



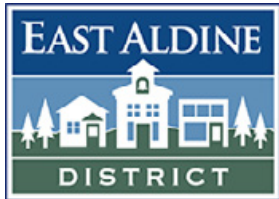
EAST ALDINE LIVABLE CENTER

**Final Report
7/20/2021**



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CLIENT TEAM



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EXECUTIVE SUMMARY





**EAST
ALDINE
LIVABLE
CENTER**

PROJECT OVERVIEW

The goal of this project is to assist the East Aldine Management District (EAMD) in harnessing existing strengths and assets of the community to overcome pressing resident and district challenges in a way that includes and supports the community. This project identifies community-led growth and investment opportunities while addressing current and pressing needs of the community. Areas of focus include multimodal circulation and connectivity; economic development; housing choice and affordability; community health and resilience; and land use, placemaking, and aesthetics.

Recommendations, based on findings from the Case For Action Report as well as community input, are broken into three Concepts with associated Recommendations, Strategies, Projects, and Action Steps. The recommendations summarized below are described in more detail beginning on page 114.

CONCEPT 1: HEALTHY AND THRIVING

RECOMMENDATION 1.1:

Expand small businesses support, entrepreneurship opportunities and youth employment pipelines to enhance east Aldine's local business environment.

RECOMMENDATION 1.2:

Support physical and mental health through access to and options for healthcare and health-promoting activities.

RECOMMENDATION 1.3:

Uplift East Aldine's cultural identity through expanded arts programming and opportunities

CONCEPT 2: RESILIENT AND SAFE

RECOMMENDATION 2.1:

Ensure that East Aldine's multi-generational community has safe, affordable, and stable homes

RECOMMENDATION 2.2:

Create physical and social infrastructure and systems that keep residents safe and minimize negative impacts during extreme weather events

CONCEPT 3: CONNECTED AND COMPLETE

RECOMMENDATION 3.1:

Create a connected community core that allows for safe places to walk, bike, take transit, and drive that connect logically into the surrounding community

RECOMMENDATION 3.2:

Increase access and opportunities to healthy spaces by leveraging, connecting, and extending the reach of bayous, parks, and medical care.

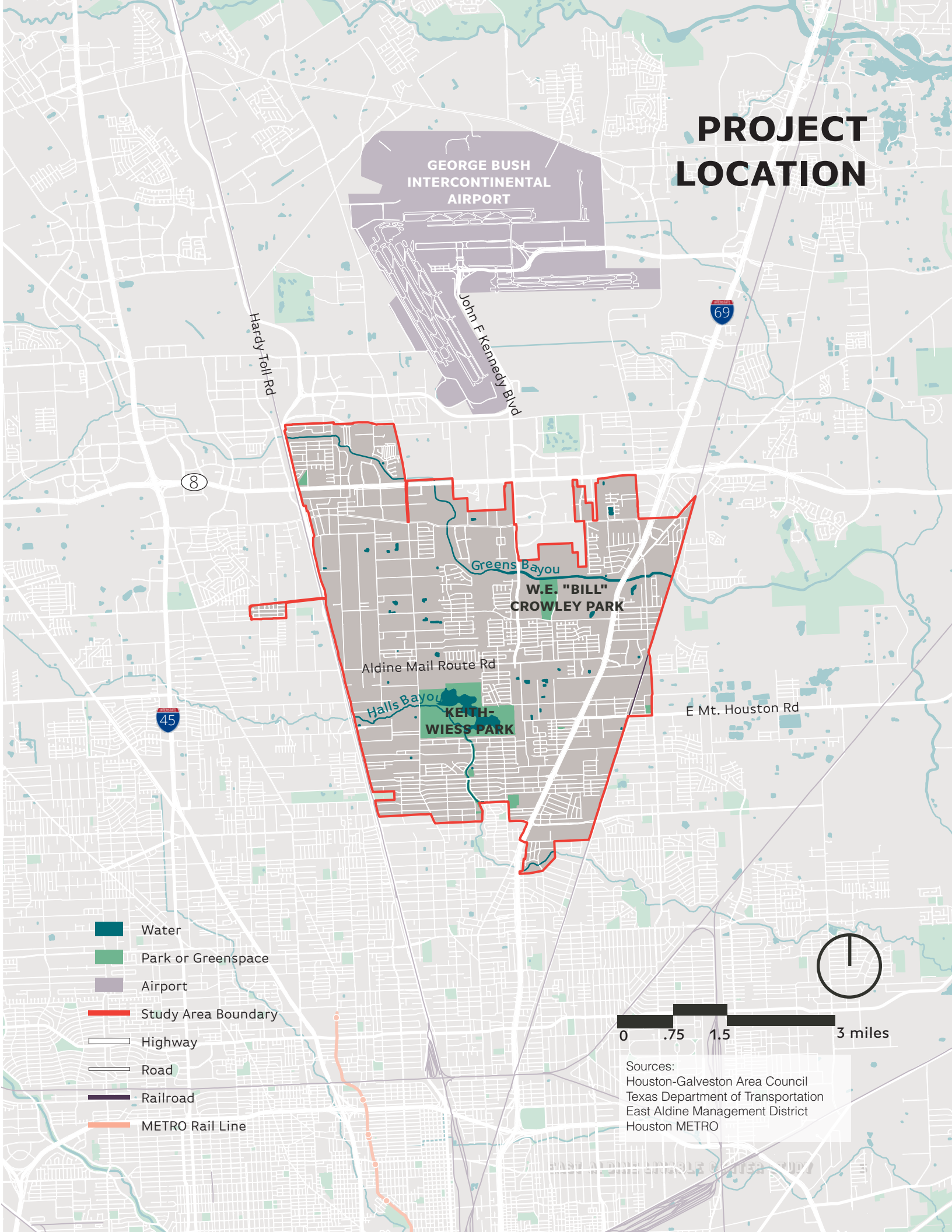
RECOMMENDATION 3.3:

