehicle traffic. They can be high-comfort facilities on roadway with certain characteristics such as low- traffic volumes and speed.
- Off-Street Bicycle Facilities provided dedicate space for bicyclists separate from vehicle lanes outside of the roadway. These can be trails or side paths, which are within the street right-of-way but outside the roadway. The side path can be a sidewalk widened to sufficiently to support bicycle travel.



Figure 8: Bicycle crossing sign on South Braeswood Boulevard approaching Keegan's Bayou Trail

Currently, bike facilities within the BOMD Livable Centers study area consist of a number of high-comfort, off street trails, including:

- Brays Bayou Greenway Trail, adjacent to Braeswood Boulevard
- Keegan's Bayou Trail, between Braeswood Boulevard and Beltway 8 and connecting to Willow Meadow Drive
- Fondren Diversion Channel Trail, between Braeswood Boulevard and Willowbend Boulevard

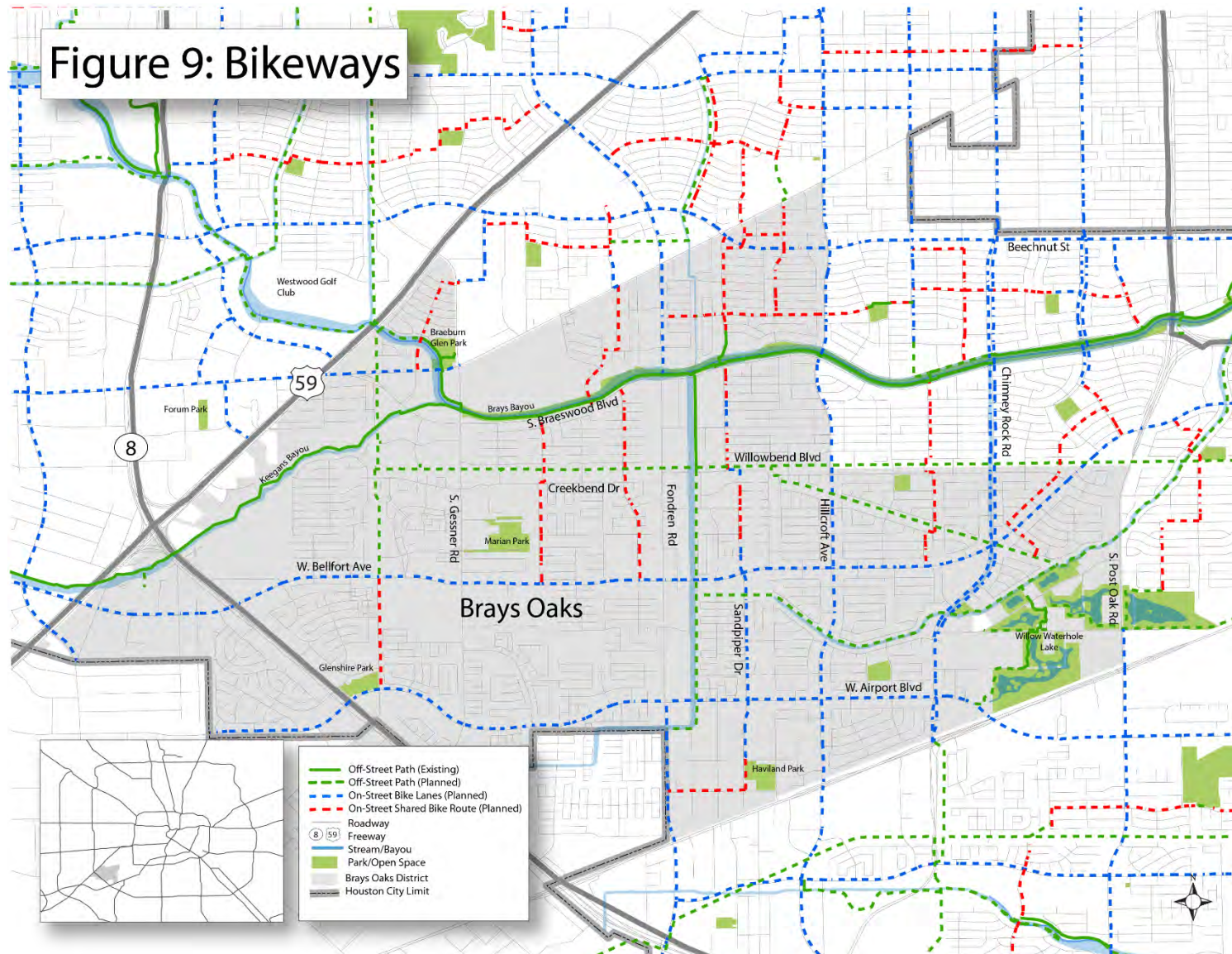
Per the Houston Bike Plan, adopted on March 22, 2017, more high-comfort facilities are proposed in Brays Oaks. A list of them is detailed below in **Table 1**.

Table 1: Proposed High Comfort Bicycle Facilities in Brays Oaks

Type of Facility	Street Location	Road Limits (within the BOMD)	
Dedicated On-Street	W. Belfort Avenue	Silkwood Drive	S. Post Oak Road
	W. Airport Boulevard	Bedford Street	Chimney Rock Road
	Bob White Drive	North of Benning Drive	Fonmeadow Drive
	Hillcroft Avenue	Brays Bayou	US-90A
	Chimney Rock Road	Willowbend Boulevard	Main Street
	S. Post Oak Road	Gasmer Drive	US-90A
Off-Street	Utility Corridor (runs north/south, east of Silkwood Drive)	Keegans Bayou Trail	W. Belfort Avenue
	Utility Corridor (runs east/west, north of Creekbend Drive)	North South Utility Corridor	Brays Oaks District Boundary
	Drainage Corridor (runs north-south)	Willowbend Boulevard	Argyle Elementary School/Fondren Road
	Gasmer Drive	Willow Drive	Ricecrest Street
	Drainage Easement Trail (runs east/west)	Future Utility Corridor facility	Future Drainage Corridor /Willow Water Hole
	Drainage Corridor/Willow Water hole (runs east/west)	Drainage Corridor (runs north/south)	S. Post Oak Road/ Brays Oaks District Boundary
Shared On-Street	Riceville School Road	W. Belfort Avenue	W. Airport Boulevard
	Minetta Street	Fondren Road	Fairmont Street
	Fairmont Street	Fonmeadow Drive	Minetta Street

Figure 9 illustrates the existing and proposed bicycle network within the BOMD Livable Centers study area.

Figure 9: Existing & Proposed Bicycle Network in Brays Oaks



EXISTING TRANSIT FACILITIES

Local Transit

Public transit operations are provided by the Metropolitan Transit Authority of Harris County (also known as METRO). Ten bus routes serve the Brays Oaks District along most of the major arterial roadways, with frequencies varying from 10 to 30 minutes during peak times and 15 to 60 minutes during off-peak and weekend times. There is also one park and ride (P&R) lot within the District (West Belfort P&R) and two just outside of it (Westwood P&R and Missouri City P&R). These park and ride lots are served by bus routes that connect to downtown Houston and other major destinations within the metro area. The bus routes with service within Brays Oaks are listed in **Table 2**, and mapped in **Figure 11**.

The redevelopment of the West Belfort Park & Ride needs to be closely analyzed. Located at 11415 Roark Road, the facility lies on 19 acres and is currently going through a significant redevelopment effort to maximize the utilization of its land and improve its connection to the overall transportation network. This project specifically has the potential to be a catalytic project for the area.



Figure 10: Bus stop on South Braeswood Boulevard adjacent to Brays Bayou Trail with no wheelchair access directly to/from trail:

Table 2: Existing Transit Service

Bus Route Info				Headway (time between bus arrivals)			
Street	Route Number	Route Name	Peak	Midday	Evening	Saturday	Sunday
W. Airport Drive, Chimney Rock Road	7	West Airport	20	30	30	30	30
W. Bellfort Avenue	8	West Bellfort	20	30	30	30	30
	161	Wilcrest Express	15/30	15/30	30	15/30	15/30
Braeswood Boulevard	63	Fondren	15	15	30	15	15
	65	Bissonnet	10	15	30	15	15
Gessner Road	7	West Airport	20	30	30	30	30
	46	Gessner	15	15	30	15	15
Willowbend Boulevard	10	Willowbend	30	60	60	60	60
Hillcroft Avenue	47	Hillcroft	30	30	30	30	30
Post Oak Road	49	Chimney Rock/Post Oak	20	30	30	30	30
US-59/IH-69	269	Southwest Corridor P&R Route	10/15	-	-	-	-
US-59/IH-69	292	P&R Route to TMC	10/15	-	-	-	-

Note: Headways for each time period throughout the day are in minutes and represent the frequency by which the bus operates on the given route at different times of the day/week.

Peak = 7am-9am/4pm-6pm

Midday = 9am-4pm

Evening = After 6pm

ROADWAY SYSTEM

Relevant roadways adjacent to the project site are discussed below:

W. Airport Boulevard is a four to six lane east-west median-divided major thoroughfare roadway that provides access to residential development, schools and commercial businesses. The posted speed limit is 35 mph. Sidewalks are provided on both sides of the roadway for most of its length.

W. Bellfort Avenue is a four to six lane, east-west median-divided major thoroughfare roadway with a posted speed limit of 20 mph (school zone area) to 35 mph. West Bellfort Avenue provides a mix of commercial centers, schools, access to residential neighborhoods as well as homes fronting the roadway. Sidewalks are provided on both sides for most of its length.



Figure 12: Typical 4-lane roadway cross section of West Bellfort Avenue, east of South Gessner Road

S. Braeswood Boulevard is a four to six lane east-west median-divided major thoroughfare roadway which connects Bissonnet Road in Westwood with IH-610 and Post Oak Road. This road runs parallel to Brays Bayou and the Brays Bayou Greenway Trail. The speed limit is 20 mph in school zones when active and 35 mph otherwise. Sidewalks are provided on the south side, while the Brays Bayou Trail parallels the road on the north side.

Chimney Rock Road is a four lane north-south median-divided major thoroughfare roadway with a posted speed limit of 35 mph and 20 mph in school zones. The land use surrounding it is primarily residential with some commercial. Sidewalks are provided on both sides of the roadway.

Creekbend Drive is a four lane east-west undivided major collector roadway with a posted speed limit of 30 mph. A bicycle facility is proposed between Gessner Road and Fondren Road. Sidewalks are provided on both sides.

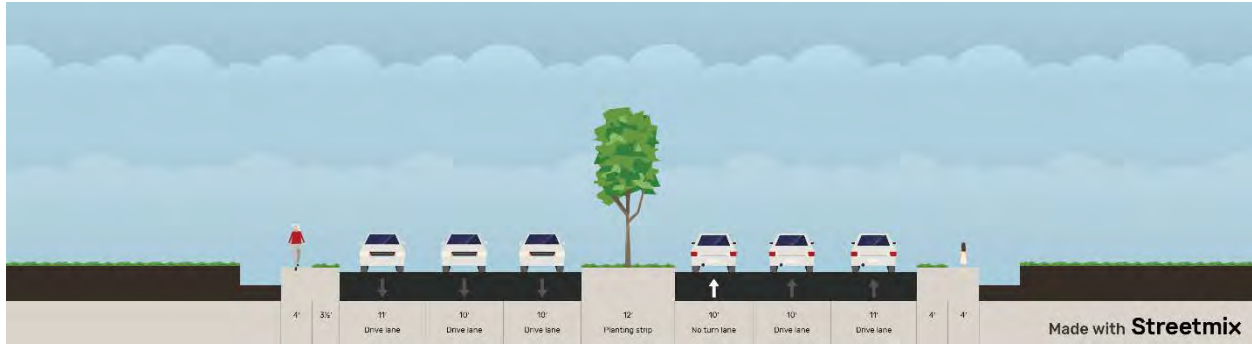


Figure 13: Typical 6-lane road cross section of Fondren Road north of West Airport Boulevard

Fondren Road is a four to six lane north-south median-divided major thoroughfare roadway that provides access to residential development and commercial businesses. The posted speed limit is 20 mph in active school zones and 35 mph otherwise. Sidewalks are provided along both sides of the roadway. In May 2019, a Federal Highway Administration (FHWA) Road Safety Audit was completed, recommending short term and medium to long term improvements to improve safety. This includes pedestrian phase timing at intersections, median improvements and straightening crosswalks, improved visibility crosswalks markings, and added bicycle facilities.

South Gessner Road is a four lane north-south median-divided major thoroughfare roadway with a posted speed limit of 20 mph in school zones, and 35 mph on other segments of the roadway. There are two schools located on the north and south ends of Gessner Road within the BOMD Livable Centers study area; Valley West Elementary School and Gross Elementary School. At these locations, crosswalks and school related roadways signs are present. Sidewalks are provided on both sides of the roadway.

Hillcroft Avenue is a four lane north-south median-divided major thoroughfare roadway with a posted speed of 35 mph. Sidewalks are provided on both sides of the roadway. The roadway mainly serves the residential community with some commercial and houses of worship along the roadway.

South Post Oak Road is a six lane east-west median-divided roadway between Willowbend Road and Main Street in the BOMD Livable Centers study area. The posted speed limit is 40 mph. Land uses surrounding the roadway are primarily commercial. Sidewalks are provided for the majority of its length.

Riceville School Road is a two lane north-south undivided roadway with a posted speed of 35 mph. Sidewalks are provided on the west side for the majority of its length. Land uses are primarily residential.

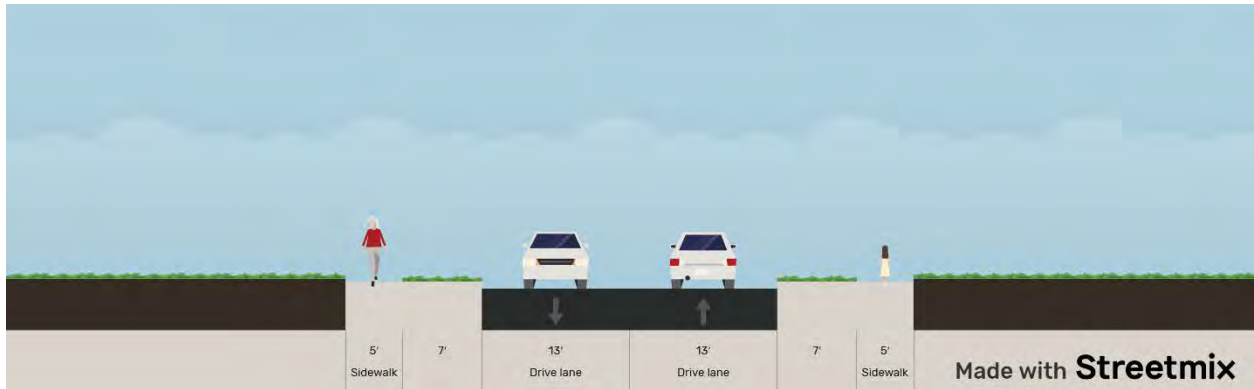
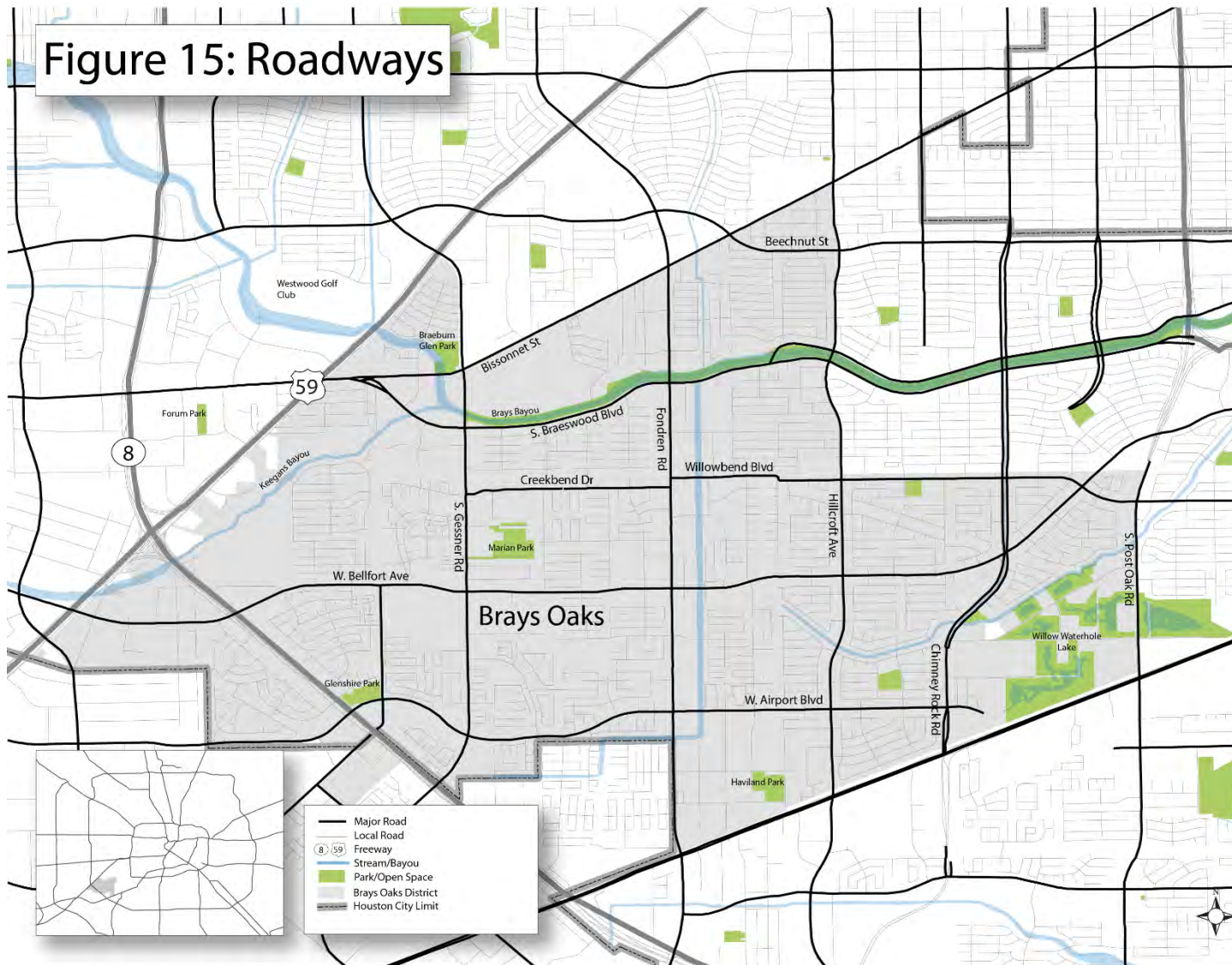


Figure 14: Typical cross section of a 2-lane section of Willowbend Boulevard west of Hillcroft Avenue

Willowbend Boulevard is a two to four lane east-west undivided roadway with a posted speed limit of 20 mph in school zones when children are present, and 30 mph elsewhere. The roadway connects residential areas with major corridors such as Fondren Road, Hillcroft Avenue, or Chimney Rock Road. It serves several schools along its route. Sidewalks are provided on both sides of the roadway.

Figure 15 illustrates the existing roadway network within the BOMD Livable Centers study area.

Figure 15: Roadway Network in Brays Oaks



CHAPTER 4: COMPLETE STREETS ANALYSIS



Figure 16: Rendering of a Complete Street (Source: Bike Houston)

Complete Streets Background

Street design is a key determinant in a community's overall quality of life. Streets are the public spaces that connect virtually all of our destinations, including our homes, schools, businesses, civic buildings, and recreation areas. They form the great majority of the circulation system. Streets provide access but they also define a sense of place, individual neighborhoods, and ultimately the community.

Street networks differ from city to city and even more so between urban and suburban areas. Often, it can differ from one neighborhood to the next. Street networks within suburban communities tend to evolve over time from being automobile focused to allowing for the integration of different modes of transportation. Historically, land development and street improvement projects in the Houston metro area have placed a greater emphasis on fluidity of automobile travel. Within the past decade a significant shift has occurred which placed more emphasis on the design of facilities serving pedestrians, bicyclists, and transit users, a design approach also known as 'Complete Streets'.