Activate access to schools and learning centers with direct and safe connections from surrounding neighborhoods

RECOMMENDATION 3.4:

Strengthen economic opportunities through strategic regional connections supporting accessibility for local and regional businesses and workers.

PROJECT LOCATION



Sources:
Houston-Galveston Area Council
Texas Department of Transportation
East Aldine Management District
Houston METRO

PUBLIC ENGAGEMENT SUMMARY

Since the project kickoff, Tecolotl has engaged directly with over 450 East Aldine community members and reached at least 8,000 community members through in-person, online, and telephone outreach combined. Engagement methods included 82 established contacts and community leaders recruited throughout the project; 68 distinct one-on-one conversations lasting between 15-60 minutes with community members in-person and over the phone; an 8-person Community Planners cohort; five Community Intercepts reaching about 350 people; one online Public Meeting and one in-person Public Event reaching over 60 people; three Stakeholder Advisory Committee meetings; a project hotline; a project Facebook page with 126 followers; and outreach through yard signs and flyers.

STAKEHOLDER ADVISORY COMMITTEE

The Stakeholder Advisory Committee (SAC) included representatives from local agencies, elected officials, schools, and other community leaders to learn about the project, review the Case for Action findings, provide feedback on public engagement strategies, and review and provide feedback on recommended projects. The SAC was very excited about the project and provided great ideas, frameworks and critiques that were instrumental in shaping the project's engagement and recommendations.

COMMUNITY INTERCEPTS

The engagement team held five Community Intercepts at various locations within East Aldine including Bill Crowley Park, Keith-Wiess Park (2), the Studio 59 Market, and James Driver Park.

The initial community intercept at Keith-Wiess Park focused on getting the word out about the EALCS and also promoting and recruiting for the first EALCS public meeting. We were met with a mix of excitement and skepticism, however, we were able to educate about 100 residents/families about the EALCS and the local planning process through flyering and one-on-one conversations and recruited 15 of them to be active participants in the EALCS project.

During the second community intercept at Bill Crowley Park, the engagement team learned a lot about flooding and infrastructure concerns and connected to several community leaders representing civic associations, local businesses, and schools. Many of these leaders helped us promote our upcoming community intercept at Keith-Wiess and recruited their neighbors and family members to attend.

At the third intercept at Keith-Wiess Park, flooding, infrastructure, and increased public transportation and connectivity continued to be major concerns and opportunities shared by community members. We also heard from many local street vendors who expressed the need for more local business support to meet the needs of the community (more grocery stores, food establishments, maintenance & repair, etc.)