In November 2013, Houston Mayor Annise Parker issued an Executive Order to develop a Houston Complete Streets & Transportation Plan (HCSTP). The plan was meant to provide safe, accessible and convenient use by motorists, public transit riders, pedestrians, people of all abilities and bicyclists. The plan itself highlights five objectives:

1. Establish a menu of Complete Street types based on multi-modal classification.
2. Develop a forecast of street type citywide to complement and extend currently established plans to create the long range vision of complete streets.
3. Establish city standards to minimize obstructions in the public pedestrian travel ways.
4. Benefit from community input and thought rendered through reports such as Livable Center Studies and Scenic Houston Streetscape Resource Guide.
5. Recognize the role of streets play in drainage and water quality.

The role of the five objectives is to help guide efforts and outline a specific methodology for the implementation of Complete Streets along with six factors that measure the success of the Complete Street projects.

- Mode Share
- Pedestrian Accessibility
- Bicycle Access & Usage
- Transit Accessibility & Access
- Intermodal Indicators
- Safety (All modes)

Defined by Executive Orders EO 1-15, Complete Streets are “Public roadways that take into account all users, including people who are driving or riding in cars, using mass transit, riding bikes, walking, using wheelchairs, driving or riding in trucks, driving or being transported by emergency vehicles, and being served at their residence or property by other users. Complete streets do not mean that all streets are identical.”

“The Complete Street concept takes the following variables into account when providing services:

- People being served at their residence or property by other right-of-way users.
- People of all ages and abilities, including children, older adults, and persons with disabilities.
- The function of the road (e.g. local, collector, and thoroughfare) and the level of vehicular, pedestrian, and bicycle traffic.
- Multi-Modal Classification Street Types.

Preliminary Findings

Preliminary analysis takes on a design oriented approach that encompasses findings outlined in the City’s bike plan, existing street conditions, average daily trips, and overall pedestrian oriented infrastructure. Two streets were identified as good candidates to implement Complete Streets and/or a road diet that emphasizes multi-modal transportation. The recommended streets are detailed below:

- Creekbend Drive from South Gessner Road to Fondren Road
- Willowbend Boulevard from Fondren Road to Albury Drive

Additional recommendations to be considered are:

- Roadway segments with large medians such as Chimney Rock Road currently show excessive space that can allow for the installation of a bike lane instead of road reconfiguration.

Next Steps: Phase 2

The next phase of the transportation analysis will conclude with a determination of the best candidates for Complete Streets treatment and specific street standards that would allow for the design adjustment. During the second phase, the team will conduct a more detailed traffic circulation and roadway geometric assessment to identify conceptual alternatives for the identified roadways. Public engagement will be the

foundation for the development of complete streets elements. The study will identify key themes from the outreach efforts and will use them as the guiding principles while preparing alternatives.

The conceptual alternatives will be based on the Houston Bike Plan Toolbox, Houston Complete Streets and Transportation Plan (HCSTP), and National Association of City Transportation Officials (NACTO) guidelines. Ultimately, the study will identify implementable infrastructure projects that could be programmed for funds. Eight additional roadways to be analyzed during the second phase of the Transportation Analysis are listed below:

- West Airport Boulevard
- West Bellfort Avenue
- South Braeswood Boulevard
- Fondren Road
- South Gessner Road
- Hillcroft Avenue
- South Post Oak Road
- Riceville School Road

CHAPTER 5: LEVEL OF TRAFFIC STRESS ANALYSIS

Bicycle Level of Traffic Stress

Bicycle Level of Traffic Stress (LTS) is an evaluation that quantifies the amount of discomfort that people feel when bicycling near motor vehicle traffic. LTS is measured on a range of 1 to 4 with 1 representing the least stressful streets in the network for bicyclists and 4 representing the highest stress and least comfortable streets. The implication of higher LTS is the possibility for improving bicycle infrastructure to make the bicycle facility safer and more comfortable for all types of users. Figure 1 summarizes the four bicycle LTS ratings as generally perceived from the bicyclist perspective:

- LTS 1: Low traffic stress. Most children feel comfortable bicycling.
- LTS 2: Low -Moderate traffic stress. The mainstream adult population feels comfortable bicycling.
- LTS 3: Moderate traffic stress. Bicyclists who are considered “enthused and confident” but still prefer having their own dedicated space feel comfortable while bicycling.
- LTS 4: High traffic stress. Only “strong and fearless” bicyclists feel comfortable while bicycling. These routes have high-speed limits, multiple travel lanes, limited or non-existent bicycle lanes and signage, and large distances to cross at an intersection.



Figure 17: Bicycle Level of Traffic Stress Definition

Table 3 describes the criteria for evaluating the Bicycle LTS score based on:

- Number of lanes
- Posted speed limit
- Existing bikeway facilities
- Traffic volume/Roadway Classification

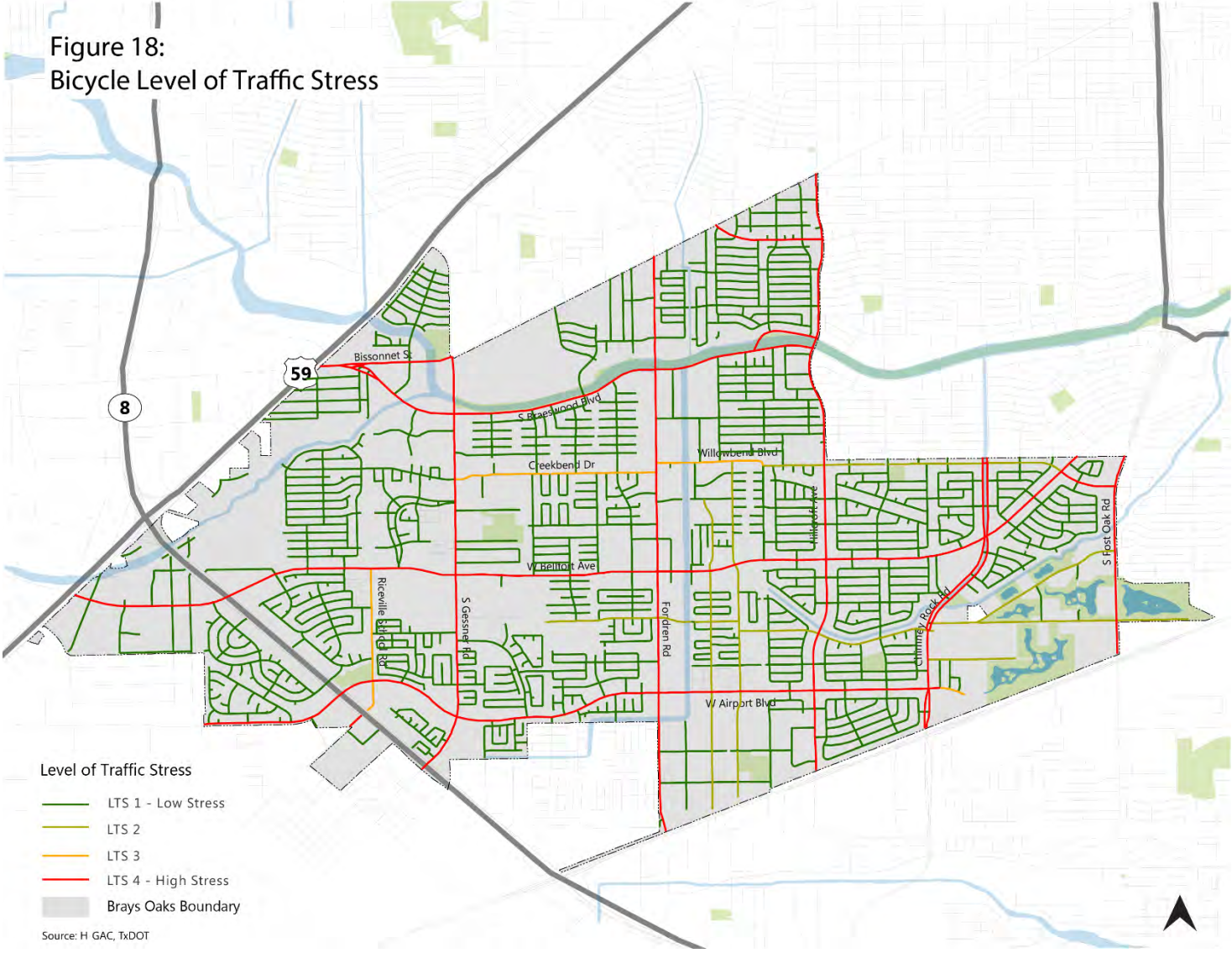
Table 3: LTS Criteria

Number of Lanes	ADT (vpd)	Functional Class	Prevailing Speed (mph)				
			25	30	35	40	>45
1 through lane per direction	≤750	Local	LTS 1	LTS 2	LTS 2	LTS 3	LTS 3
	750 - ≤1,500	Local/ Collector	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4
	1,500 - ≤3,000	Collector	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4
	>3,000	Arterial	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4
2 through lane per direction	≤8,000	Arterial	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4
	>8,000	Arterial	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4
3+ through lanes per direction	Any ADT	Arterial	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4

Source: Oregon Department of Transportation. (2020). Analysis Procedures Manual. Chapter 14 Multimodal Analysis

Figure 18 provides a map showing the bicycle LTS patterns within the BOMD Livable Centers study area, to help identify stress corridors and opportunities for bicycle infrastructure improvements.

Figure 18: Level of Traffic Stress Map



CHAPTER 6: LEVEL OF MOBILITY ANALYSIS

Study Roadway Segments

TJKM evaluated traffic conditions at several roadway segments during the a.m. and p.m. peak periods on a typical weekday. The peak periods were observed between 7:00-9:00 a.m. and 4:00-6:00 p.m. on weekdays. The highest single one-hour period traffic volume for each was used in the analysis. The Traffic Count Database System (TCDS) from the Texas Department of Transportation (TxDOT) was used to acquire traffic volume data. Throughout this report, these peak hours are identified as the a.m. and p.m. peak hours, respectively.



Figure 19: Cars driving along Hillcroft Avenue

The Brays Oaks Livable Centers Study focused improvements on major roadways and connections where low- and high- comfort bicycle facilities are proposed. The roadways included are:

- West Airport Boulevard
- West Bellfort Avenue
- South Braeswood Boulevard
- Chimney Rock Road
- Creekbend Drive
- Fondren Road
- South Gessner Road
- Hillcroft Avenue
- Post Oak Road
- Riceville School Road
- Willowbend Boulevard

The traffic analysis is based on the weekday a.m. and p.m. peak hour levels of service for roadway segments within the study area. This study addresses existing conditions based on existing traffic volumes, lane geometry and traffic controls.

Study Methodology

This section describes the methods used to determine the traffic conditions for each scenario described above. It includes descriptions of the data requirements, the analysis methodologies, and the applicable Level of Mobility standards.

LEVEL OF MOBILITY ANALYSIS METHODOLOGY

Level of Mobility (LOM) is used to define congestion by H-GAC. **Table 4** shows LOM criteria based on the volume to capacity (V/C) ratio. These LOMs were developed by the H-GAC Travel Modeling Committee in

1997 and approved by the Technical Advisory Committee (TAC). Roadway segments that fall above the tolerable level (i.e., volume/capacity (v/c) ratio greater than 0.85) are considered congested. For the purpose of this analysis, the v/c ratios (LOMs) were calculated.

Volume-to-capacity (v/c) ratios were calculated using capacities developed by the City of Houston. The City of Houston typically utilizes a lane capacity of 800 vehicles per hour (vph) for corridor analyses and the lane capacity for a free-flow lane on a freeway without any cross conflicts is over 2,000 vph. For this analysis, a lane capacity of 800 vph is used. TxDOT’s Statewide Traffic Analysis and Reporting System (STARS II) provides historic traffic volumes including a.m. and p.m. peak hour volumes. Hence, the historic traffic data is projected to 2021 counts using an annual growth factor of 1.5 percent.

Table 4: Summary of Levels of Mobility (LOM)

Level of Mobility	Volume/Capacity (V/C) Ratio
Tolerable	< 0.85
Moderate	> 0.85 < 1.00
Serious	> 1.00 < 1.25
Severe	> 1.25

EXISTING TRAFFIC CONDITIONS

TJKM evaluated existing traffic conditions at selected roadway segments within the study area during the a.m. and p.m. peak hours on a typical weekday.

Traffic counts were conducted prior to COVID-19 pandemic and a growth factor was utilized to establish a baseline year of 2021. The growth factor was used despite a pandemic reduction in traffic in order to provide a worst case picture of traffic once post-pandemic levels return for the purposes of this analysis. Based on historical traffic volume data from TxDOT’s STARS II database and a review of a recent projects such as Fondren Road Evaluation carried out within the study area, TJKM utilized a growth factor of 1.5 percent. The same growth factor is also used to forecast year 2045 traffic volume. TJKM applied this factor to all the historic counts at all the roadway segments within the study area. **Appendix B** includes all of the data sheets for the collected a.m. and p.m. peak hour counts. **Figure 20** and **Figure 21** illustrate existing conditions level of mobility on roadway segments during a.m. and p.m. peak hour respectively.

To summarize the maps, most roadway segments within the BOMD study area are currently considered tolerable, with some small segments on South Braeswood Boulevard, West Bellfort Avenue, and Willowbend Boulevard considered moderate. Congestion is higher on adjacent freeways, such as Beltway 8 and US-59/IH-69. Projected to 2045, several segments emerge as having serious or severe congestion, primarily on South Braeswood Boulevard, Hillcroft Avenue, West Bellfort Avenue, and South Post Oak Road. **Figure 22** and **Figure 23** map the projected congestion in 2045.

Figure 20: Existing Level of Mobility - AM Peak

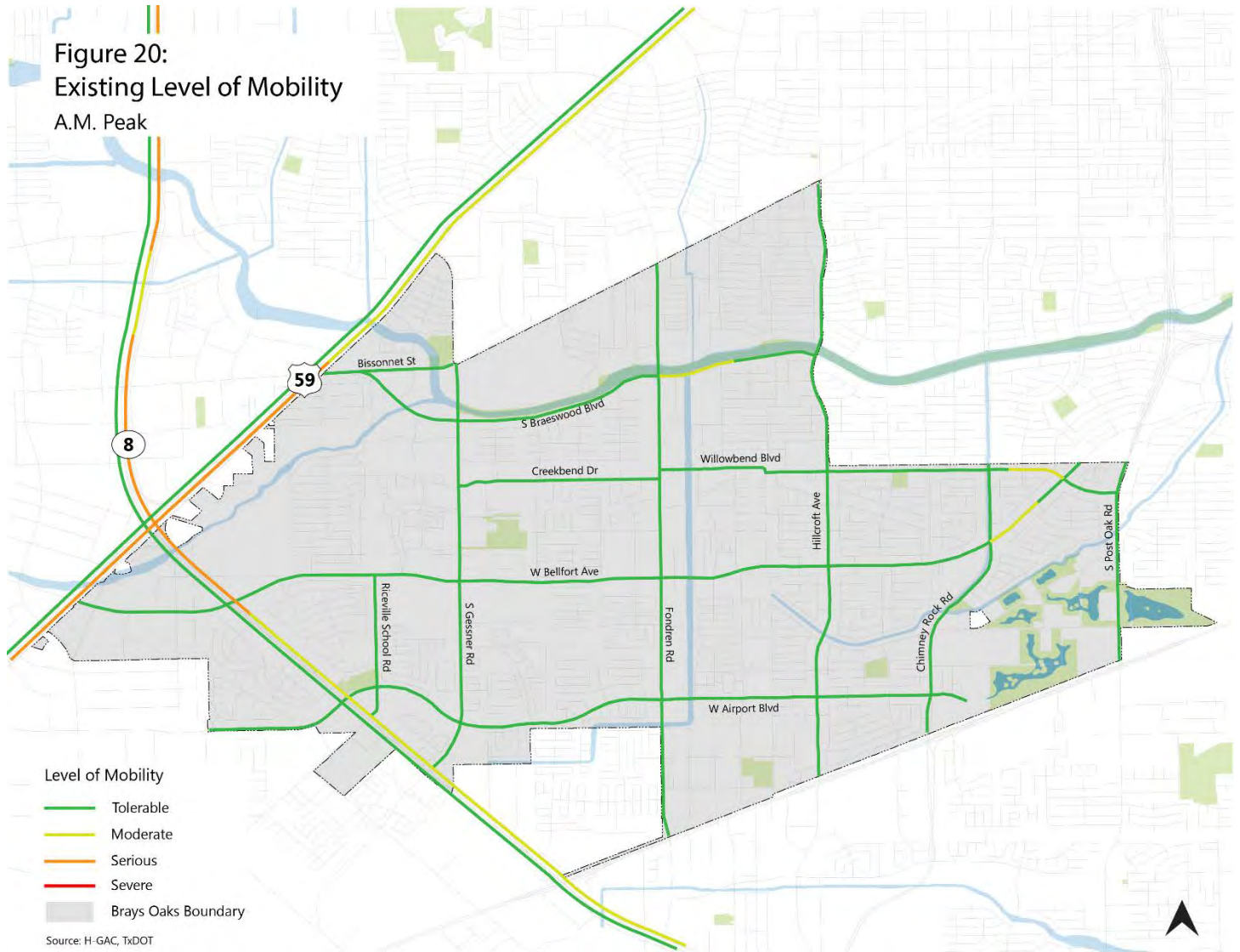


Figure 21: Existing Level of Mobility - PM Peak

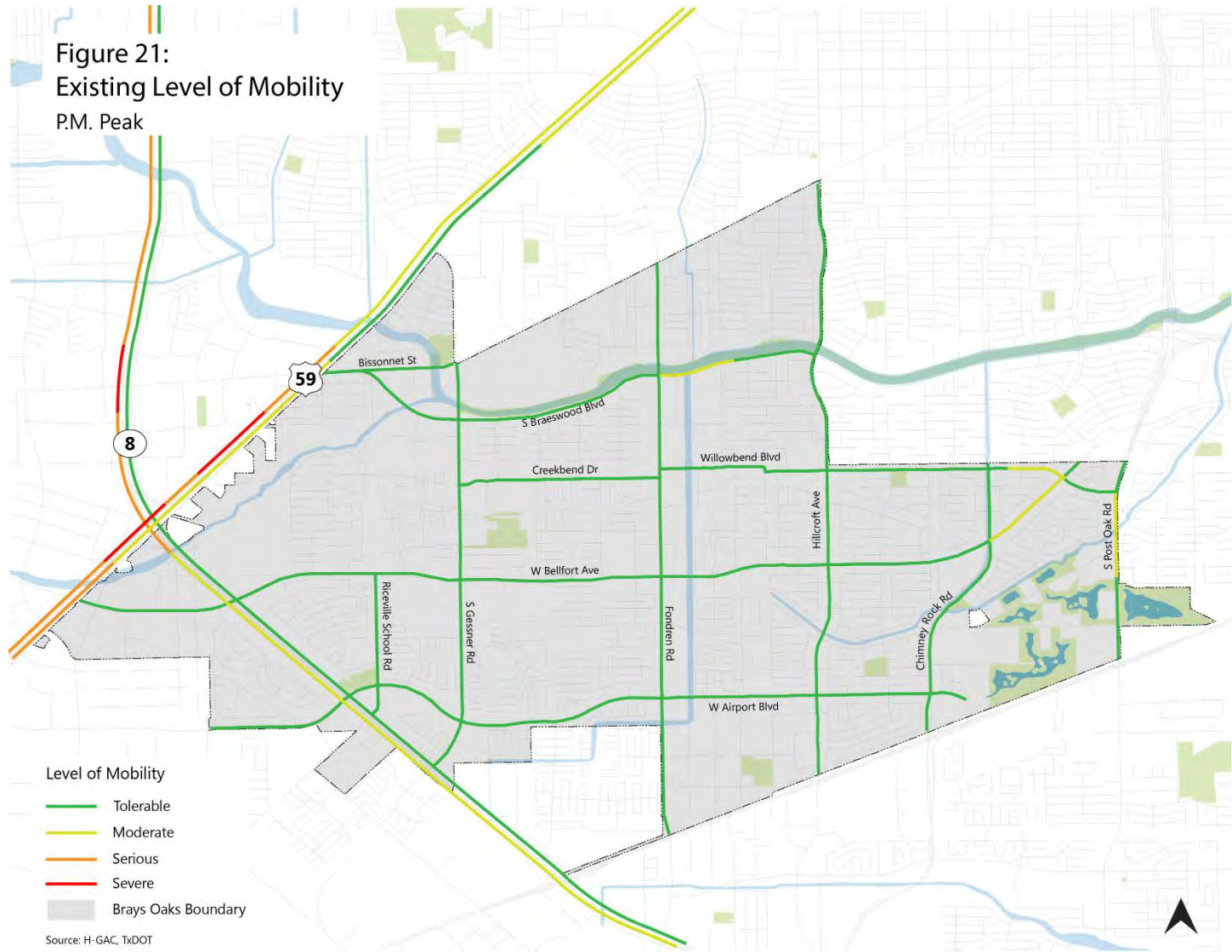


Figure 22: 2045 Level of Mobility - AM Peak

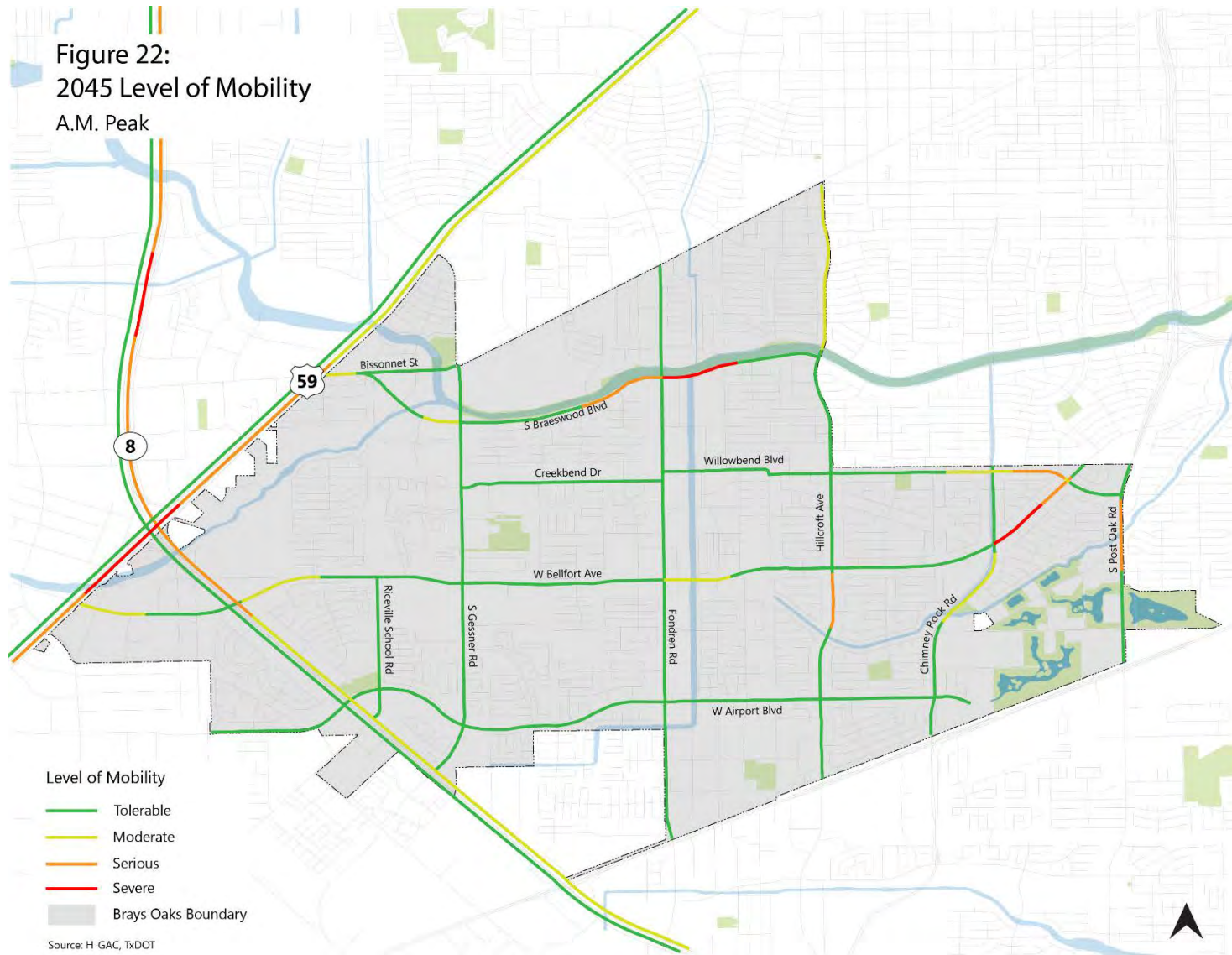
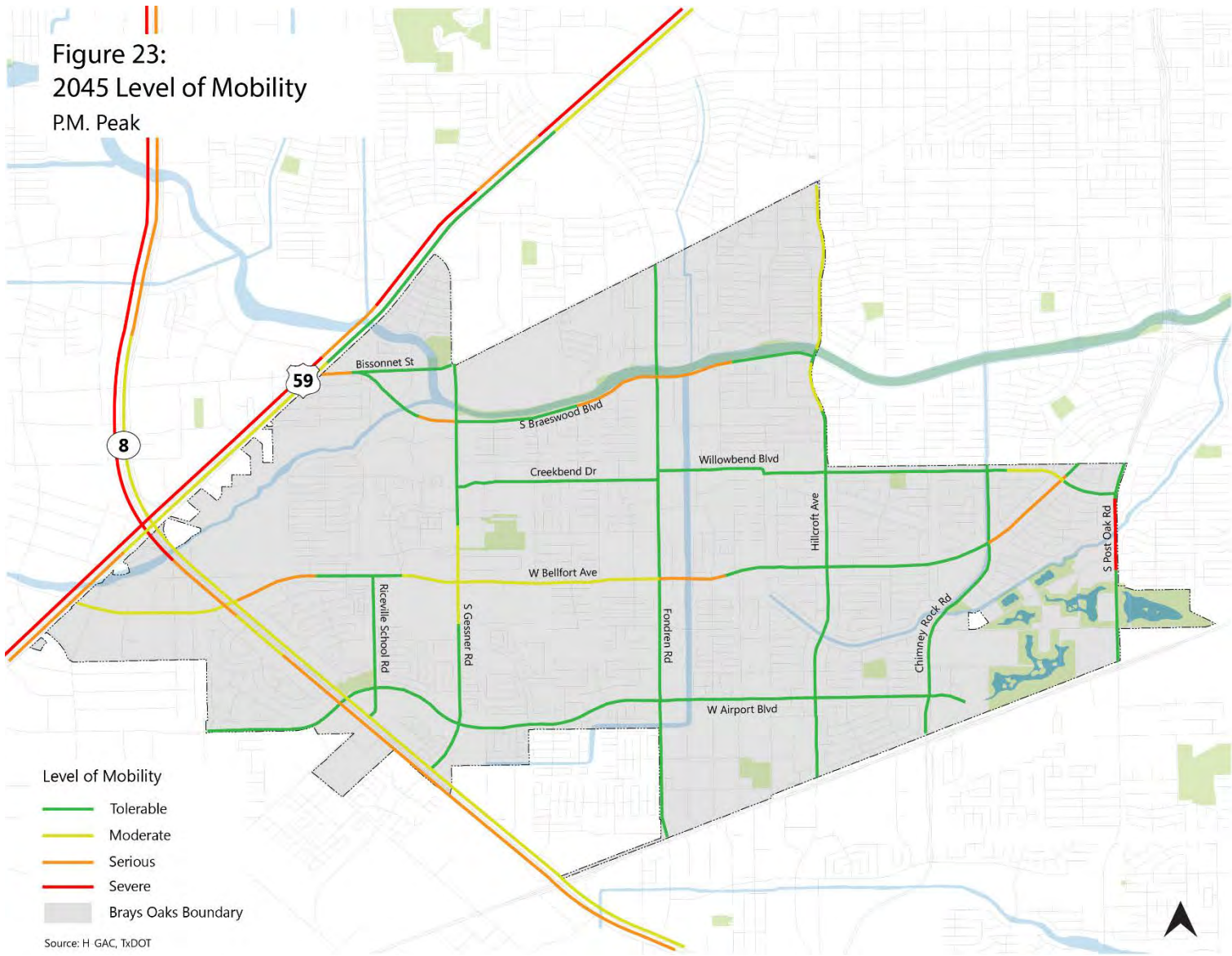


Figure 23: 2045 Level of Mobility - PM Peak



UNDERUTILIZED ROADWAYS

In addition to evaluating traffic congestion, TJKM also analyzed the roadway network from the H-GAC travel demand model to see if there were any roadways that are underutilized in Brays Oaks during the AM or PM peak periods. These would be roadways that have more lanes or capacity than the amount of traffic warrants. This can be done through an evaluation of V/C ratios, similar to the analysis of traffic congestion above. TJKM started by reviewing the V/C ratios for Brays Oaks roadways in the H-GAC travel demand model. Each link (or section of roadway) in the travel demand model starts out with a V/C of 0, then increases from there as the traffic volumes are added to the link in the model. A V/C of 1.00 is considered to be at capacity, after which traffic flow would break down (though it typically begins to break down at a V/C of 0.85 to 0.90). For the purposes of this analysis, the team looked for roadways with a V/C of 0.10 to 0.30 during the AM and PM peak periods, which would be considered to be underutilized by vehicles. During the AM peak hours, these roadways were found to be underutilized in both directions:

- South Gessner Road between West Belfort Avenue and West Airport Boulevard
- West Airport Boulevard between Fondren Place Road and South Gessner Road
- West Airport Boulevard between Fondren Road and Bob White Drive
- West Airport Boulevard between Hillcroft Avenue and Landsdowne Drive
- Bissonnet Street between US-59/IH-69 and Fondren Road
- Portions of Willowbend Boulevard between Fondren Road and Hillcroft Avenue
- Portions of Hillcroft Avenue between Willowbend Boulevard and West Belfort Avenue
- Portions of Chimney Rock Road between West Belfort Avenue and Willowbend Boulevard
- Portions of South Gessner Road between South Braeswood Boulevard and US-59/IH-69

During the PM peak hours, these roadways were found to be underutilized in both directions:

- Portions of Fondren Road between West Airport Boulevard and US-90A
- Portions of Willowbend Boulevard between Fondren Road and Hillcroft Avenue

CHAPTER 7: VEHICLE MILES TRAVELED

Vehicle-miles traveled (VMT) is a measure of road use in a geographic region over time, multiplying the number miles traveled by each vehicle driving during the day. VMT measures travel demand that can determine where resources are needed as well as provide a snapshot of areas that are traveled more frequently and contribute to more traffic congestion. This measure in delay can also assist in the determination of air quality emissions before and after a roadway improvement is implemented. The Environmental Protection Area (EPA) has deemed Harris County a nonattainment area, for exceeding the 8 hour ozone standard for air pollutant emissions. This requires development within Harris County, including the BOMD, to implement plans that will attain and maintain air pollutant standards.

As a goal of the BOMD Livable Centers Study, improving transportation choices and implementing complete streets can result in the reduction of solo vehicle driving as the preferred mode. VMT was determined by reviewing the HGAC's air quality conformity data for Harris County, dividing by the driving population within the County. Based on this information, the average VMT per person per day is **22.68 miles**.

VMT and potential air quality reduction benefits will be later calculated in phase two of the transportation analysis where proposed complete streets locations are proposed.



Figure 24: Looking east along South Braeswood Boulevard

CHAPTER 8: COLLISION ANALYSIS



Figure 25: Faded crosswalk at Keegan's Bayou Trail and South Braeswood Boulevard. This location has a high concentration of bicycle/pedestrian crashes.

This section summarizes the results of a District-wide collision analysis for five years of collision history from January 2016 to December 2020 for the BOMD. The collision analysis is the first step in identifying potential improvements to address traffic safety within the BOMD.

TxDOT's Crash Records Information System (CRIS) produced collision data for the entire district between 2016 and 2020. A comprehensive evaluation was conducted for collisions of all severity including Fatal and Serious Injury (F+SI)

collisions separately, based on factors such as the type of collision, lighting, and weather.

Figure 26 and **Figure 27** illustrate all the injury collisions that have occurred within the BOMD from 1/1/2016 to 12/31/2020. The first map shows the location of all injury collisions, along with a heat map to indicate greater concentrations of collisions. The second map shows bicycle and pedestrian involved collisions only. To summarize, some of the higher concentration collision intersections include: West Bellfort Avenue/Fondren Road, West Bellfort Avenue/Beltway 8, and Fondren Road/South Braeswood Boulevard. High concentration of collisions also occur along Fondren Road between South Braeswood Boulevard and West Bellfort Avenue, and South Gessner Road between South Braeswood Boulevard and West Bellfort Avenue. High concentrations of bicycle/pedestrian collisions have also occurred at or near the intersections of: West Bellfort Avenue/Fondren Road, Fondren Road/South Braeswood Boulevard (near the Brays Bayou Trail), and South Braeswood Boulevard/Keegan's Bayou Trail. Although the concentration is not as great as all injury collisions, many bicycle/pedestrian collisions have occurred along West Bellfort Avenue, and South Braeswood Boulevard, which parallels the Brays Bayou Trail and intersects the Keegan's Bayou Trail.

Figure 26: Injury Collision Heat Map

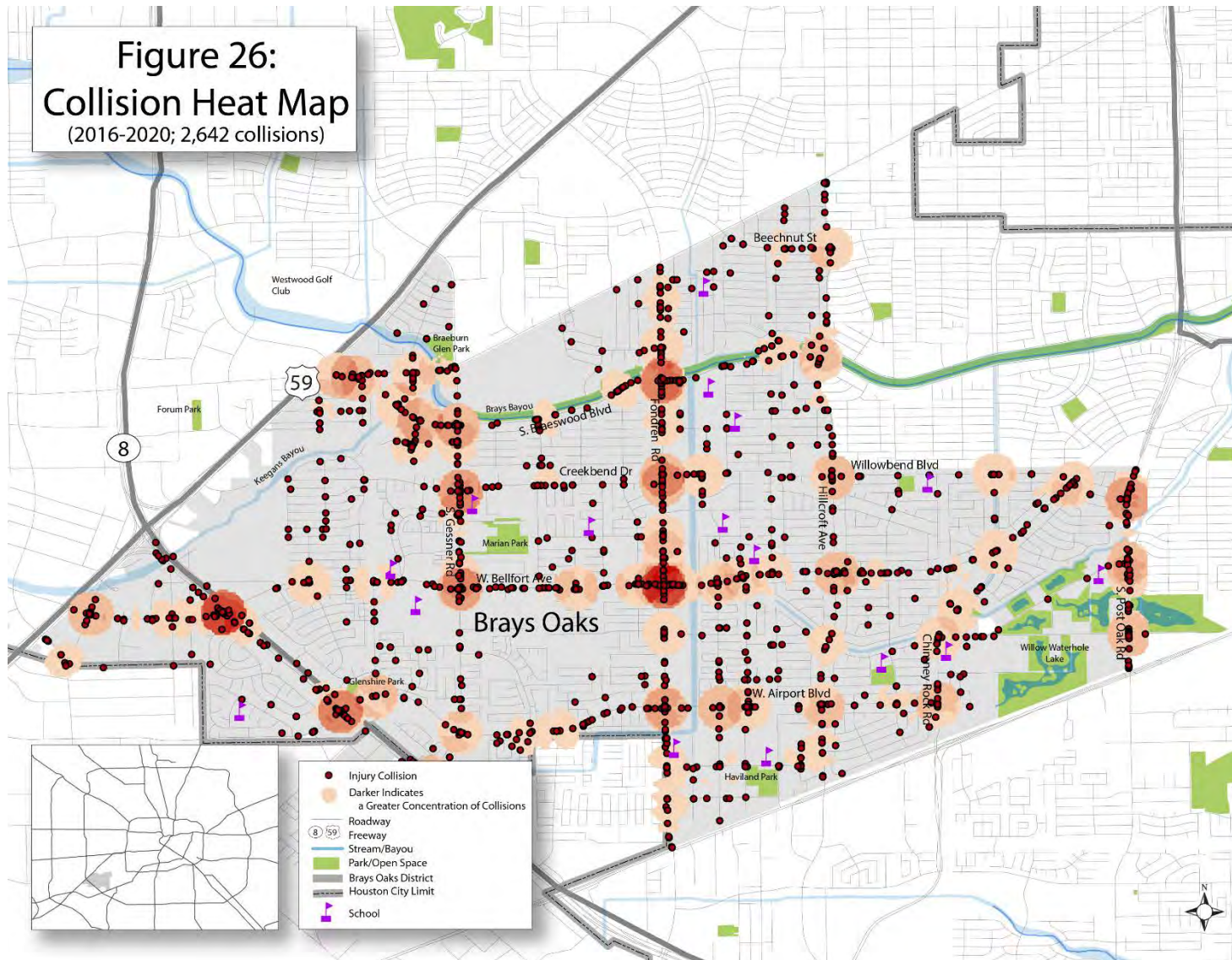
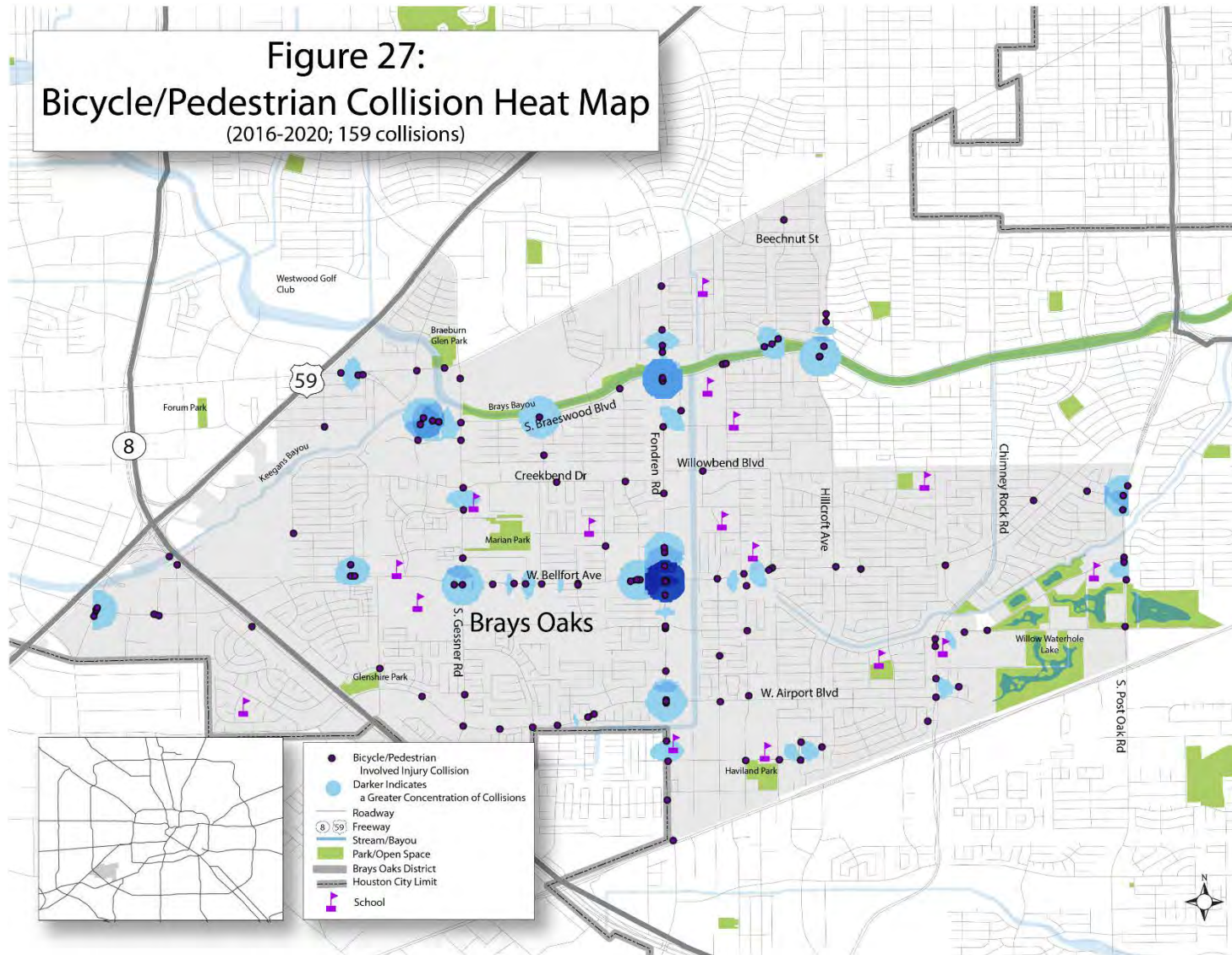


Figure 27: Bicycle/Pedestrian Involved Injury Collision Heat Map

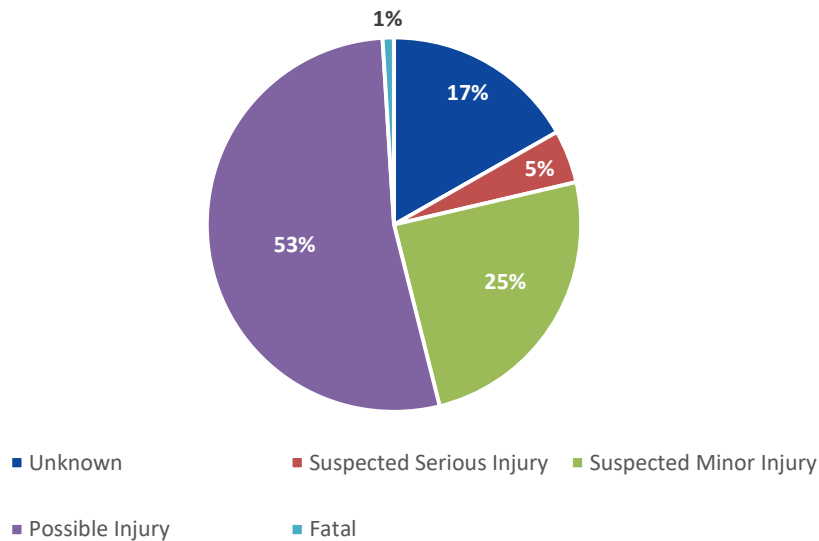


Collision Analysis

COLLISION CLASSIFICATION

There were a total of 2,642 injury collisions reported District-wide from 2016 to 2020. Among these 2,642 collisions, 1,399 collisions (53%) led to a possible injury and 653 collisions (25%) led to a suspected minor injury. There were 147 F+SI (Fatal and Serious injury) collisions; 121 collisions (5%) led to a serious injury and 26 collisions (1%) led to a fatality. There were 443 collisions reported as an unknown severity. It should be noted that this analysis focuses on the number of injury collisions but not on the number of injured parties (e.g. one collision could result in multiple injuries). **Figure 28** illustrates the classification of all collisions based on severity (the most severe of which are Fatal and Suspected Serious Injury).