For the fourth community intercept, the engagement team had a stand as part of the Studio 59 Mother's Day Market, a pop-up event highlighting local vendors with music and raffles. Many of the families we talked to were

especially proud to be East Aldine residents and shared their excitement for spaces/events like Studio 59 Market. We continued learning about infrastructure, flooding, and connectivity concerns and also heard many stories about the need for better housing that supports existing residents without displacement.

A stormy weekend contributed to a fairly low turnout at the fifth community intercept at James Driver Park. Although the team was not able to have as many one-on-one conversations as usual, we connected with the local pick-up basketball league who helped us share project fliers with all their teams and families.



Community Intercept and feedback at Bill Crowley Park. Source: Tecolotl.

COMMUNITY PLANNERS

Our team recruited a cohort of 8 Community Planners consisting of East Aldine residents, many of whom had never been previously engaged by this type of project. The group included Spanish-dominant speakers, immigrants, students, artists, and people with disabilities. The introductory planning meeting was held in English and Spanish with simultaneous interpretation and was attended by 8 community planners who led a lively discussion about project needs and expectations and a lively Q&A with the project team.

The second Community Planners meeting was also held bilingually (with simultaneous interpretation) and focused on reviewing the EALCS Concept Plan recommendations. The 8 participants offered thorough feedback and the team received reassurance about many of the plan recommendations and also some new cultural frameworks to help improve the plan. Beyond the two meetings, Community Planners were also engaged through biweekly project updates and participated in the community intercepts, as well as their own project outreach with their neighborhoods and networks.



PRECEDENTS

LA JOYA BOULEVARD
CALIFORNIA



BEFORE



PROTECTED WALKWAYS



VEGETATION BEAUTIFICATION

CONFLUENCE PARK
SAN ANTONIO



MULTI-USE DEVELOPMENT

THE EXISTING PARKS IN EAST ALDINE SHOULD HAVE PHYSICAL AND VISUAL CONNECTION TO THE SURROUNDING NEIGHBORHOODS. THE PARKS SHOULD BE INTEGRATED WITH THE NEIGHBORHOODS WITH JOINT USE FACILITIES THAT COULD MAKE THE PARK SAFER AND FAMILY ORIENTED. THE FACILITIES COULD BE AN EDUCATION CENTER WHERE PEOPLE COULD LEARN FROM SUSTAINABILITY AND NATURE TO HOSTING ENGLISH CLASSES FOR THE COMMUNITY.

Design ideas created by Community Planner member and East Aldine resident Kevin Gabriel Balderrama.

PUBLIC MEETING #1

The first public meeting for the EALCS was held on Facebook Live in English (through the EAMD Facebook page) and Spanish (through the EALCS Facebook page) and was recorded and published on both Facebook pages. The event featured welcomes from State Rep. Armando Walle and Precinct 2 Commissioner Garcia's staff, followed by a pre-recorded "Caliente" performance and a presentation of the Case for Action report.



From top: Jorge Bustamante introduces the project on behalf of Precinct 2; José Eduardo Sánchez from Tecolotl presents via Facebook Live; pre-recorded performance by Caliente.

FINAL PUBLIC EVENT

The goal of the final public event was to present the concept plan recommendations to the general East Aldine community so they could share feedback and highlight their priorities. The project team, including Tecolotl, AR, and TEI, was able to talk to over 60 East Aldine community members at our booth with interactive posters as part of the Studio 59 Father's Day Market.

CONCEPT 1: HEALTHY AND THRIVING

| VOTES | PROJECTS |
|-------|--|
| 15 | Build Bikeways along Aldine Mail Route |
| 14 | Construct a Marketplace in "Centro East Aldine" |
| 8 | Develop and market a walkable commercial corridor along Aldine Westfield called "Centro East Aldine" |
| 8 | Designate spaces in the Marketplace for youth ventures |
| 7 | Develop a youth business mentorship program |
| 7 | Develop an Arts and Culture Warehouse in collaboration with the Fab Lab |
| 5 | Designate spaces in the Marketplace for BakerRipley program participants |
| 3 | Develop a business disaster support program |
| 2 | Install bike parking at key destinations |
| 1 | Develop incentives for active transportation |

CONCEPT 2: RESILIENT AND SAFE

| VOTES | PROJECTS |
|-------|---|
| 17 | Connect residents to resources for home repair and flood retrofitting |
| 8 | Develop disaster preparedness programming |
| 6 | Incentivize new housing outside of the floodplain |
| 4 | Partner with Harris County on Hazard Mitigation planning |



East Aldine residents participating in the voting activity at the final public event. Source: Asakura Robinson.

CONCEPT 3: CONNECTED AND COMPLETE

| VOTES | PROJECTS |
|-------|---|
| 11 | Improve intersections and crossings |
| 10 | Improve connections to the Town Center |
| 10 | Enhance Halls Bayou Trail |
| 8 | Rebuild Aldine Westfield and Aldine Mail Route roads |
| 7 | Support tree planting |
| 7 | Improve trailhead visibility and accessibility |
| 6 | Improve Safe Routes to School |
| 5 | Increase transit options and amenities |
| 5 | Develop a Complete Street on Hopper |
| 5 | Improve access to and awareness of Eastex Park and Ride |
| 4 | Develop a community connector trail leveraging Halls and Greens Bayous, the Town Center, and Keith-Wiess Park |
| 3 | Improve airport access through the 6 Jensen line |

FACEBOOK PAGE

The East Aldine LCS Facebook page served as a living website for two-way communication with East Aldine residents throughout the project. In addition to the public meeting, we published project updates, engagement event announcements, and a series of weekly survey questions to collect feedback on specific project recommendations. In total, we garnered 126 page followers, published 28 bilingual posts, reaching 520 people on average per post.

PROJECT HOTLINE

We set up a Google Voice number to be used as a project hotline and facilitate two-way communication with East Aldine residents who might not feel comfortable using email or social media. We received several responses to our weekly Facebook questions via text, perhaps from people who did not want to post their answers publicly. The most common call we received was from residents confirming engagement event dates/times and asking about upcoming events to participate.

The screenshot shows the Facebook profile of 'East Aldine LCS' (@EastAldineLCS). The page has a cover photo with the text 'EAST ALDINE LIVABLE CENTER STUDY'. The left sidebar lists navigation options: Home, Events, Reviews, About, Videos, Photos, Posts (highlighted), and Community. The main post is dated May 26 at 4:00 PM and contains a survey question in both Spanish and English. The Spanish text asks about housing preferences and accessibility. The English text asks about housing options and affordability. Below the text, there are two columns of options in Spanish and English. At the bottom of the post, there is a call to action in both languages to comment or call/text a specific number (832-390-1421). The post has 4 likes and 1 comment/3 shares.

East Aldine LCS
@EastAldineLCS

Home
Events
Reviews
About
Videos
Photos
Posts
Community

East Aldine LCS
May 26 at 4:00 PM · 🌐

Estas son algunas de las últimas preguntas que haremos los martes. No se pierda la oportunidad de compartir su respuesta a continuación y compartir las preguntas con su familia y amigos. ¡Necesitamos sus ideas y comentarios! ¡Haga que su voz se escuche, usted cuenta!

These are some of the last questions we will ask on Tuesdays. Don't miss the opportunity to share your answer below and share the questions with your family and friends. We need your ideas and comments! Make your voice heard, you count!

[East Aldine District](#)

¿Qué tipos de opciones de vivienda le gustaría ver en East Aldine? ¿Viviendas unifamiliares? ¿Complejos pequeños de apartamentos? ¿Complejos grandes de apartamentos? ¿Cómo pueden estas opciones seguir siendo accesibles y asequibles para la comunidad?

What types of housing options would you like to see in East Aldine? Single family homes? Small apartment complexes? Large apartment complexes? Others? How can these options stay affordable and accessible to the community?

Comente abajo o llame/ envíe un mensaje de texto con sus ideas al: **832-390-1421**

Comment below or call/text your ideas to: **832-390-1421**

👍 4

1 Comment 3 Shares

Survey question post on the East Aldine Livable Centers Study Facebook page.

YARD SIGNS AND FLYERS

24 yard signs in English and Spanish were placed in schools, parks, and other public spaces throughout the study area to promote the project and the first public meeting. Additionally, our team was able to distribute 350 fliers in total for both the 1st and final public meetings.

WHAT ARE YOUR PRIORITIES FOR EAST ALDINE?



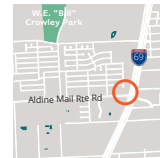
The East Aldine Livable Centers Study team has been hard at work! We have drafted a set of recommendations for East Aldine based on your input and our research.