Figure 28: Collisions by Severity within the BOMD

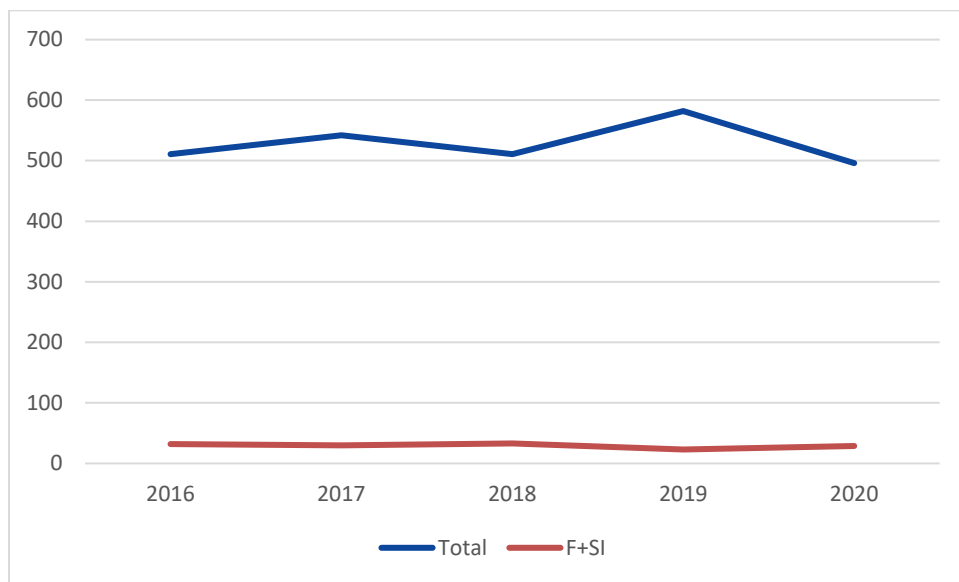


ANNUAL SAFETY TRENDS

For collisions of all severity, the number of collisions remained fairly constant throughout the study period, rising or falling slightly each year. The highest number of collisions (582 collisions) were observed in 2019 and the lowest number of collisions (496) were observed in 2020.

A total of 147 F+SI collisions occurred within the BOMD during the study period. They were observed to be the lowest (23 collisions) in 2019, and the highest in 2018 (33 collisions). Overall, F+SI collisions were observed to be fairly consistent throughout the study period. **Figure 29** illustrates the five-year collision trend for all collisions and F+SI collisions.

Figure 29: Five-Year Collision Trend



COLLISIONS BY LOCATION

When evaluating collision location data for the BOMD Livable Centers study area, the most collisions occurred at non-intersection locations. 45% of all collisions (1187 collisions) occurred on at non-intersection locations whereas 31% (817 collisions) occurred at intersections. When only F+SI collisions are considered, 56% (83 collisions) occurred on at non-intersection locations whereas 24% (24 collisions) occurred at intersections. This classification by location is shown in **Figure 30** and **Figure 31**.

Figure 30: Collisions by Location – All Collisions

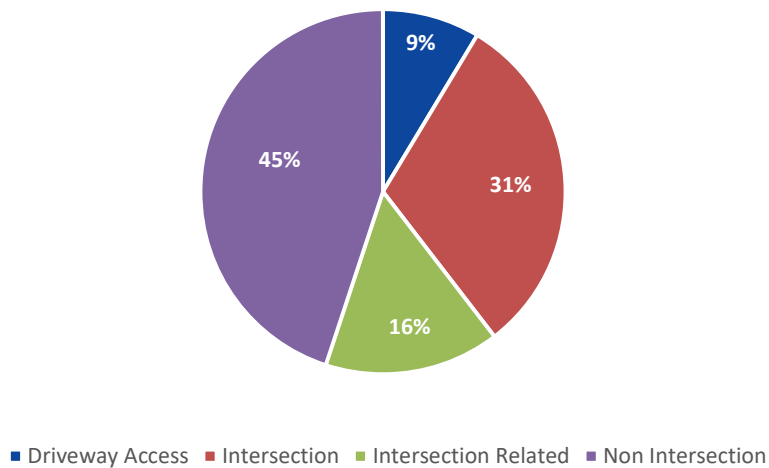
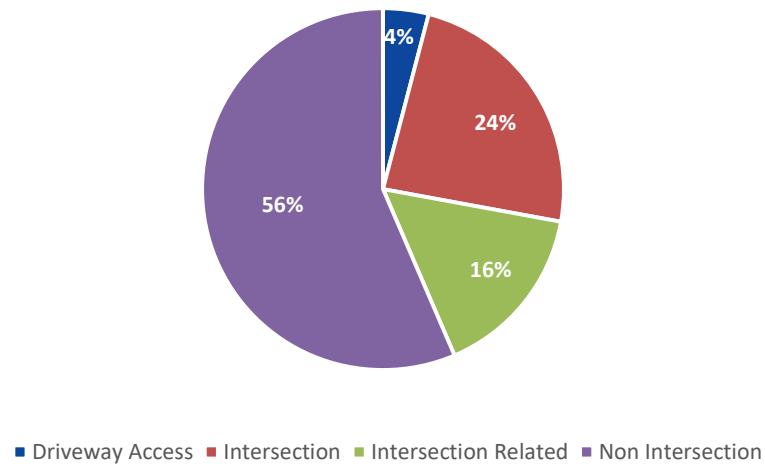


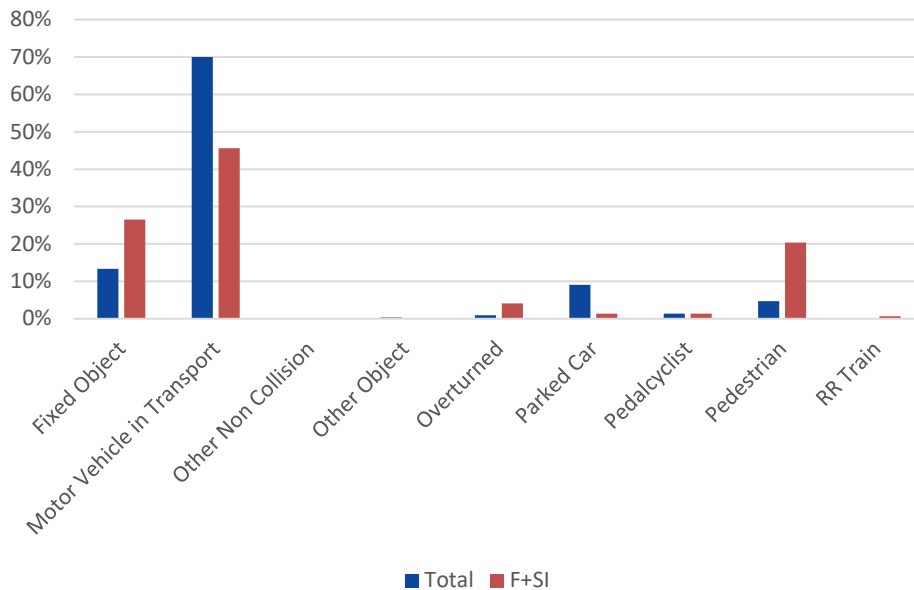
Figure 31: Collisions by Location - Fatal and Serious Injury Collisions



FIRST HARMFUL EVENT

First Harmful Event refers to the first thing that the motor vehicle collided with, initiating the collision. There are often secondary harmful events that follow the first, including rear-end collisions from trailing motorists. Considering all collisions, the most commonly events were motor vehicle in transport collisions (70%), fixed object collisions (13%) and parked car collisions (9%). When only F+SI collisions were considered, the most commonly occurring collision events were motor vehicle in transport (46%), parked car collisions (27%), and vehicle/pedestrian collisions (20%). **Figure 32** illustrates the collision type for all collisions as well as F+SI collisions.

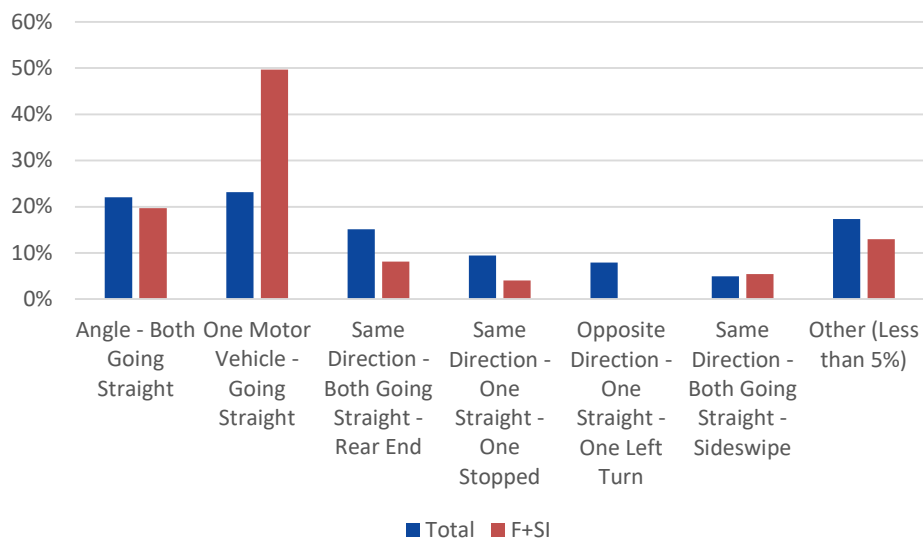
Figure 32: First Harmful Event: All Collisions vs. F+SI Collisions



MANNER OF COLLISION

Manner of Collision refers to the action both parties were taking at the time of the collision. Considering all collisions, the most common primary manners of collision were observed to be One Motor Vehicle – Going Straight (23%), Angle – Both Going Straight (22%), and Same Direction – Both Going Straight (15%). The primary collision factors for F+SI collisions are slightly different. One Motor Vehicle – Going Straight made up the majority of F+SI collisions at 50 percent. **Figure 33** illustrates the primary collision factors for all collisions and F+SI collisions.

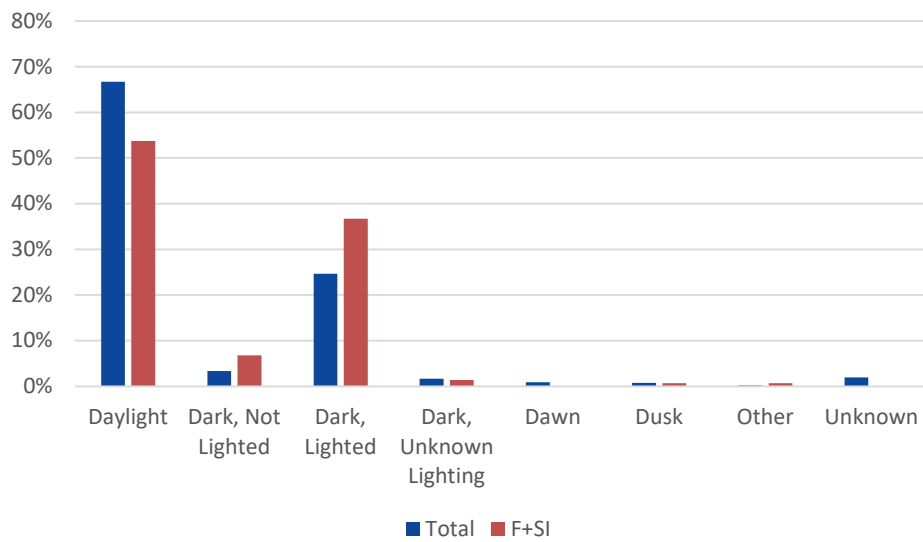
Figure 33: Manner of Collision: All Collisions vs. F+SI Collisions



LIGHTING

For collisions of all severity, 67% of collisions occurred in daylight and 25% occurred in the dark on streets with street lights. For F+SI collisions, 54 percent of collisions occurred in daylight and 37% of collisions occurred in the dark on streets with street lights. The significant percentage increase of F+SI collisions that occurred after in low light conditions indicates that lighting may be a factor. **Figure 34** illustrates the lighting condition for all collisions and F+SI collisions.

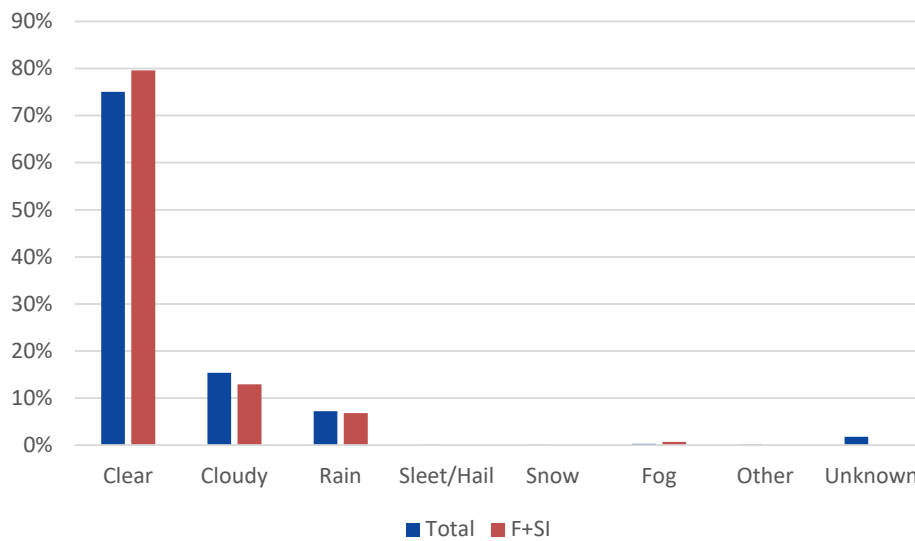
Figure 34: Lighting Conditions: All Collisions vs. F+SI Collisions



WEATHER

A large majority, 75% of all collisions, occurred during clear weather conditions while 15% of collisions were reported to occur during cloudy weather and 7% during rainy weather. For F+SI collisions, similar attributes are observed with 80% of the collisions having occurred during clear weather conditions, 13% during cloudy weather, and 7% during rainy weather. **Figure 35** illustrates the percentage distribution of weather conditions during occurrence of collisions of all severity as well as F+SI collisions.

Figure 35: Weather Conditions: All Collisions vs. F+SI Collisions



CHAPTER 9: FIELD WORK & COMMUNITY OUTREACH

An important step in the process to analyze transportation conditions in the Brays Oaks District was to conduct a site audit and to listen to community concerns. The project team visited Brays Oaks from June 23-25, 2021; with the 1st Community Workshop held on the evening of June 24th, 2021. This section summarizes the process to conduct the site audit, as well as the findings from both the audit and community workshop.

Site Audit

METHODOLOGY

The project team rode bikes, walked, and utilized transit around the district to conduct an audit of bicycling and walking conditions along various arterials and intersections throughout Brays Oaks. The audit took place between June 23-25, 2021. In total, the team surveyed 19 intersections, 23 roadway segments, and rode 5 transit routes. As a base for the site audit, the team utilized the walk audit form created by the American Association for Retired People (AARP) and distributed nationwide as part of their Walk Audit Tool Kit¹. TJKM enhanced the audit form with transit oriented issues to be analyzed. The walk audit form included six categories in which the walk audit area should be assessed in. They are as follows:

1. Crossing Streets and Intersections
2. Sidewalks
3. Driver Behavior
4. Safety
5. Comfort and Appeal
6. Overall Rating of the Walk Audit Area



Figure 36: Marked school crossing on S. Gessner Road with no ADA ramps

¹ <https://www.aarp.org/content/dam/aarp/livable-communities/livable-documents/documents-2016/Walk-Audit-Tool-Kit/AARP-Walk-Audit-Tool-Kit-100416.pdf>



Figure 37: Broken/missing sidewalk along West Bellfort Avenue was given a poor rating

Category 1 was used to assess intersections, while categories 2-6 were primarily used to assess roadway segments (although it was scored in Category 1 as well). Each category received a rating of Excellent, Good, Fair, and Poor based on the on-site observations of the project team. The results were then tabulated and associated with a scoring criteria. For intersection, each of the 11 questions on the “Crossing Streets and Intersections” form was tabulated and given a binary 1 (Yes) or 0 (No) input as to whether each intersection met the criteria of the question. Because each question would generally ask if a particular deficiency existed, a higher score is considered to be an intersection in poor condition or in need of more improvements. Each intersection was then scored based on a total possible amount of 11 points, then categorized into Excellent (0 points), Good (1-2 points), Fair (3-5 points) and Poor (6 or more points). Based on this metric, **Table 5** shows the results of the field observation scoring (Note: no intersections received an Excellent rating due to the

overall fair to poor state of infrastructure observed in the study area).