Now we want to hear from you again:

- Which of the projects and programs that we're recommending would make the biggest difference in East Aldine?
- Do the projects we're proposing support your goals for the community?

Join us at the Studio 59 Market
Saturday June 19th 12-6 pm
12411 Eastex Fwy

Look for us next to the East Aldine District Booth!



For questions and information,
Call or text the Project Hotline:
(832) 390-1421

Follow us on Facebook for updates:
[fb.com/EastAldineLCS](https://www.facebook.com/EastAldineLCS)



HOW WOULD YOU IMPROVE YOUR COMMUNITY?

**We want to hear your opinions and ideas
to create a more connected, healthy,
and thriving East Aldine!**



The East Aldine Management District and the Houston-Galveston Area Council are working on a Livable Center Study in East Aldine. In partnership with community members, the goal is to create a plan that addresses pressing needs and builds on existing strengths in our community.



Join us for a public meeting on Facebook Live to learn more about the project and ways to get involved!

February 25th 6-7 pm
Fb.com/EastAldineLCS



SCAN ME

For questions and information,
call or text the Project Hotline:
(832) 390-1421

Flyer advertising Public Meeting #2 and yard sign advertising Public Meeting #1.

CASE FOR ACTION





**EAST
ALDINE
LIVABLE
CENTER**

CASE FOR ACTION STRUCTURE

The Case for Action report is structured to inform the Livable Centers study. The intent of the report is to know and understand the community. That includes the people and culture of East Aldine and the everyday needs of the people that live and work in the community. It also includes the built and natural environments of the area and major issues such as infrastructure, mobility, development and flooding needs

Another key aspect of the approach to this project is furthering work in existing and ongoing planning efforts. Throughout this report, you can find side bars detailing previous planning work, and how this effort will seek to further those community goals.

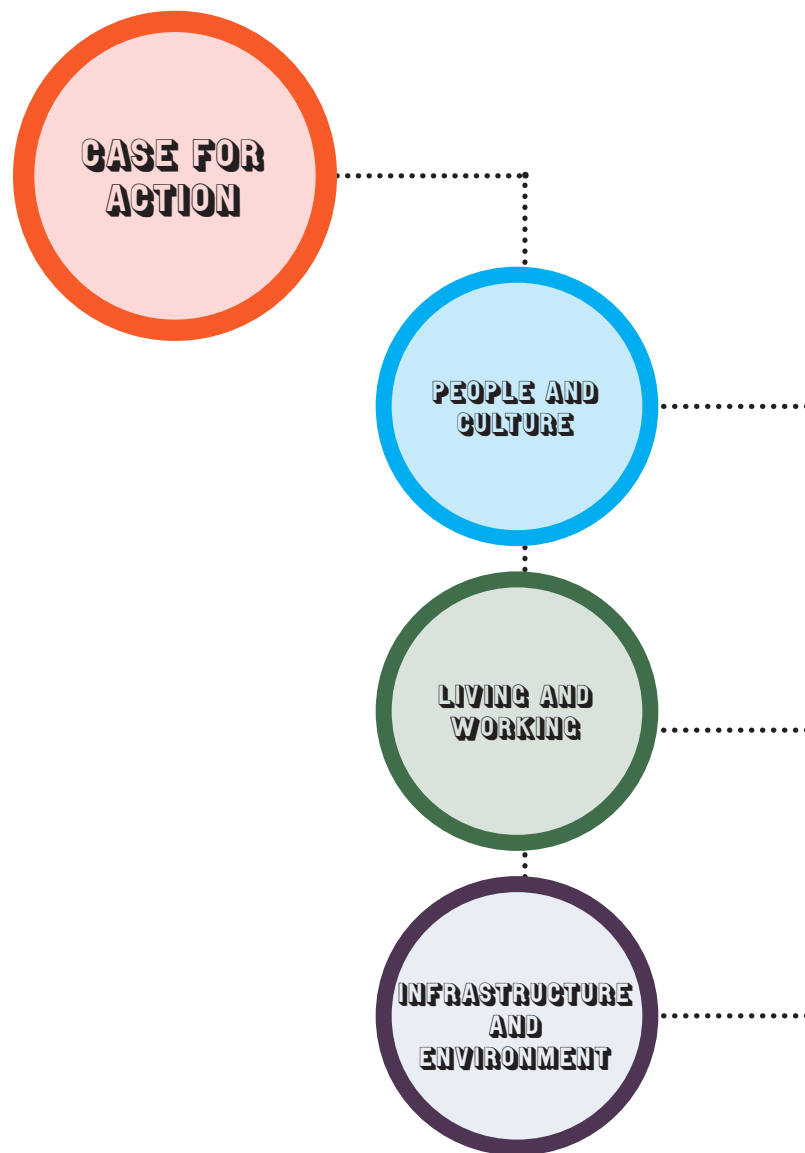
PREVIOUS PLANNING

Look for these side bars throughout the document for information on previous planning and how this effort will further existing community goals.

Throughout the document, key findings are highlighted using the icon shown below. Look for this indicator for key issues as the project moves forward.



KEY FINDING



KEY FINDINGS AND PROJECT OPPORTUNITIES

This project seeks to further previous planning ideas as well as respond to new analysis and stakeholder and public feedback. The first step in this Livable Center study is the analysis contained in this Case for Action document, and based on this analysis, the following opportunities rise to the top as a key focus for this plan.



PEOPLE AND CULTURE

East Aldine residents are subject to a variety of quality of life factors that place them at a higher risk for health issues than other communities in Harris County, but also have very strong community ties, resiliences, and a robust do-it-yourself attitude. A key opportunity for this project is understanding how to improve these indicators and utilize East Aldine's robust community ties and abundance of green space. This section begins on page 12.



LIVING AND WORKING

On a district scale, over 50 percent of the land in East Aldine is in the 100-year floodplain, and residents have taken steps to safeguard their own homes against repeated inundation. A key opportunity for this project is to understand the relationship between land use and flooding, and work with the community to determine what land uses are appropriate for remaining developable land. This section begins on page 26.



INFRASTRUCTURE AND ENVIRONMENT

Existing population and employment levels in the study area make providing frequent transit challenging, and the current sidewalk and bikeway network hinder access and mobility outside of a personal vehicle. A key opportunity for this project is working to understand the regional links between transit access, flooding, and health, and utilize land in a way that can support alternate forms of mobility. This section begins on page 54.

GOVERNANCE

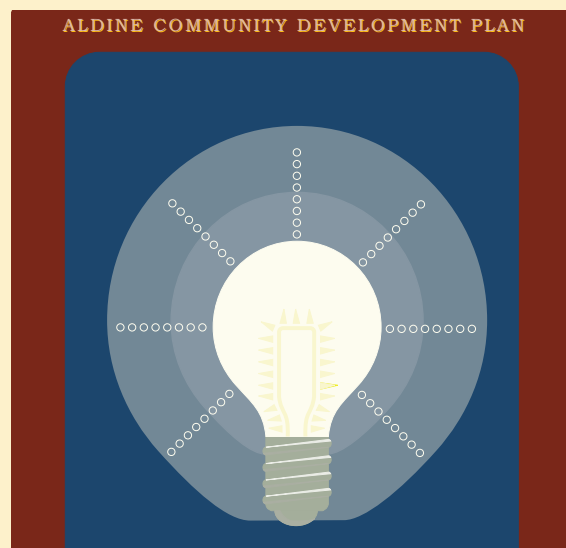
KEY FINDING

The study area, which coincides with the East Aldine Management District boundary, is governed by a complex group of city and county jurisdictions, special districts, and the management district itself. In addition to these municipal entities, a variety of social services organizations provide services within the district, on top of services provided by the Aldine Independent School District and the Harris County Sheriff's Office.

Governance by such a wide variety of entities provides a challenge for implementation of projects, as a wide variety of stakeholder must be involved. The ownership of Aldine Westfield Road by the City of Houston also presents issues, as City of Houston voters do not live near the road, which is in need of improvement.