Table 5: Field Review Ranking of Intersections

Good	Fair	Poor
Willowbend & W. Bellfort	W. Airport & Hillcroft	W. Bellfort & Riceville School
W. Airport & Riceville School	S. Braeswood & S. Gessner	Chimney Rock & W. Airport
S. Gessner & W. Bellfort	Hillcroft & S. Braeswood	W. Airport at BW 8 NB frontage
S. Gessner & W. Airport	Fondren & W. Airport	S. Gessner & Creekbend
	W. Bellfort & Fondren	S. Braeswood & Fondren
	Hillcroft & W. Bellfort	Hillcroft & Willowbend
	W. Bellfort & BW 8 (NB) frontage	
	S. Gessner @ BW 8 NB Frontage	
	Fondren & Creekbend	

Roadway segments were scored on the basis of how each of the six walk audit categories were ranked. In other words, each category was given a rank of Excellent, Good, Fair, and Poor. These rankings were

assigned a number score, with the highest being 4 (Excellent), and the lowest being 1 (Poor). For each segment, the scores from each category were added together to form an overall score. In this case, the segments were scored out of a possible 24 points and the lower the score, the more deficient the segment was deemed to be. As with intersections, the points were grouped into categories: Excellent (20-24), Good (16-19), Fair (10-16), and Poor (Less than 10). By this metric, **Table 6** shows the results of the field observation scoring for segments (Note: no segment received a ranking of Excellent due to the overall fair to poor state of infrastructure observed).

Table 6: Field Observation Ranking for Segments

Good	Fair	Poor
Willowbend Between W. Belfort & S. Post Oak	W. Airport Between Fondren & S. Gessner	S. Gessner Between W. Belfort & S. Braeswood
W. Belfort Between Chimney Rock & Hillcroft	W. Belfort Between Fondren & S. Gessner	Riceville School Between W. Airport & W. Belfort
S. Braeswood Between Fondren & S. Gessner	S. Braeswood Between S. Gessner & Bissonnet	S. Post Oak Between Willowbend & Willow Dr
Chimney Rock Between Gasmer & W. Belfort	S. Gessner Between W. Belfort & Beltway 8	
Hillcroft Between Willowbend & S. Braeswood	W. Airport Between Fondren & Hillcroft	
	W. Airport between S. Gessner & Beltway 8	
	Fondren Between W. Belfort & W. Airport	
	Fondren Between S. Braeswood & W. Belfort	
	Hillcroft Between W. Airport & W. Belfort	
	Hillcroft Between Willowbend & W. Belfort	
	W. Airport Between Hillcroft & Chimney Rock	
	Fondren Between S. Braeswood & Bissonnet	
	Hillcroft Between S. Braeswood & Beechnut	
	Creekbend Between Fondren & S. Gessner	

The project team also rode a total of five METRO routes to destinations within the district: Routes 63, 8, 46, 7, and 10. Overall impressions included a lack of bus shelters/benches in some areas, lack of ADA access to some stops, smooth boarding process, and uncrowded buses. Some buses were more than five minutes late past their scheduled arrival time.

An overall summary of the project team’s findings is provided below. A more detailed assessment of needs at each surveyed location, plus the results of the scoring, are provided in **Appendix C**.

OVERALL SUMMARY

- The district overall has fair to poor walking and bicycling infrastructure, with the exception of the bayou trails along the north end of the district which are excellent.
- Sidewalks are 4 feet in most locations, which is not wide enough to accommodate two pedestrians side by side comfortably.
- Many of the sidewalks are in poor condition, with cracks and missing segments that would hinder the travel of a mobility impaired individual.
- Walking conditions around major community destinations such as religious centers, schools, community centers, etc. are poor. These locations tend to generate more pedestrians.
- In some cases, connectivity to nearby apartment complexes and schools is poor. For example, the analysts observed many people crossing at unsafe locations from apartment complexes to services (in this case, laundromats and grocery stores), because there was no safe place to cross nearby. Similarly, many people have to exit apartment complexes or schools onto the street before reaching the bayou trails because there is no direct connection (see example photo above of the Brays Bayou Trail adjacent to Fondren Middle School; there is no direct connector).
- Although school pedestrian crossings exist and in most cases are marked and signed, many of them are in poor condition and do not have flashing signs for greater visibility. On multiple occasions it was observed that school crossings did not have ramps available.
- ADA (wheelchair) ramps are provided in most places but in some cases, only one cut is provided when two is preferred. Many ramps are not textured, and in some cases the ramps do not exist at all.
- Bike lanes are virtually non-existent in the District. Most people don't bike on arterial roadways forcing them to use the narrow sidewalk.
- Homeless encampments were observed at different places in the district; particularly on the Keegan's Bayou Trail. This can affect one's perception of safety and deter users. In addition, these encampments were seen to have foreign objects along the tracks serving as barriers like make-shift wash stations, empty shopping carts, and unsightly items.
- Blocks are very long on most arterials and do not provide enough crossing points.



Figure 38: Brays Bayou Trail as it passes Fondren Middle School

- Pedestrian infrastructure at intersections (striping, push buttons, etc.) is in poor conditions in some areas.
- Walk times across major arterials are very short in many places and present a challenge to mobility impaired individuals. In some cases, the walk time is as short as 15 seconds.
- Vegetation/weeds need to be maintained in some areas, though this is not universal (many areas are well maintained/mowed).

OPPORTUNITIES

- The trails on Brays Bayou and Keegans Bayou are in good shape and provide the district an excellent recreational and transportation asset.
- Trails lack “Wayfinding” ie. directional signage, mile markers, special monikers.
- The district’s network of bayous and diversion canals presents a unique opportunity to have an extensive internal network of safe, off-street paths to connect Brays Oaks residents to other parts of the district.
- Most, if not all, of the arterials in Brays Oaks have very large medians. In some cases, there may be enough right-of-way for a shared use path.
- Although most of the sidewalks are not shaded, the district overall has a lot of trees and greenery which can add to the pleasantness of a walk or bike ride.

BIKE TOUR

During the project team’s site visit, the team participated in a bike tour of the Brays Oaks District on June 25, 2021. Representatives from the BOMD, Houston Police Department, Lionheart, TJKM, and Brays Oaks residents were in attendance at this tour. In total, the group covered over 12 miles and (starting from Hillcroft Avenue) rode along the Brays Bayou Trail, Keegan’s Bayou Trail, and several roadways in the surrounding area. The purpose was to observe bicycling conditions in the District first hand, and to hear from BOMD staff and residents about their experiences.



Figure 39: Bike tour group in action!

Community Outreach

During the project team's visit, the first of three rounds of community workshops was held on June 24th, 2021 at the India House Community Center in Brays Oaks. It was well attended by members of the public, Brays Oaks Management District Board Members and staff, and project team staff. The workshop began with a presentation from staff from BOMD, Lionheart, and TJKM about the findings of the existing conditions analysis. It was then followed with an open house style workshop where project staff had set up boards around the room containing maps from the existing conditions analysis, along with questions to spark feedback about each item of the analysis. Attendees were invited to visit each board and share their thoughts about existing conditions in the Brays Oaks District directly on the map itself. Below is a summary of comments received at each transportation related board, along with a description of the board in question. A full list of comments is provided in **Appendix D**.



Figure 40: Brays Oaks residents interacting with the map boards at the 1st Community Workshop on June 24, 2021

Presentation Board: Bikeways

Which bicycle linkages provide the best potential to connect Brays Oaks residents to community centers and services?

Most comments on this board overall reflected a desire to see more off-street paths, bike lanes, and safe crossings built in Brays Oaks. Several comments mentioned that a lack of these facilities makes it difficult to ride a bike around the District. Suggestions for improvements included a pedestrian bridge across South Post Oak Road to connect to Willow Waterhole Park, multi-modal access improvements to the West Bellfort Avenue Park & Ride, a bike trail along Hillcroft Avenue connecting Brays Bayou and Bayland Park. A suggestion was also made to add more parking for bike riders to access the bayou trails.

Presentation Board: Bicycle Level of Traffic Stress (Comfortable level of cycling)

What types of bicycle improvements (i.e., more signage, better striping, dedicated lanes) are needed and where?

This board received the most comments of any transportation related board. While the comments covered a wide variety of topics; the following themes emerged:

- **New Bike Lanes or Off-Street Paths:** This was the most requested item; with suggestions to include more off-street paths along the bayous and drainage canals throughout the district, a linear park along Hillcroft Avenue as well as new bike lanes on Willowbend Boulevard and Fondren Road.
- **Crossing Major Arterials:** Attendees stated that it feels dangerous to cross West Bellfort Avenue, South Gessner Road, Chimney Rock Road, and near the Jewish Community Center on South Braeswood Boulevard.
- **Lighting:** Several people mentioned that lighting is bad in many parts of the District; specifically on the Keegan’s Bayou Trail and in the eastern part of the District. Comments were also made about perceived security along Keegan’s Bayou and at Willow Waterhole Park.
- **Traffic Calming:** In addition to general traffic calming comments; specific requests were made for traffic circles, and slowing traffic on Willowbend from Chimney Rock to Post Oak. Mentions were also made about drivers not respecting school zone speed limits, particularly in the post-COVID world where school is returning but drivers are not used to it.
- **Personal Safety:** A number of residents expressed concern about their personal safety in parks and along the Keegan’s Bayou Trail where there are a number of homeless camps. In relation to this, dogs belonging to the people in the homeless camps being allowed to run loose was cited as a safety concern while riding their bike.
- **Bike Share:** A suggestion was made to add B-Cycle Stations in Brays Oaks, similar to those found in and around downtown Houston.

Presentation Board: Bicycle and Pedestrian Collision Heat Map

Most comments on this board mirrored the rest of the bicycle/pedestrian related boards, in that residents requested more off-street paths, traffic calming, bike lanes, and lighting throughout. One new suggestion included building tunnels for bike paths underneath major arterials to avoid crossing conflicts.

Presentation Board: Collision Heat Map

This board received the fewest comments among the transportation related boards. Suggestions were made to add B-Cycle Bike Share, education for cyclists, and additional lighting for crosswalks. A resident also inquired if the improvements would raise taxes.

Presentation Board: Transit

What types of transit improvements are needed and where?

Brays Oaks residents would like to see improved access to bus stops, including new shelters and multi-modal connections to stops and park & rides. Specific suggestions were made for having better access to the #8 bus for Westbury High School students, better access to Willow Waterhole from the #49 bus, and having short run bus transport using vans on Gessner Road and Fondren Avenue.

Presentation Board: Sidewalks

What types of pedestrian improvements (i.e., more lighting, shade, sidewalk repair) are needed; and where?

The general consensus of those who responded to this board is that sidewalks are in poor shape across the District. Specific mentions were made of Beechnut Street from Bissonnet Street to Hillcroft Avenue; In front of McNamara Elementary School; South Gessner Road from Bissonnet Street to West Belfort Avenue; West Belfort Avenue at Fondren Road; and West Belfort Avenue at Chimney Rock Road. The residents also mentioned that sidewalk obstructions are common and ADA ramps are needed in many places. One person mentioned that the sidewalks are too narrow for two people to walk side by side.

CHAPTER 10: CONCLUSIONS & NEXT STEPS

The final step in the Transportation Analysis was to utilize all information and data gathered to develop a spreadsheet of attributes that will assist the Project Team in recommending network improvements. These attributes include collision data, traffic congestion & volume data, presence of a sidewalk or bike lane, transit ridership, connectivity to nearby destinations, pedestrian comfort, and bicycle LTS. Many of these attributes were checked and confirmed in the field. The team will further refine this spreadsheet with weights for each category and then score each arterial surveyed in order to understand where improvements may be most needed. Ultimately, it will be the recommendations of this and the needs/desires of Brays Oaks residents that will drive the Project Team's recommended improvements.

The results from the existing conditions analysis will be shared with the BOMD project team to allow for the opportunity for feedback and share their thoughts and perspective about the overall transportation network. The team will compile the feedback from the BOMD project team along with the findings from the site visit. Additionally, the team will examine origin-destination data along with annual average daily traffic (**Figure 42**) from H-GAC to analyze travel patterns in the district (which will help to inform project recommendations). All of this information will be used to rerun the analysis. Based on the results, the team will provide recommended street classification upgrades, context-sensitive roadway improvements, and/or new roadways if necessary. These will all be done to help support the goal of the Livable Centers Study; to transform Brays Oaks into an area where people can live, work, and play.

PROJECT RECOMMENDATIONS OVERVIEW

Projects will be identified and ranked through the outreach process and will be prioritized based on four key considerations.

- Neighborhood preference
- Enhanced level of safety



Figure 41: Utility box art at intersection of South Gessner Road and West Airport Boulevard

- Enhanced level of neighborhood identity, form, and appearance
- City and County policies on infrastructure development

In addition, the improvements will be classified as ***Immediate (High Priority) Improvements, Near-Term (Medium Priority), Long-Term (Low Priority) Improvements.***

Immediate (High Priority) Improvements are highly preferred by the residents and will help determine the feasibility of implementation. Concepts identified in workshops will be refined to feasible and implementable projects.

Near-Term (Medium Priority) Improvements These improvements also represent refinements of preferred concepts identified by residents.

Long-Term (Low Priority) Improvements. These improvements did receive residents' support in workshops, but ranked lower than those identified as immediate or near-term priorities.

Appendix A: Planning Documents and Relevant Contents

Appendix A: Planning Documents and Relevant Contents

Document	Relevant Contents
Houston-Galveston Area Council 2045 Regional Transportation Plan (RTP) (2019)	<p>Vision, Goals, Performance Measures, and Strategies: Primary goals of the RTP are to:</p> <ul style="list-style-type: none">• Improve Safety• Achieve and Maintain a State of Good Repair• Move People and Goods Efficiently• Strengthen Regional Economic Competitiveness• Conserve and Protect Natural and Cultural Resources <p>RTP projects located in the Brays Oaks District include:</p> <ul style="list-style-type: none">• MPOID 17093 Fondren Road: Widen from 4 to 6 lanes with traffic signal and drainage improvements• MPO ID 18043 Gessner Road: Bus operational improvements• MPO ID 18188 IH-69: Conversion of existing 1 lane reversible HOV lane to 2-lanes• MPO ID 18178: New Bus Rapid Transit (BRT) Service along Beltway 8• MPO ID 18181: New Commuter Rail Service along US 90A• MPO ID 17076 US-90A: Installation of new ITS infrastructure from IH-610 to Fort Bend C/L

Document	Relevant Contents
Plan Houston General Plan (2015)	<p>Plan Houston Goals:</p> <p>Transportation</p> <ul style="list-style-type: none"> • An affordable, multi-modal transportation network providing convenient access and mobility throughout the region for people and goods. <p>Core Strategies</p> <p>Sustain Quality Infrastructure (Related Goals)</p> <ul style="list-style-type: none"> • Attractive, walkable, and bikeable neighborhoods with diverse housing types, values, and character • Attractive streetscapes and public spaces <p>Connect People and Places (Actions and Related Goals)</p> <ul style="list-style-type: none"> • Develop and maintain a comprehensive mobility plan • Encourage compact pedestrian friendly developments around transit • Support a well-connected transportation network that includes transit, bicycle and pedestrian options • Maintain a citywide plan for bicycling • Enhance access to affordable transportation options • A city that enables healthy, active lifestyles and social well being • Vibrant and connected activity centers

Document	Relevant Contents
City of Houston Bike Plan (2017)	<p>Bike Plan Goals:</p> <ul style="list-style-type: none"> • Improve Safety: Provide a safer network for people of all ages and abilities through improved facilities, education, and enforcement • Increase Access: Create a highly accessible, citywide network of comfortable bike facilities that connects neighborhoods to transit, jobs, and activity centers, including schools, universities, parks, and libraries • Increase Ridership: Exceed average ridership levels in peer cities by implementing policies and programs to enable more people to ride bicycles and encourage healthy, active transportation choices • Develop and Maintain Facilities: Develop and sustain a high-quality bicycle network, including both bikeways and end-of-trip facilities <p>Off street bicycle facilities are planned on several drainage canals in Brays Oaks, as well as:</p> <ul style="list-style-type: none"> • On Street Bike Lanes: Bellfort Avenue, Airport Blvd, Hillcroft Avenue, Bob White Drive, Chimney Rock Road, Fondren Road, Beechnut Street, Bissonnet Street; • On Street Shared Facilities: Riceville School Road, Braeburn Glen Boulevard, Braeswood Drive, Bonhomme Drive, Braes Forest Drive, Braesridge Drive, Minetta Street, Fairmont Street, Renwick Drive, Atwell Drive
Brays Oaks Management District Streetscape Master Plan (2021)	<p>A Wayfinding Master Plan was developed with recommendations for implementing the signs districtwide</p> <p>Landscaping recommendations focused on the corridors of Bellfort Avenue, Airport Boulevard, Gessner Road, Fondren Road, and major intersections along each corridor, including West Bellfort Avenue/Beltway 8, Bellfort Avenue/Hillcroft Avenue, Bellfort Avenue/Gessner, Bellfort Avenue/Chimney Rock Road, Fondren Road/Bissonnet Street, Fondren Road/Bellfort Avenue, Fondren Road/Braeswood, Fondren/Airport, Gessner/Airport, Gessner/Braeswood Boulevard.</p> <p>Recommendations were also made at 13 gateway locations and along the Beltway 8 and US-59 frontage roads.</p>

Document	Relevant Contents
Brays Oaks Management District Strategic Branding Plan (2021)	<p>The primary transportation related recommendation from this plan is to invest in new signage. This includes wayfinding, landscaping, streetscapes, and in general, beautifying the district and its gateways. Recommendations include:</p> <ul style="list-style-type: none"> • Ensure that signage identifies the boundaries of the BOMD along major corridors • Use signage to point out access to important quality of life amenities • Include the refreshed Brays Oaks brand on the signage, such as the logo, color palette, or a small amount of text describing the BOMD's mission. • Develop a plan for creating and putting up signage as new portions of the BOMD parks and trails systems are improved or expanded.
Recommendations	
Brays Oaks Economic Development Strategic Plan (2020)	<ul style="list-style-type: none"> • Identify partners and programs including grants to leverage funds in order to make key trail and pedestrian connections • Be involved and engage in capital improvement projects going on in and around the district by other entities including the City of Houston, Flood Control District, METRO, and Harris County. • Invest in Tactical Urbanism to support the community brand • Reinvent the medians of the BOMD

Document	Relevant Contents
Brays Oaks Parks and Trails Master Plan (2020)	<p>Goals and Objectives</p> <ul style="list-style-type: none"> • Provide residents better accessibility to parks • Develop a comprehensive trail system for multiple-user types within the District
	<p>Priority Projects Phase I</p> <ul style="list-style-type: none"> • Brays Bayou Connector Trail: Brays Bayou & US-59 to Willow Meadow Dr along Keegan’s South Tributary • Fondren Diversion Channel Trail: Fondren Diversion Channel & Willowbend Boulevard to Kittybrook Lane • Willow Waterhole Trail: Northern Detention of Willow Waterhole Greenway & Willow Waterhole Bayou to Fondren Diversion Channel
	<p>Phase II</p> <ul style="list-style-type: none"> • CenterPoint East-West Trail: Brays Bayou Connector Trail & CenterPoint Easement to Fondren Road • Kinder East Trail: Willow Waterhole Greenway to Intersection of Chimney Rock Road/W. Belfort Avenue

Document	Relevant Contents
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Recommendations

Hillcroft Avenue
Healthy
Connections
Corridor Feasibility
Study (2020)

- Creation of a greenway trail in the median of Hillcroft Ave; broken up into three main segments:
 - Willowbend Blvd to Belfort Ave
 - Belfort Ave to Airport Blvd
 - Airport Blvd to S. Main St/US-90A
- Intersection improvements at Hillcroft Ave/Belfort Ave, and Hillcroft Ave/Airport Blvd
- Northern Access Corridor recommendations include:
 - Neighborhood bikeways along Willowbend Dr, Rampart St, Queensloch Dr, Ashcroft Dr, Atwell Dr, and Braesmont Dr
 - Protected Bike Lane on Hillcroft Ave between Willowbend and the Braes Bayou Trail
 - Willowbend Blvd CenterPoint Easement and Drainage Channel Trail
- Eastern Access Corridor recommendations include:
 - Neighborhood bikeways along Ludington Dr, Gasmer Dr, Effingham Dr, and Dryad Dr
 - D139-04-00 Drainage Channel Trail
 - Willow Waterhole Bayou Trail (East)
- Southern Access Corridor recommendations include:
 - Hillcroft Ave Side Path
 - Neighborhood bikeways along Wood River Dr and River Bluff Dr
 - Hillcroft Ave Protected Bike Lane from US-90A to Sims Bayou
- Western Access Corridor recommendations include:
 - Neighborhood bikeways along Ludington Dr and Dryad Dr
 - Willow Waterhole Bayou Trail (West)

Document	Relevant Contents
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Master Plan Circulation Recommendations

Westbury
Community
Garden Master
Plan (2016)

- Implement a one way "loop" drive paved with pervious concrete and connecting to three parking lots.
- Site path running east-west along the southern edge of the site
- Locate wayfinding signage at strategic locations along the circulation network to guide visitors
- Coordinate with the BOMD to design and build new and improved sidewalks along Greencraig St and Dunlap St.

Appendix B: Traffic Count Data Worksheets

Brays Oaks Traffic Volumes and Projections

Volume Count Date		Road	Location	vph		Number of lanes	Growth Factor	2021				2045									
				AM	PM			2021		City of Houston	V/C		LOS		2045		City of Houston	V/C		LOS	
Date	Year						AM	PM	Capacity (vph)	AM	PM	AM	PM	AM	PM	Capacity (vph)	AM	PM	AM	PM	
2/5/2018	2018	W Airport Blvd	West of Jebbiah Ln	802	1155	4	1.5	839	1208	3200	0.26	0.38	LOS AB	LOS AB	1199	1726	3200	0.37	0.54	LOS AB	LOS AB
2/5/2018	2018	W Airport Blvd	West of Ravensworth	998	1246	4	1.5	1044	1303	3200	0.33	0.41	LOS AB	LOS AB	1492	1863	3200	0.47	0.58	LOS AB	LOS AB
2/22/2016	2016	W Airport Blvd	West of Loop 8	1617	1605	4	1.5	1742	1729	3200	0.54	0.54	LOS AB	LOS AB	2490	2472	3200	0.78	0.77	LOS AB	LOS AB
2/22/2016	2016	W Airport Blvd	East of Loop 9	1590	1624	6	1.5	1713	1750	4800	0.36	0.36	LOS AB	LOS AB	2449	2501	4800	0.51	0.52	LOS AB	LOS AB
2/22/2016	2016	W Airport Blvd	West of Gessner Rd	1103	1247	4	1.5	1188	1343	3200	0.37	0.42	LOS AB	LOS AB	1699	1920	3200	0.53	0.60	LOS AB	LOS AB
2/22/2016	2016	W Airport Blvd	East of Gessner Rd	1372	1395	4	1.5	1478	1503	3200	0.46	0.47	LOS AB	LOS AB	2113	2148	3200	0.66	0.67	LOS AB	LOS AB
3/18/2019	2019	W Airport Blvd	East of Fondren	1214	1199	4	1.5	1251	1235	3200	0.39	0.39	LOS AB	LOS AB	1788	1766	3200	0.56	0.55	LOS AB	LOS AB
2/23/2016	2016	Fondren Rd	South of Airport Blvd	1684	1947	6	1.5	1814	2097	4800	0.38	0.44	LOS AB	LOS AB	2593	2998	4800	0.54	0.62	LOS AB	LOS AB
2/23/2016	2016	Gessner Rd	South of Airport Blvd	1383	1214	4	1.5	1490	1308	3200	0.47	0.41	LOS AB	LOS AB	2130	1870	3200	0.67	0.58	LOS AB	LOS AB
3/2/2016	2016	Riceville School Rd	North of Airport Blvd	567	508	2	1.5	611	547	1600	0.38	0.34	LOS AB	LOS AB	873	782	1600	0.55	0.49	LOS AB	LOS AB
2/23/2016	2016	Gessner Rd	North of Airport Blvd	1140	1274	4	1.5	1228	1372	3200	0.38	0.43	LOS AB	LOS AB	1756	1962	3200	0.55	0.61	LOS AB	LOS AB
2/24/2016	2016	Gessner Rd	South of Bellfort	1585	1833	4	1.5	1707	1975	3200	0.53	0.62	LOS AB	LOS AB	2441	2823	3200	0.76	0.88	LOS AB	LOS C
2/23/2016	2016	Fondren Rd	North of Airport Blvd	1824	1984	6	1.5	1965	2137	4800	0.41	0.45	LOS AB	LOS AB	2809	3055	4800	0.59	0.64	LOS AB	LOS AB
2/23/2016	2016	Fondren Rd	South of Bellfort	1867	2306	6	1.5	2011	2484	4800	0.42	0.52	LOS AB	LOS AB	2875	3551	4800	0.60	0.74	LOS AB	LOS AB
2/9/2016	2016	Bellfort	East of SR 59	1846	2022	4	1.5	1989	2178	3200	0.62	0.68	LOS AB	LOS AB	2843	3114	3200	0.89	0.97	LOS C	LOS C
2/9/2016	2016	Bellfort	West of Loop 8	1603	1910	4	1.5	1727	2058	3200	0.54	0.64	LOS AB	LOS AB	2469	2941	3200	0.77	0.92	LOS AB	LOS C
2/9/2016	2016	Bellfort	East of Loop 8	2074	2210	4	1.5	2234	2381	3200	0.70	0.74	LOS AB	LOS AB	3194	3403	3200	1.00	1.06	LOS C	LOS DE
2/9/2016	2016	Bellfort	West of Plainfield St	1865	2084	4	1.5	2009	2245	3200	0.63	0.70	LOS AB	LOS AB	2872	3209	3200	0.90	1.00	LOS C	LOS DE
2/9/2016	2016	Bellfort	East of Westbrae Pkwy	1668	2039	4	1.5	1797	2197	3200	0.56	0.69	LOS AB	LOS AB	2569	3140	3200	0.80	0.98	LOS AB	LOS C
2/9/2016	2016	Bellfort	East of Gessner Rd	1631	2074	4	1.5	1757	2234	3200	0.55	0.70	LOS AB	LOS AB	2512	3194	3200	0.78	1.00	LOS AB	LOS C
2/9/2016	2016	Bellfort	East of Fondren	1891	2191	4	1.5	2037	2360	3200	0.64	0.74	LOS AB	LOS AB	2912	3374	3200	0.91	1.05	LOS C	LOS DE
2/10/2016	2016	Bellfort	East of Chimney Rock	2712	2597	4	1.5	2922	2798	3200	0.91	0.87	LOS C	LOS C	4176	3999	3200	1.31	1.25	LOS F	LOS DE
2/10/2016	2016	Bellfort	West of Willowbend	2456	2588	4	1.5	2646	2788	3200	0.83	0.87	LOS AB	LOS C	3782	3985	3200	1.18	1.25	LOS DE	LOS DE
2/22/2016	2016	Creekbend Dr	East of Gessner Rd	890	890	4	1.5	959	959	3200	0.30	0.30	LOS AB	LOS AB	1371	1371	3200	0.43	0.43	LOS AB	LOS AB
2/22/2016	2016	Creekbend Dr	West of Fondren	569	660	4	1.5	613	711	3200	0.19	0.22	LOS AB	LOS AB	876	1016	3200	0.27	0.32	LOS AB	LOS AB
2/22/2016	2016	Willow Bend Blvd	East of Fondren	916	689	4	1.5	987	742	3200	0.31	0.23	LOS AB	LOS AB	1411	1061	3200	0.44	0.33	LOS AB	LOS AB
2/22/2016	2016	Willowbend	West of Hillcroft	628	529	2	1.5	677	570	1600	0.42	0.36	LOS AB	LOS AB	967	815	1600	0.60	0.51	LOS AB	LOS AB
2/22/2016	2016	Willowbend	West of Chimney rock	991	773	2	1.5	1068	833	1600	0.67	0.52	LOS AB	LOS AB	1526	1190	1600	0.95	0.74	LOS C	LOS AB
2/22/2016	2016	Willowbend	West of Bellfort	1297	1037	2	1.5	1397	1117	1600	0.87	0.70	LOS C	LOS AB	1997	1597	1600	1.25	1.00	LOS DE	LOS C
2/22/2016	2016	Willowbend	West of Post Oak	1357	1236	2	1.5	1462	1332	1600	0.91	0.83	LOS C	LOS AB	2090	1903	1600	1.31	1.19	LOS F	LOS DE
2/24/2016	2016	Gessner Rd	North of Bellfort	1417	1909	4	1.5	1527	2057	3200	0.48	0.64	LOS AB	LOS AB	2182	2940	3200	0.68	0.92	LOS AB	LOS C
2/23/2016	2016	Fondren Rd	North of Bellfort	1832	2101	6	1.5	1974	2263	4800	0.41	0.47	LOS AB	LOS AB	2821	3235	4800	0.59	0.67	LOS AB	LOS AB
3/18/2019	2019	Hillcroft Avenue	South of Airport Blvd	1265	1452	4	1.5	1303	1496	3200	0.41	0.47	LOS AB	LOS AB	1863	2138	3200	0.58	0.67	LOS AB	LOS AB
2/22/2016	2016	Hillcroft Avenue	North of Ludington Dr	2215	1543	4	1.5	2386	1662	3200	0.75	0.52	LOS AB	LOS AB	3411	2376	3200	1.07	0.74	LOS DE	LOS AB
2/5/2018	2018	Hillcroft Avenue	South of Bellfort	1481	1642	4	1.5	1549	1717	3200	0.48	0.54	LOS AB	LOS AB	2214	2454	3200	0.69	0.77	LOS AB	LOS AB
2/22/2016	2016	Hillcroft Avenue	South of Willowbend	1740	1536	4	1.5	1874	1655	3200	0.59	0.52	LOS AB	LOS AB	2680	2365	3200	0.84	0.74	LOS AB	LOS AB
3/19/2019	2019	Hillcroft Avenue	South of Braeswood	1327	1969	4	1.5	1367	2029	3200	0.43	0.63	LOS AB	LOS AB	1954	2900	3200	0.61	0.91	LOS AB	LOS C
2/22/2016	2016	Hillcroft Avenue	North of Braeswood	1909	1799	4	1.5	2057	1938	3200	0.64	0.61	LOS AB	LOS AB	2940	2770	3200	0.92	0.87	LOS C	LOS C
2/22/2016	2016	Hillcroft Avenue	South of Beechnut	1845	1837	4	1.5	1988	1979	3200	0.62	0.62	LOS AB	LOS AB	2841	2829	3200	0.89	0.88	LOS C	LOS C
2/22/2016	2016	Hillcroft Avenue	South of Bissonnet	1394	1458	4	1.5	1502	1571	3200	0.47	0.49	LOS AB	LOS AB	2147	2245	3200	0.67	0.70	LOS AB	LOS AB
2/22/2016	2016	Chimney Rock	South of Airport Blvd	1615	1397	5	1.5	1740	1505	4000	0.43	0.38	LOS AB	LOS AB	2487	2151	4000	0.62	0.54	LOS AB	LOS AB
2/22/2016	2016	Chimney Rock	North of Gassmer Dr	1914	1705	4	1.5	2062	1837	3200	0.64	0.57	LOS AB	LOS AB	2948	2626	3200	0.92	0.82	LOS C	LOS AB
2/22/2016	2016	Chimney Rock	North of Willowbend	2010	1629	4	1.5	2165	1755	3200	0.68	0.55	LOS AB	LOS AB	3095	2509	3200	0.97	0.78	LOS C	LOS AB
6/6/2017	2017	Post Oak Rd	South of Willowbend	3232	4069	6	1.5	3430	4319	4800	0.71	0.90	LOS AB	LOS C	4904	6174	4800	1.02	1.29	LOS DE	LOS F
2/10/2016	2016	Bissonnet St	East of SR 59	3097	3617	6	1.5	3336	3897	4800	0.70	0.81	LOS AB	LOS AB	4769	5570	4800	0.99	1.16	LOS C	LOS DE
2/10/2016	2016	Bissonnet St	West of Gessner Rd	1369	1379	4	1.5	1475	1486	3200	0.46	0.46	LOS AB	LOS AB	2108	2124	3200	0.66	0.66	LOS AB	LOS AB
2/8/2016	2016	Braeswood Blvd	West of Sapling Way	2074	2466	4	1.5	2234	2657	3200	0.70	0.83	LOS AB	LOS AB	3194	3798	3200	1.00	1.19	LOS C	LOS DE
2/8/2016	2016	Braeswood Blvd	East of Gessner	1811	1815	4	1.5	1951	1955	3200	0.61	0.61	LOS AB	LOS AB	2789	2795	3200	0.87	0.87	LOS C	LOS C
2/8/2016	2016	Braeswood Blvd	West of Fondren	2242	2171	4	1.5	2415	2339	3200	0.75	0.73	LOS AB	LOS AB	3453	3343	3200	1.08	1.04	LOS DE	LOS DE
2/8/2016	2016	Braeswood Blvd	East of Fondren	2800	2518	4	1.5	3016	2713	3200	0.94	0.85	LOS C	LOS AB	4312	3878	3200	1.35	1.21	LOS F	LOS DE
2/8/2016	2016	Braeswood Blvd	West of Hillcroft	1649	1680	4	1.5	1776	1810	3200	0.56	0.57	LOS AB	LOS AB	2539	2587	3200	0.79	0.81	LOS AB	LOS AB

Appendix C: Field Work Notes

Appendix C: Brays Oaks Field Work

Narrative Summary of Primary Issues/Needed Improvements by Location

Intersections

W. Bellfort at Riceville School

- Intersection is unsignalized and pedestrians are unprotected
- Crosswalk is not striped and could be unsafe
- Bellfort is a very wide street to cross and would be difficult for slow walkers
- ADA ramp is not textured
- Fast moving traffic through this intersection

Willowbend at W. Bellfort

- Pedestrian signal is not audible on the south leg of the intersection
- Faded pedestrian crossing signs at intersection
- Road is too wide to safely cross

W. Bellfort at Fondren

- Walk time is too short for most slow walkers, only 25 seconds on east leg of intersection

W. Bellfort at Beltway 8 NB Frontage

- Pedestrian crossing time is too short; only 15 seconds traveling NB and 10 seconds traveling WB
 - Will not be sufficient for nearly all slow walkers and most average walkers
 - There is a center median refuge, but as traffic moves fast here it would be best to have one walk cycle accommodate
- RT slip ramps are placed at each corner of the intersection
- Yield signs are placed beyond the pedestrian crossing on the RT slip ramp, drawing attention away from the crosswalk
- Concrete is in poor shape in areas crossing the intersection

W. Airport at Riceville School

- Pedestrian push-to-walk does not have an audible indication
- Airport is a wide road to cross for impaired mobility individuals

Chimney Rock at W. Airport

- Push buttons are not active at this location and do not have an audible indication
- Crossing time might be difficult for slow walkers (25-40 seconds)
- Crosswalk striping is very faded
- Wide road difficult to cross for slow pedestrians

W. Airport at Beltway 8 NB Frontage

- Pedestrian signal is not audible and does not count down
- One pedestrian push buttons is missing entirely
- Very short crossing time (15 seconds), requires two cycles to cross Airport completely
- Unprotected RT slip ramps can be unsafe for pedestrians

W. Airport at Hillcroft

- Crossing time is not sufficient for slow walkers
- North-south leg makes pedestrians wait too long to cross
- Pedestrian islands have cracked concrete

S. Gessner at W. Belfort

- 25 second walk time; not sufficient for slow walkers (one was observed to have to wait in the median for a second cycle)
- Pedestrians push buttons are faded
- Only one ADA curb ramp cut per corner

S. Gessner at Creekbend

- Countdown only exists on the NB/SB portions; EB/WB requires two cycles to cross
 - Only a 15 second crossing cycle across Gessner
- Wait time to cross was long
- Striping is starting to fade
- Some drivers did not comply with traffic controls

S. Braeswood at S. Gessner

- Crossing time is longer than most in the area (40 seconds), but might still be a little short for slow pedestrians
- Crosswalk striping is badly faded

S. Gessner at Beltway 8 NB Frontage

- Crossing times are very short and require two cycles to cross Gessner
- RT slip ramps could be unsafe to pedestrians
- No pedestrians allowed on W leg of intersection

S. Gessner at W. Airport

- Crossing distance is long and light cycle gives 25 seconds
- Wide crossing distance at this intersection

Hillcroft at Willowbend

- Push buttons are not active at this intersection; analyst had to cross against signal on one leg
- 20 second walk time across Hillcroft
- No crosswalk markings at this intersection

- ADA access across Hillcroft is questionable
- Hillcroft is a busy and wide road to cross

Hillcroft at S. Braeswood

- 20 second walk time likely not sufficient for a slow walker
- Some of the push buttons do not give an audible indication
- Road is wide to cross

Hillcroft at W. Belfort

- Push button does not have an audible indication
- 40 second cross time, while longer than most, might be more difficult for slow walkers
- W leg of crosswalk; median is cracked
- Crosswalk striping is in poor shape
- No shelters for bus stops nearby

S. Braeswood at Fondren

- Walk cycle turns on automatically but there are no push buttons or audible indication
- Very short cycle crossing Braeswood, 10 seconds (problematic for slow walkers)
- Long wait time to cross Braeswood
- Crosswalk striping is fading
- Median blocks the E leg crosswalk with no curb cut

Fondren at Creekbend

- Long wait time for pedestrians to cross the street
- Push to walk signal is not operational
- Crosswalk striping needs to be refreshed

Fondren at W. Airport

- Push to walk does not have audible indication
- E leg of crosswalk has a short walk time (30 seconds)
- Signs are faded on push-to-walk buttons

Roadway Segments

W. Airport between S. Gessner and Beltway 8

- Sidewalks are narrow and probably could not accommodate 2 people side by side comfortably
- Cracked sidewalk and overgrown weeds closer to BW8 intersection
- Few crossings along the corridor
- Very little shade along the corridor

W. Airport between S. Gessner and Fondren

- Midblock crossing exists on this corridor with no ramp and faded striping (close to a school)

- Vehicles did not yield to analyst when crossing the street in crosswalk
- Sidewalks are in mostly ok condition

W. Airport between Fondren and Hillcroft

- Sidewalk is not continuous along entire corridor
- Sidewalk is in poor shape with cracks
- ADA access is difficult in the area with high slopes along sidewalk
- No shade; landscaping needs maintenance
- No amenities along corridor (restrooms, benches, etc.)

W. Airport between Hillcroft and Chimney Rock

- Sidewalk is broken/cracked on most sections
- Curb ramps are broken
- Sidewalk was observed to be blocked by shrubs, cars, and low hanging trees
- Landscaping needs maintenance

S. Braeswood from S. Gessner to Bissonnet

- Sidewalks are narrow and probably could not accommodate 2 people side by side comfortably
- Some bumps and cracks in the sidewalk but not in the worst condition
- Crosswalk at Keegan's Bayou trail is almost completely faded; this area has a high concentration of bike/ped crashes
- Blocks are large with few crossings; pedestrians were observed to jaywalk from apartments to grocery store
- Speeding traffic, many cars did not yield to analyst in crosswalk

S. Braeswood from Fondren to S. Gessner

- Sidewalks are narrow on south side of road and probably could not accommodate 2 people side by side comfortably
- Many curb cuts are not textured for people with visual impairments
- Braes Bayou Trail gives this area good connectivity
- Although the Braes Bayou Trail has a lot of greenery; the trail itself was not very well shaded and hot in the summer sun
- Several bus stops on N side have no ADA access
- Crossing corridor mostly at major arterials

W. Belfort from S. Gessner to Beltway 8

- Sidewalks are in okay condition with some small spots where it is missing
- Blocks are very long with few crossings
- Sidewalk is not very shaded; however landscaping is maintained
- Some drivers did not comply with traffic controls; eg. Ran red lights

W. Belfort from Fondren to S. Gessner

- Sidewalks on N side are narrow and probably could not accommodate 2 people side by side comfortably
- Some cracks in the sidewalk but overall better than most in the area
- Typically only 1 curb ramp cut at intersections
- Light pole blocks south sidewalk near Gessner
- Marked school crosswalk has no ADA ramp access
- Street needs shade trees and amenities
- Bus stops don't provide shelter or lighting

W. Belfort from Chimney Rock to Hillcroft

- Sidewalks are not continuous near Westbury Square
- Curb cuts are not textured
- Sidewalks are narrow and probably could not accommodate 2 people side by side comfortably
- Corridor needs amenities like shade trees, restrooms, benches, etc.

Chimney Rock from S. Gessner to W. Belfort

- Sidewalks are narrow on some sections and probably could not accommodate 2 people side by side comfortably
- Sidewalk is blocked by shrubs and low hanging trees near Gessner
- Few amenities along corridor
- Pedestrian push buttons not available in some locations

Creekbend between Fondren and S. Gessner

- Sidewalks are narrow and probably could not accommodate 2 people side by side comfortably
- Some parts have no concrete sidewalk
- No curb cuts in some locations; interrupted by driveways
- Driveway at Creekbend Gardens Apts interrupts sidewalks and drivers don't look before entering/exiting
- Some segments of the corridor needs amenities

Fondren between S. Braeswood and Bissonnet

- Sidewalks are in reasonably good condition with small buffer available
- Curb cuts are mostly ok
- Low hanging branches on E sidewalk
- No ADA ramps at some bus stops
- Long blocks can be a barrier to walking

Fondren between S. Braeswood and W. Belfort

- Sidewalks are narrow and probably could not accommodate 2 people side by side comfortably
- Pedestrians were observed to be jaywalking from apartment complex to laundromat where no marked crosswalk exists
- Long blocks provide a hindrance to walking
- Drivers mostly did not yield to cyclist in crosswalk. Speeding is also an issue

- Striping is faded at midblock crossing near Westbury Christian
- Shade and amenities are few

Fondren between W. Belfort and W. Airport

- Sidewalk is cracked or broken in many locations
- ADA ramps are in poor shape without texturing in some locations
- Low hanging trees block the sidewalk in some locations
- Ped crossing signs missing in some locations
- Corridor lacks amenities

S. Gessner between W. Belfort and Beltway 8

- Sidewalks are narrow on E side and probably could not accommodate 2 people side by side comfortably
- Wider sidewalk on W side but has no buffer from traffic
- Long blocks with few crossing points
- Midblock crossing adjacent to middle school has no ADA ramp and is blocked by the median
- Bus stops need ramps
- Overgrown grass on E side
- Faded pedestrian push buttons at Belfort

S. Gessner between S. Braeswood and W. Belfort

- Sidewalks are narrow and probably could not accommodate 2 people side by side comfortably
- Broken and cracked sidewalk but mostly continuous
- Some cracks are significant to the point that analyst had to dismount his bike and walk around it. Very hazardous for individuals with impaired mobility
- Sidewalk is sometimes partially obstructed by utilities
- Some drivers did not comply with traffic controls (eg. Run red lights)
- Landscaping is overgrown in many spots; area lacks amenities
- Not a pleasant corridor to walk on a hot day

Hillcroft between W. Airport and W. Belfort

- Sidewalk is narrow, some small spots where concrete is missing
- Cracks in sidewalk in some areas
- Not much shade available on the corridor
- Long blocks provide hindrance to walking

Hillcroft between Willowbend and W. Belfort

- Most ADA ramps have old textured material
- Some large cracks in the sidewalk and are narrow
- Hillcroft is a wide road to cross and can be intimidating
- Sidewalk is mostly shaded
- Some bus stops lack ADA access

Hillcroft between Willowbend and S. Braeswood

- Sidewalk is broken/cracked in 1-2 locations; blocked by shrubs in 2-3 locations
- Faded school crosswalk on corridor
- Many pedestrians do not cross at marked crossings
- Drivers don't slow down at school crosswalk
- Corridor needs amenities

Hillcroft between S. Braeswood and Beechnut

- Sidewalks on W side are narrow and probably could not accommodate 2 people side by side comfortably
- Some parts of the sidewalk are wider but these sections have no buffer from traffic
- Speeding observed on corridor
- Landscaping is reasonably well maintained, some shade available
- Long blocks in the area

Post Oak between Willowbend and S. Willow

- Walking on sidewalk is not comfortable with fast traffic and trucks adjacent

Riceville School between W. Airport and W. Belfort

- No sidewalk exists on the E side of the road
- Sidewalk on W side is questionably narrow and has a steep drop off in parts into a drainage ditch
- Overgrown vegetation in parts
- Sidewalk in some parts does not have a curb and gutter and is separated from traffic with a small raised concrete
- Long blocks and very few places to cross
- No shade available on the corridor; weeds against sidewalk; no amenities

Willowbend between Fondren and W. Belfort

- Poor quality sidewalks near Hillcroft and Belfort
- Drivers do not yield to pedestrians or stop behind crosswalk in some places

Transit

Route 63 Fondren

- Rode from Fondren/Belfort to Fondren/Braeswood
- Another surveyor rode from Belfort/Mullins to Belfort/Fondren
- Walk to and from bus stop was not very shaded and some sidewalks were broken
- Access to stop was ok
- Stop has shelter and bench but perhaps not the most comfortable
 - Other stops do not have benches or shade structures and not comfortable

- Bus was 8-10 min late
 - Other bus was early and not crowded
- Boarding process was easy, bus was not crowded
- 10 min to reach destination

Route 8 Bellfort

- Rode from Bellfort/Gessner to Bellfort/Braesridge
- Sidewalks to and from bus stop were cracked and can be difficult to navigate
- Bus stop is visible from street with shelter and benches
- Access to stop was ok
- Bus was 8 min late
- Boarding process was easy, bus was not crowded

Route 8 Gessner

- Rode from Gessner/Creekbend to Gessner/Fondren Meadow
- Sidewalks were broken leading up to bus stops
- Stops are visible from the street but had no benches or shelters
- Boarding was easy; bus was on time, and was not crowded
- Able to board without consulting a schedule

Route 7 Post Oak

- Rode from Post Oak/Willow to Chimney Rock/Gasmer
- Walk was comfortable to stop
- Stop is not very visible due to trees
- Shelter and benches provided
- Bus was on time, boarding easy, and not crowded
- Need to make the bus stops more visible and easy to access

Route 10 Willowbend

- Rode from Willowbend/Sandpiper to Willowbend/Bellfort
- Sidewalk had cracks leading to stop
- Stops had shelter and benches
- Bus was more than 5 min late
- Boarding was easy; bus was not crowded
- Bus stops are visible from street

Cross-Streets & Intersections

Area: Brays Oaks District
 Auditor: Cory Peterson & Utsav Domadia
 Date: 6/23/2021-6/25/2021

Field Work Scoring: Intersections

1= Yes; 0= No

				1	2	3	4	5	6	7	8	9	10	11
Cross Streets & Intersection	Date	Time	Summarized Ratings (Higher = More Deficient)	The crossing doesn't have a pedestrian signal or audible signal	The pedestrian signal doesn't give people walking at an average speed enough time to cross	The signal doesn't give slow walkers enough time to cross	The traffic signal makes pedestrians wait too long before crossing	The location needs a traffic signal or crosswalk	A push-to-walk signal is not available/operating /accessible	The crosswalk is not marked or is poorly marked	People need to walk >300 feet for a safe place to cross the street	The road is too wide to safely cross	There's no median on a street with four or more lanes	Parked cars or utility poles block the pedestrian view of traffic
1 W. Belfort & Riceville School	6/23/2021	2:00 PM	6	1	0	0	1	1	1	1	0	1	0	0
2 Willowbend & W. Belfort	6/23/2021		2	1	0	0	0	0	0	0	0	1	0	0
3 W. Belfort & Fondren	6/23/2021		4	0	1	1	1	0	0	0	0	1	0	0
4 W. Belfort & BW 8 (NB) frontage	6/25/2021	12:10 PM	5	0	1	1	1	0	0	1	0	1	0	0
5 W. Airport & Riceville School	6/23/2021	1:36 PM	2	0	0	1	0	0	0	0	0	1	0	0
6 Chimney Rock & W. Airport	6/24/2021	11:45 AM	6	1	0	1	0	1	1	1	0	1	0	0
7 W. Airport at BW 8 NB frontage	6/25/2021	11:55 AM	6	1	1	1	1	0	1	0	0	1	0	0
8 W. Airport & Hillcroft	6/24/2021		3	0	1	1	1	0	0	0	0	0	0	0
9 S. Gessner & W. Belfort	6/25/2021		2	0	0	1	0	0	0	0	0	1	0	0
10 S. Gessner & Creekbend	6/23/2021	12:30 PM	6	1	1	1	1	0	0	1	0	1	0	0
11 S. Braeswood & S. Gessner	6/23/2021	12:30 PM	3	0	0	1	0	0	0	1	0	1	0	0
12 S. Gessner & BW 8 NB Frontage	6/23/2021	11:45 AM	5	0	1	1	1	0	1	0	0	1	0	0
13 S. Gessner & W. Airport	6/23/2021	1:30 AM	2	0	0	1	0	0	0	0	0	1	0	0
14 Hillcroft & Willowbend	6/24/2021	10:50 AM	8	1	1	1	1	0	1	1	0	1	0	1
15 Hillcroft & S. Braeswood	6/24/2021	12:15 PM	3	0	1	1	0	0	0	0	0	1	0	0
16 Hillcroft & W. Belfort	6/23/2021	11:20 AM	4	1	1	1	0	0	0	1	0	0	0	0
17 S. Braeswood & Fondren	6/24/2021	9:45 AM	6	1	1	0	1	0	1	1	0	1	0	0
18 Fondren & Creekbend	6/23/2021		5	0	0	1	1	0	1	1	1	0	0	0
19 Fondren & W. Airport	6/23/2021		3	1	0	0	0	0	1	1	0	0	0	0

Segment

4: Excellent; 3: Good; 2: Fair; 1: Poor

Y / N

0,1,2,3 or 4

Checklist item		Rating
S1	Airport between Gessner & Beltway 8	22-Jun 1:30 PM
1	Crossing Streets & Intersections	2
2	Sidewalks	2
3	Driver Behavior	2
4	Safety	2
5	Comfort & Appeal	1
	Overall Rating of the entire walk audit area	2
	Summary	11
	Additional Comments	
S2	Airport Between Fondren & Hillcroft	23-Jun 11:30
6	Crossing Streets & Intersections	2
7	Sidewalks	1
8	Driver Behavior	2
9	Safety	2
10	Comfort & Appeal	2
	Overall Rating of the entire walk audit area	2
	Summary	11
	Additional Comments	
S3	Airport Between Fondren & Gessner	25-Jun 11:30am
12	Crossing Streets & Intersections	1
13	Sidewalks	2
14	Driver Behavior	2
15	Safety	2
16	Comfort & Appeal	1
17	Overall Rating of the entire walk audit area	2
	Summary	10
	Additional Comments	
	Airport Between Hillcroft & Chimney Rock	24-Jun 11:45 PM
20	Crossing Streets & Intersections	3
S4	Sidewalks	1
21	Driver Behavior	3
22	Safety	2
	Comfort & Appeal	2
	Overall Rating of the entire walk audit area	2
	Summary	13
	Additional Comments	
	Braeswood Between Gessner & Bissonnet	25-Jun 12:30 PM
	Crossing Streets & Intersections	1
	Sidewalks	2
	Driver Behavior	2
	Safety	1

Comfort & Appeal		2
Overall Rating of the entire walk audit area		2
Summary		10
Additional Comments		
Braeswood Between Fondren & Gessner	22-Jun	11:00 PM
Crossing Streets & Intersections		2
Sidewalks		3
Driver Behavior		3
Safety		3
Comfort & Appeal		4
Overall Rating of the entire walk audit area		3
Summary		18
Additional Comments		
Belfort Between Gessner & Beltway 8	24-Jun	12:15 PM
Crossing Streets & Intersections		2
Sidewalks		2
Driver Behavior		2
Safety		2
Comfort & Appeal		1
Overall Rating of the entire walk audit area		2
Summary		11
Additional Comments		
Belfort Between Fondren & Gessner	24-Jun	12:15 PM
Crossing Streets & Intersections		1
Sidewalks		2
Driver Behavior		2
Safety		1
Comfort & Appeal		2
Overall Rating of the entire walk audit area		2
Summary		10
Additional Comments		
Belfort Between Chimney Rock & Hillcroft	23-Jun	1:00 PM
Crossing Streets & Intersections		2
Sidewalks		3
Driver Behavior		3
Safety		3
Comfort & Appeal		4
Overall Rating of the entire walk audit area		3
Summary		18
Additional Comments		
Chimney Rock Between Gasmer & Belfort	23-Jun	12:00 PM
Crossing Streets & Intersections		3
Sidewalks		3
Driver Behavior		2
Safety		3
Comfort & Appeal		4

Overall Rating of the entire walk audit area		3
Summary		18
Additional Comments		
Creekbend Between Fondren & Gessner		24-Jun 12:30 PM
Crossing Streets & Intersections		3
Sidewalks		2
Driver Behavior		2
Safety		2
Comfort & Appeal		3
Overall Rating of the entire walk audit area		2
Summary		14
Additional Comments		
Fondren Between Braeswood & Bissonet		25-Jun 9:45 AM
Crossing Streets & Intersections		2
Sidewalks		3
Driver Behavior		2
Safety		2
Comfort & Appeal		2
Overall Rating of the entire walk audit area		2
Summary		13
Additional Comments		
Fondren Between Braeswood & Bellfort		24-Jun 10:00 AM
Crossing Streets & Intersections		2
Sidewalks		3
Driver Behavior		1
Safety		2
Comfort & Appeal		1
Overall Rating of the entire walk audit area		2
Summary		11
Additional Comments		
Fondren Between Bellfort & Airport		23-Jun 3:00 PM
Crossing Streets & Intersections		1
Sidewalks		2
Driver Behavior		2
Safety		2
Comfort & Appeal		2
Overall Rating of the entire walk audit area		2
Summary		11
Additional Comments		
Gessner Between Bellfort & Beltway 8		25-Jun 10:30 AM
Crossing Streets & Intersections		1
Sidewalks		2
Driver Behavior		2
Safety		2
Comfort & Appeal		1
Overall Rating of the entire walk audit area		2

Summary		10
Additional Comments		
Gessner Between Belfort & Braeswood	22-Jun	
Crossing Streets & Intersections		1
Sidewalks		1
Driver Behavior		1
Safety		1
Comfort & Appeal		1
Overall Rating of the entire walk audit area		1
Summary		6
Additional Comments		
Hillcroft Between Airport & Belfort	24-Jun	11:30 AM
Crossing Streets & Intersections		2
Sidewalks		2
Driver Behavior		2
Safety		2
Comfort & Appeal		2
Overall Rating of the entire walk audit area		2
Summary		12
Additional Comments		
Hillcroft Between Willowbend & Belfort	24-Jun	10:50 AM
Crossing Streets & Intersections		2
Sidewalks		2
Driver Behavior		2
Safety		2
Comfort & Appeal		2
Overall Rating of the entire walk audit area		2
Summary		12
Additional Comments		
Hillcroft Between Willowbend & Braeswood	22-Jun	10:30 AM
Crossing Streets & Intersections		3
Sidewalks		4
Driver Behavior		3
Safety		3
Comfort & Appeal		3
Overall Rating of the entire walk audit area		3
Summary		19
Additional Comments		
Hillcroft Between Braeswood & Beechnut	22-Jun	9:25 AM
Crossing Streets & Intersections		2
Sidewalks		3
Driver Behavior		2
Safety		2
Comfort & Appeal		2
Overall Rating of the entire walk audit area		2
Summary		13

Additional Comments		
Post Oak Between Willowbend & Willow Dr	23-Jun	11:30 AM
Crossing Streets & Intersections		2
Sidewalks		1
Driver Behavior		2
Safety		1
Comfort & Appeal		1
Overall Rating of the entire walk audit area		1
Summary		8
Additional Comments		
Riceville School Between Airport & Belfort	22-Jun	2:00 PM
Crossing Streets & Intersections		1
Sidewalks		1
Driver Behavior		2
Safety		1
Comfort & Appeal		1
Overall Rating of the entire walk audit area		1
Summary		7
Additional Comments		
Willowbend Between Belfort & Post Oak	22-Jun	11:10 AM
Crossing Streets & Intersections		2
Sidewalks		3
Driver Behavior		2
Safety		3
Comfort & Appeal		3
Overall Rating of the entire walk audit area		3
Summary		16
Additional Comments		

Appendix D: List of Community Workshop Transportation Related Comments

Comments & Feedback on Transportation Related Boards

Brays Oaks Livable Centers Workshop 01

06/24/2021

Board: Bikeways

Which bicycle linkages provide the best potential to connect brays oaks residents to community centers and services?

1. Need a bridge (near willow waterhole) (drawn on the board).
2. Section from Willow Waterhole Park to S. Post Oak is not valid.
3. Adjacent condominiums own to middle of Bayous.
4. This trail crossing for S. POST Oak is impossible should be a pedestrian bridge.
5. Add a bike trail along Hillcroft connecting Brays Bayous to Bayland Park (City already owns right of way where buried ditch is located).
6. Support the study recently done for Hillcroft linear park.
7. Park and Ride at W. Belfort needs to be multiuse: bike, shopping, retail, place to meet, use transit.
8. Would ride bus if it connects Fort Bend County. (Live: Houston, Work: Fort Bend)
9. Would bike if direct connections available
10. Would like direct lanes l/o traffic
11. Parking to ride the Bayous is needed.
12. On street bike lanes on Belfort would be scary and would take lanes from drivers.
13. Bike lanes down freeways.
14. Bike paths should be prioritized in parks and off street.

Board: Bike level of traffic stress (comfortable level of biking)

What types of bicycle improvements (i.e., more signage, better stripping, dedicated lanes) are needed and where?

1. Lighting is bad in the east part of the district.
2. People don't respect school zone (post Covid).
3. High (not sure about this word) discomfort bikes lanes on Chimney Rock, possible trail in median.
4. Safety on Keegan Bayous
 - Bike stations are needed.
 - Park to be refurbished.
 - Landscaping (needed).
5. Linear Park on Hillcroft
6. Schools' zones not respected.
7. Traffic calming (needed).
8. Need better lighting on Keegan Bayous trail.
 - Homeless encampments
 - Place makers + Water features.

9. Traffic deaths may have occurred at night.
 - Hillcroft
 - Belfort
10. W. Belfort at Chimney Rock, 3rd lane disappears and it's dangerous.
11. Bike lane from Fondren/Braeswood to Fondren/W. Airport.
12. Need separate lanes marked clearly for bikes.
13. Linear trail has trouble crossing Chimney Rock at Belfort.
14. Homeless along Keegan Bayou with loose dogs.
15. Traffic circles are needed.
16. Chimney Rock and Hillcroft traffic is bad 4 to 6.
17. Add Bike trail along Hillcroft connecting Brays Bayous to Bayland Park. The city owns right of way over underground stormwater culverts.
18. Willowbend to Fondren – Post Oak (wider) can use complete street.
19. Need bike share W. Belfort – Fondren; and at new W. Belfort P&R
20. Willowbend; complete Street all the way to W. Belfort
21. Chimney Rock traffic bad in the morning.
22. Use Bayous to create trails to Willow Waterhole
 - Feels unsafe at Willow Waterhole
 - Sidewalks too narrow
 - Crossings Belfort, Gessner; unsafe
23. More off road paths in drainage areas
24. Bike signals needed
25. Willow Bend from Chimney to Post Oak needs to be slowed; wider than needed.
26. Unprotected crosswalks feel unsafe at Jewish Community Center
 - Signage at major intersections

Board: Bicycle pedestrian collision heat map

1. We need metro lines; a lot of us don't have cars.
2. Add additional community bikeways to access waterway.
3. When considering bikeways consider adequate lighting.
4. Very difficult to get to S. Gessner and Belfort.
 - Sidewalk obstruction on S. Gessner in front of the bank and another close to airport.
5. Traffic calming; slow traffic
6. This intersection (drawn on the map) is important in meetings with the city about redesign of Fondren Road and safety issues.
7. Install pedestrian guard rails near intersections to funnel bike/pedestrian traffic into safer sidewalks.
8. This won't abate without dedicated bike lanes.
9. For wider sidewalks for L turns, marked lanes for bikers so that drivers know to look for them.
10. Bike paths need to go under roads along Bayous, Fondren

Board: Collision heat map

1. What about B-bikes?

- Not sure
 - Lot of investment
 - Heights have them as they get special treatment
 - If you put them, people will use
2. Education for bikers!! Add it to the course.
 3. Will this raise taxes?
 4. Crosswalks needs to be lit or do not have them.

Board: Transit

What types of transit improvements are needed and where?

1. Have short run bus transport up and down Gessner and Fondren, like vans
2. Better/improve bus shelters at most stops
3. Park and ride that provide connections for bike, hiking, bus, car.
4. Need to slow traffic on Hillcroft and West Bellfort; through Westbury; 8 deaths, 11 pedestrian deaths.
5. 49 bus – the bus stops on S. Post Oak; looks like they are in the middle of nowhere to get to willow waterhole and greenway and traffic is very bad that part of S. Post Oak. Maybe a drop off lane?
6. Need better connections/path for Westbury High students to reach #8 bus to reach their homes via W. Bellfort. They walk on North on Chimney Rock, then on Bardinet, have to cross W. Bellfort. What about a light or crossing to get to their bus stop.

Board: Sidewalks

What types of pedestrian improvements (i.e., more lighting, shade, sidewalk repair) are needed; and where?

1. Provide ADA sidewalks in local communities.
2. Sidewalks needed.
3. Sidewalks are broken and dangerous.
4. Sidewalk obstructions on Gessner in front of Wells Fargo.
5. Marian park lighting and sport fields.
6. Rebuild sidewalks in Beechnut (Bissonnet to Hillcroft).
7. Rebuild sidewalks on McNamara elementary school.
8. Up and down Gessner from Bissonnet to W. Bellfort. Children and families walk to and from schools and stores a lot!
9. Impossible to walk to 2 people side by side.
10. Dangerous:
 - Bellfort and Fondren
 - Bellfort and Chimney Road

TECHNICAL MEMORANDUM

Date: November 23, 2021

To: Aldo Fritz, TJKM

Project No.: 319-003 Brays Oaks Livable Centers

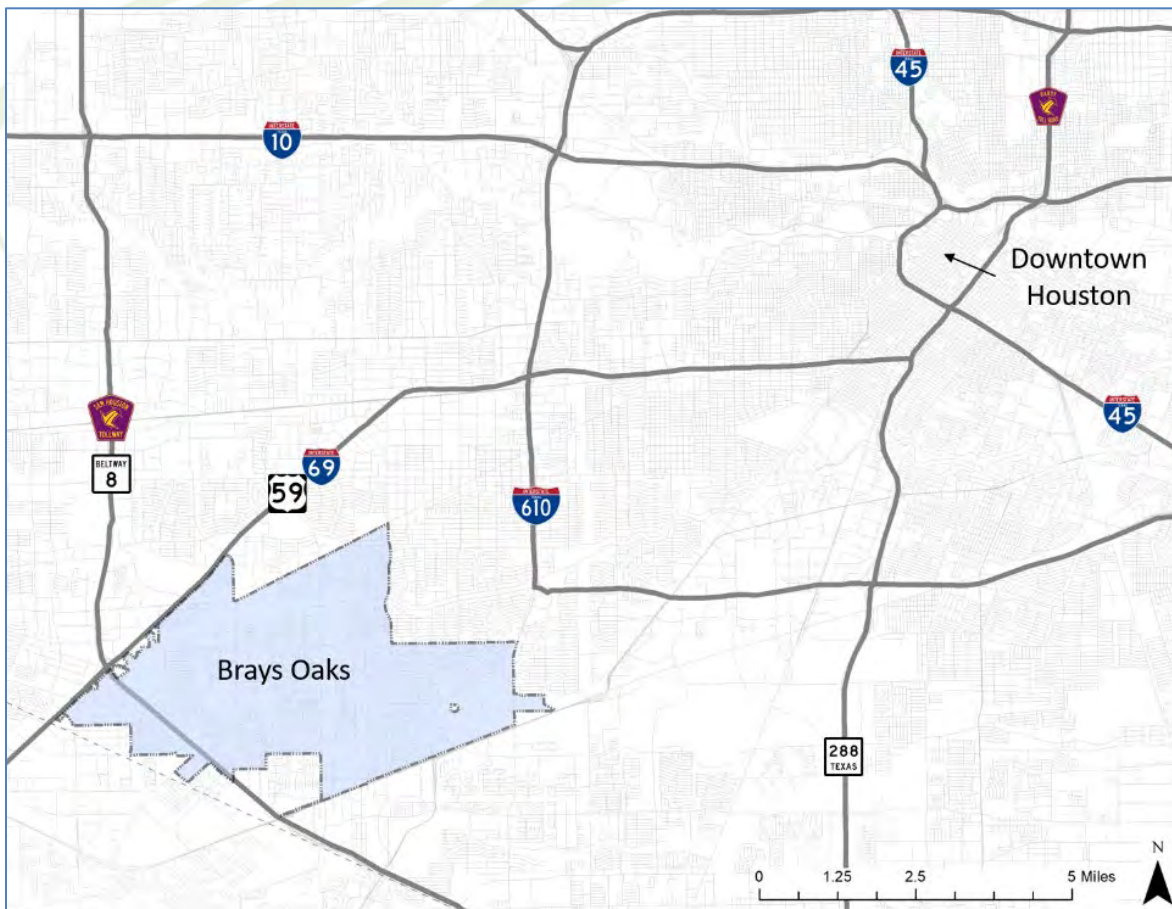
From: Arthur Chen, TJKM

Jurisdiction: Harris County

Subject: **Brays Oaks Livable Centers Study - VMT and Air Quality Analysis**

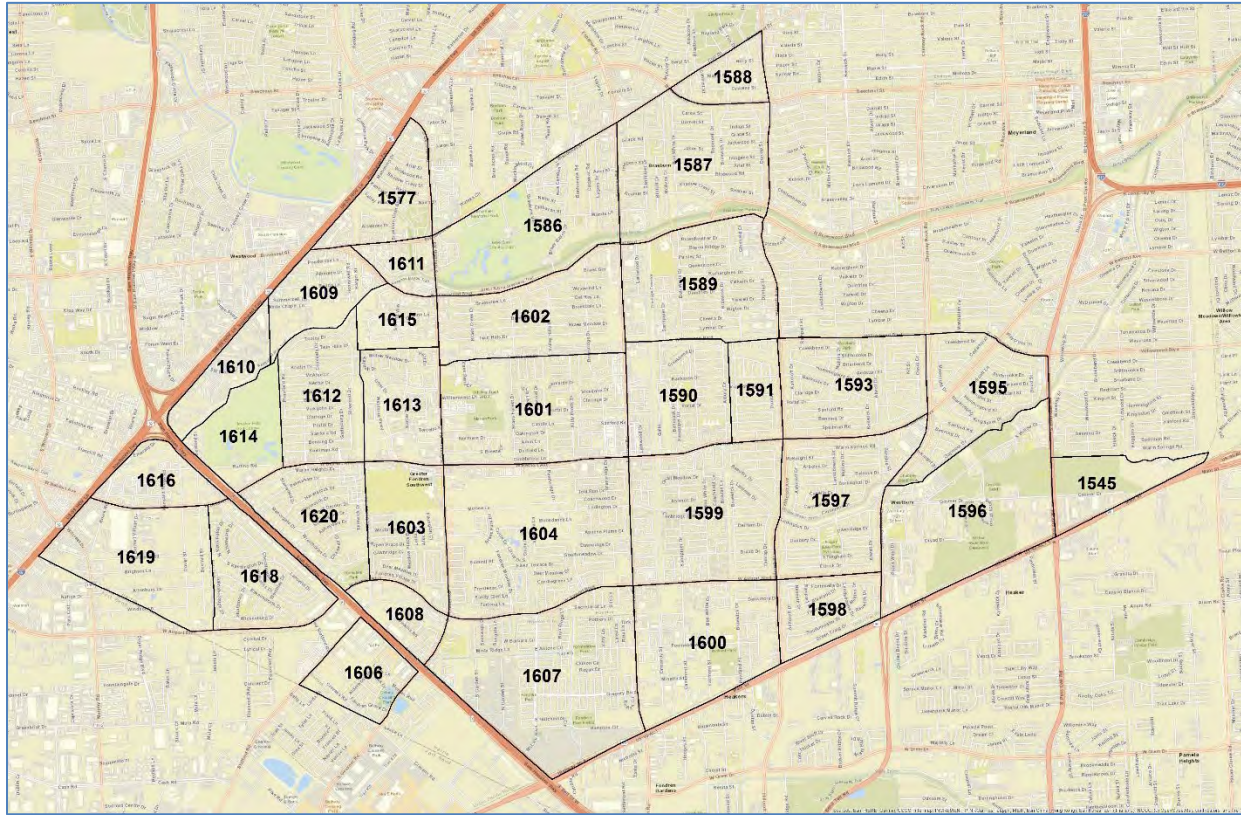
The Brays Oaks Study seeks to improve livability and air quality in the study area. TJKM conducted a VMT (Vehicle Miles Traveled) and Air Quality analysis for the Brays Oaks Livable Centers Study. The study area is located in the southwest corner of Houston. **Figure 1** shows the location of the Brays Oaks District. The purpose of a VMT analysis is to assess the likely effects of study recommendations on the amount of driving in to, out of and within the study area. The purpose of an air quality analysis is to estimate any air quality benefits of the recommendations.

Figure 1: Regional Map



A baseline number of vehicle miles traveled is important to estimate. In order to establish a baseline VMT for the district, travel demand model data was obtained from the Houston Galveston Area Council (H-GAC). The 33 Travel Analysis Zones (TAZs) that comprise of Brays Oaks are shown in **Figure 2**.

Figure 2: TAZ Map of Brays Oaks District



From the H-GAC model, TJKM estimates the baseline average trip length of vehicle trips made within the district is **6.5 miles**. For the base year of 2018, there were 45,872 auto trips made for a total daily VMT of **298,168 vehicle-miles**.

H-GAC provided an air quality and emissions estimate template to quantify the benefits of the Brays Oaks study recommendations. The template requires input of various roadway improvements along with demographic data for the Brays Oaks study area, which in turn calculates emission reductions and VMT reductions in the study area. Below is a summary of the various improvements proposed in the Brays Oaks Livable Center Study.

The Brays Oaks Study seeks to improve livability and air quality in the study area. The Brays Oaks Livable Centers Study focused improvements on major roadways and connections where low- and high- comfort bicycle facilities are proposed. **Table 1** summarizes the list of proposed roadways to be improved, the number of miles to be improved, and its roadway classification.



Table 1: List of Roadway Improvements

Facility	Roadway Class	Miles to be Improved
Airport Blvd	Arterial	4
Belfort Avenue	Arterial	6
Braeswood Blvd	Arterial	6
Chimney Rock Road	Arterial	3
Creekbend Drive	Collector	3
Fondren Road	Arterial	5
Gessner Road	Arterial	5
Hillcroft Avenue	Arterial	9
Post Oak Road	Arterial	2
Riceville School Road	Collector	3
Willow Bend Blvd	Arterial	4

Table 2 shows how each sidewalk / bike improvement will affect VMT reductions and emission reductions.

Table 2: Sidewalk Improvements Effects on VMT and Emissions

Facility	Total Daily VMT Reduction	CO (ton/year)	NOX (ton/year)	VOC (ton/year)	CO2 (ton/year)	PM10 (ton/year)
Airport Blvd	2,648	0.64	0.04	0.04	45.88	0.0015
Belfort Avenue	3,972	0.96	0.06	0.05	68.82	0.0023
Braeswood Blvd	3,972	0.96	0.06	0.05	68.82	0.0023
Chimney Rock Road	1,986	0.48	0.03	0.03	34.41	0.0011
Creekbend Drive	1,986	0.48	0.03	0.03	34.41	0.0011
Fondren Road	1,986	0.48	0.03	0.03	34.41	0.0011
Gessner Road	3,310	0.80	0.05	0.05	57.35	0.0019
Hillcroft Avenue	5,959	1.43	0.09	0.08	103.24	0.0034
Post Oak Road	1,324	0.32	0.02	0.02	22.94	0.0008
Riceville School Road	1,986	0.48	0.03	0.03	34.41	0.0011
Willow Bend Blvd	2,648	0.64	0.04	0.04	45.88	0.0015

Notes:

CO – Carbon Monoxide

NOX – Nitrous Oxides

VOC – Volatile Organic Compounds

CO2 – Carbon dioxide

PM10 – 10 microns or larger particulate matter

The Draft Livable Centers Study recommends about 50 miles of bikeway and sidewalk improvements in the study area. In addition, a road diet is proposed on Creekbend Drive from Gessner Road to Fondren Road. When completed, these improvements in addition to the sidewalk / bikeway additions are estimated to result in a 1.72% mode shift from auto to bike trips and a 4.5% mode shift from auto to pedestrian trips within the Brays Oaks District.

In addition to the sidewalk improvements mentioned above, there are 3 catalytic redevelopment sites with additional connectivity, multimodal transportation access, traffic calming measures and trail recommendations. The three site's names are: Willow Waterhole, Gessner Road / Belfort Avenue, and Ruffino Hills Transfer Station. Increased sidewalk connectivity and residential/employment densities were added into the VMT spreadsheet and the results are summarized in **Table 3**.

Table 3: Catalytic Redevelopment Sites Effects on VMT and Emissions

Redevelopment Site	Total Daily VMT Reduction	CO (ton/year)	NOX (ton/year)	VOC (ton/year)	CO2 (ton/year)	PM10 (ton/year)
Willow Waterhole	2,531	0.88	0.05	0.05	64.92	0.0012
Gessner Road / Belfort Avenue	4,581	1.58	0.09	0.09	117.51	0.0022
Ruffino Hills Transfer Station	6,474	2.24	0.12	0.12	166.07	0.0031

Sidewalk improvements and increased density in these redevelopment sites will potentially reduce daily VMT by over 3,000 along with reduced emissions for better air quality.

There are two transit lines running through Brays Oaks; Houston Metro line 8 and line 63. Ridership data from Houston Metro's website for those two lines was inputted into the H-GAC spreadsheet. These transit lines are expected to increase ridership as sidewalk / bikeway improvements are completed for more VMT reductions and air quality improvements.

Table 4 shows the VMT reductions output from the H-GAC Emission Air Quality Estimate Template for recommended transportation improvements proposed in the Brays Oaks Livable Centers Study. This table includes all of the above mentioned improvements.



Table 4 – VMT Summary Tab from H-GAC Emission Air Quality Estimate Workbook

Year	Auto LC Internal Daily Trips	New Pedestrian Daily Trips	New Bike Daily Trips	New Daily Transit Trips	General Auto Trip Reduction Due to Densification Daily Trip	Total Daily VMT Reduction (Bike/Ped)	Auto Daily Trip Reduction	Total Daily VMT Reduction (Autos)	Total Daily VMT Reduction
2018	45,872	2,064	1,233	0	0	5,764	3,297	21,434	27,198
2019	46,082	2,074	1,243	0	0	5,802	3,316	21,556	27,358
2020	46,292	2,083	1,252	326	0	9,104	3,662	23,802	32,906
2021	46,504	2,093	1,262	329	0	9,164	3,683	23,940	33,104
2022	46,716	2,102	1,272	331	610	10,299	3,705	24,080	34,379
2023	46,930	2,112	1,282	333	612	10,364	3,726	24,220	34,585
2024	47,144	2,121	1,291	335	615	10,431	3,748	24,362	34,792
2025	47,359	2,131	1,302	337	618	10,497	3,770	24,505	35,002
2026	47,970	2,159	1,320	339	1,252	11,720	3,818	24,818	36,538
2027	48,589	2,186	1,339	342	1,268	11,855	3,867	25,136	36,991
2028	49,215	2,215	1,358	344	1,284	11,991	3,917	25,458	37,450
2029	49,850	2,243	1,377	346	1,301	12,130	3,967	25,785	37,915
2030	50,493	2,272	1,397	348	1,977	13,431	4,018	26,115	39,547
2031	51,144	2,301	1,417	351	2,002	13,588	4,069	26,450	40,039
2032	51,803	2,331	1,437	353	2,028	13,747	4,122	26,790	40,537
2033	52,471	2,361	1,458	355	2,054	13,908	4,174	27,134	41,042
2034	53,148	2,392	1,479	358	2,080	14,071	4,228	27,483	41,554
2035	53,833	2,422	1,500	360	2,810	15,474	4,282	27,836	43,310
2036	54,527	2,454	1,521	362	2,846	15,657	4,337	28,194	43,851
2037	55,231	2,485	1,543	365	2,883	15,842	4,393	28,556	44,399
2038	55,943	2,517	1,565	367	2,920	16,030	4,450	28,924	44,954
2039	56,664	2,550	1,588	370	2,957	16,220	4,507	29,296	45,516
2040	57,395	2,583	1,610	372	2,996	16,413	4,565	29,673	46,086



TJKM

VISION THAT MOVES YOUR COMMUNITY

2041	58,135	2,616	1,633	374	3,034	16,608	4,624	30,056	46,663
2042	58,885	2,650	1,657	377	3,073	16,805	4,684	30,443	47,248
2043	59,644	2,684	1,681	379	3,113	17,005	4,744	30,836	47,840
2044	60,413	2,719	1,705	382	3,153	17,207	4,805	31,233	48,441
2045	61,192	2,754	1,729	384	3,194	17,412	4,867	31,636	49,049
Planning Horizon Totals		65,675	40,452	9,220	50,679	368,540	115,347	749,752	1,118,292
Planning Horizon Averages		2,346	1,445	329	1,810	13,162	4,120	26,777	39,939

The total baseline VMT for the Brays Oaks district is **298,168**. With implementation of all study recommendations, in the first year after implementation is complete, it is estimated that **27,198** VMT would be reduced, or around 7% of total daily baseline VMT. Throughout the 25 year planning horizon, an average of **39,939** VMT could be reduced every year from the Brays Oaks district. Implementation of the plan may induce a shift of over 2,000 auto trips to pedestrian trips and over 1,000 auto trips to bicycle trips.

Table 5 shows the Air Quality benefits over the lifespan of the Brays Oaks Livable Centers Plan.



Table 5 – Air Quality Benefits of Brays Oaks Livable Centers Plan

Year	Auto LC Internal Daily Trips	Emission Reduction				
		CO (ton/year)	NOX (ton/year)	VOC (ton/year)	CO2 (ton/year)	PM10 (ton/year)
2018	45,872	14.79	1.01	0.99	882	0.02
2019	46,082	14.18	0.90	0.93	866	0.02
2020	46,292	17.75	1.02	1.00	1,288	0.02
2021	46,504	16.97	0.92	0.94	1,258	0.02
2022	46,716	18.57	0.97	1.03	1,373	0.03
2023	46,930	17.63	0.89	0.98	1,336	0.03
2024	47,144	16.70	0.82	0.95	1,298	0.02
2025	47,359	15.67	0.76	0.90	1,260	0.02
2026	47,970	16.31	0.77	0.92	1,361	0.03
2027	48,589	15.36	0.72	0.87	1,333	0.03
2028	49,215	14.43	0.67	0.82	1,307	0.02
2029	49,850	13.50	0.63	0.77	1,284	0.02
2030	50,493	14.02	0.65	0.80	1,387	0.03
2031	51,144	13.03	0.58	0.71	1,369	0.02
2032	51,803	12.25	0.54	0.66	1,355	0.02
2033	52,471	11.61	0.51	0.62	1,344	0.02
2034	53,148	11.00	0.46	0.58	1,338	0.02
2035	53,833	11.59	0.48	0.61	1,454	0.02
2036	54,527	11.22	0.46	0.58	1,454	0.02
2037	55,231	10.92	0.44	0.56	1,457	0.02
2038	55,943	10.72	0.43	0.54	1,463	0.02
2039	56,664	10.59	0.42	0.53	1,471	0.02
2040	57,395	10.52	0.41	0.52	1,483	0.02
2041	58,135	10.05	0.40	0.50	1,416	0.02
2042	58,885	9.60	0.38	0.48	1,352	0.02
2043	59,644	9.18	0.36	0.46	1,291	0.02
2044	60,413	8.77	0.35	0.44	1,233	0.02
2045	61,192	8.38	0.33	0.42	1,178	0.02
Planning Horizon Totals		365.31	17.30	20.10	36,891	0.66
Planning Horizon Averages		13.05	0.62	0.72	1,318	0.02

Implementation of the Brays Oaks Study will reduce, on average, carbon monoxide by 13 tons a year, nitrous oxide by 0.62 tons a year, volatile organic compounds by 0.72 tons a year, carbon dioxide by 1,318 tons a year, and particulate matter (larger than 10 micrometers) by 0.02 tons a year.