ALDINE COMMUNITY DEVELOPMENT PLAN

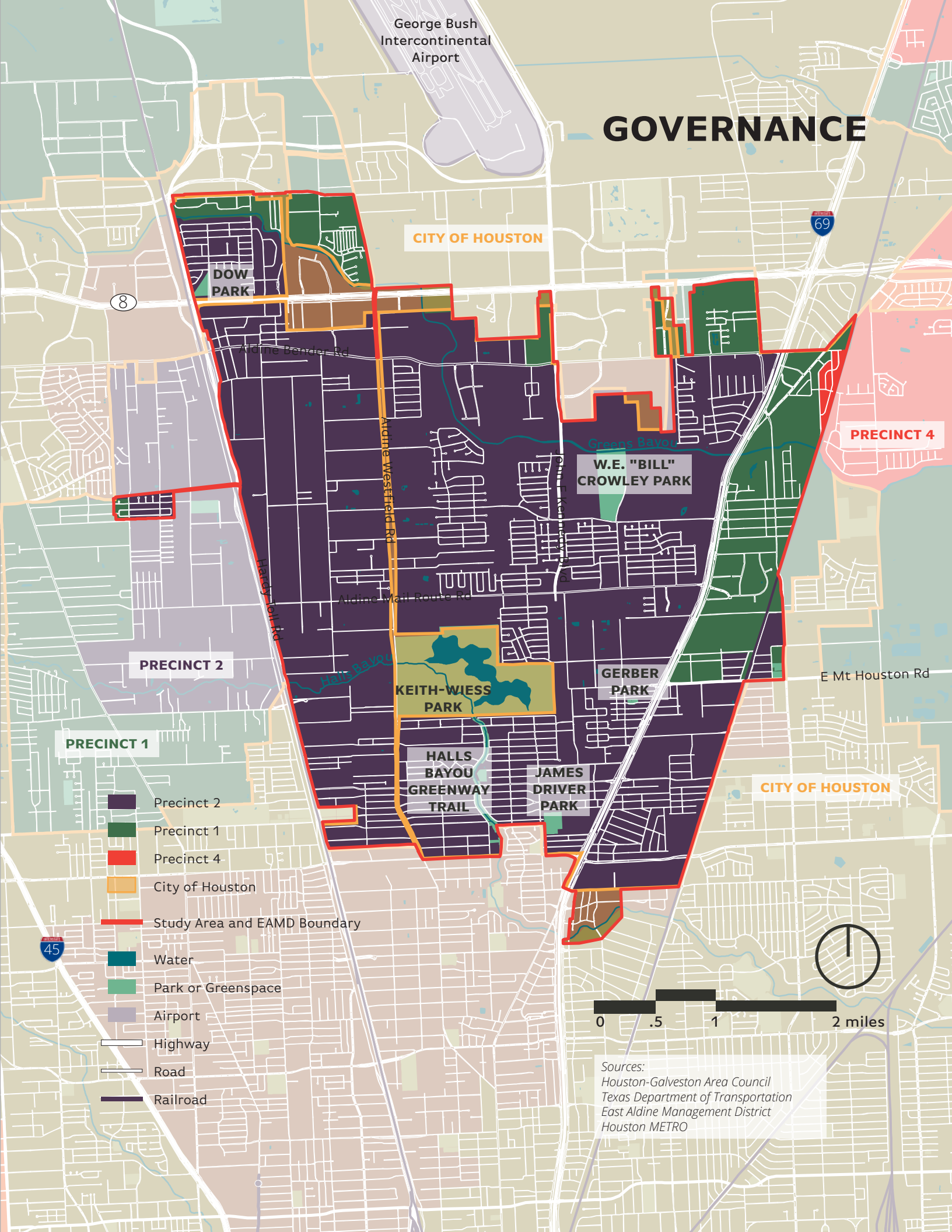
East Aldine Management District, 2000



Vision/Goals: The Aldine Community Development Plan was the first true planning study of Aldine, which through an extensive public engagement process and data analysis, covered a wide range of topics and issues that showed the need for the creation of the East Aldine Management District.

Implementation: The major outcome from this plan was the creation of the Aldine Improvement District, now the East Aldine Management District. Subsequent studies and projects by the District and its partners include the District's street light program, substantial water and sewer improvements, stormwater management improvements, education and community services, and gateways and landscaping along major entryways into the city. Programs for mosquito spraying and heavy trash pickup were also created but are no longer active. There are opportunities in this planning effort to further many of the items in this plan, including mobility improvements.

GOVERNANCE



In addition to municipal and special districts, a variety of social service organizations provide support to the community, as well as programs from Aldine Independent School District and the Harris County Sheriff's Office. The map to the right indicates the locations of these services.



*BakerRipley in East Aldine provides a variety of services to residents.
Source: BakerRipley*

EAST ALDINE MANAGEMENT DISTRICT SERVICE AND ACTION PLAN

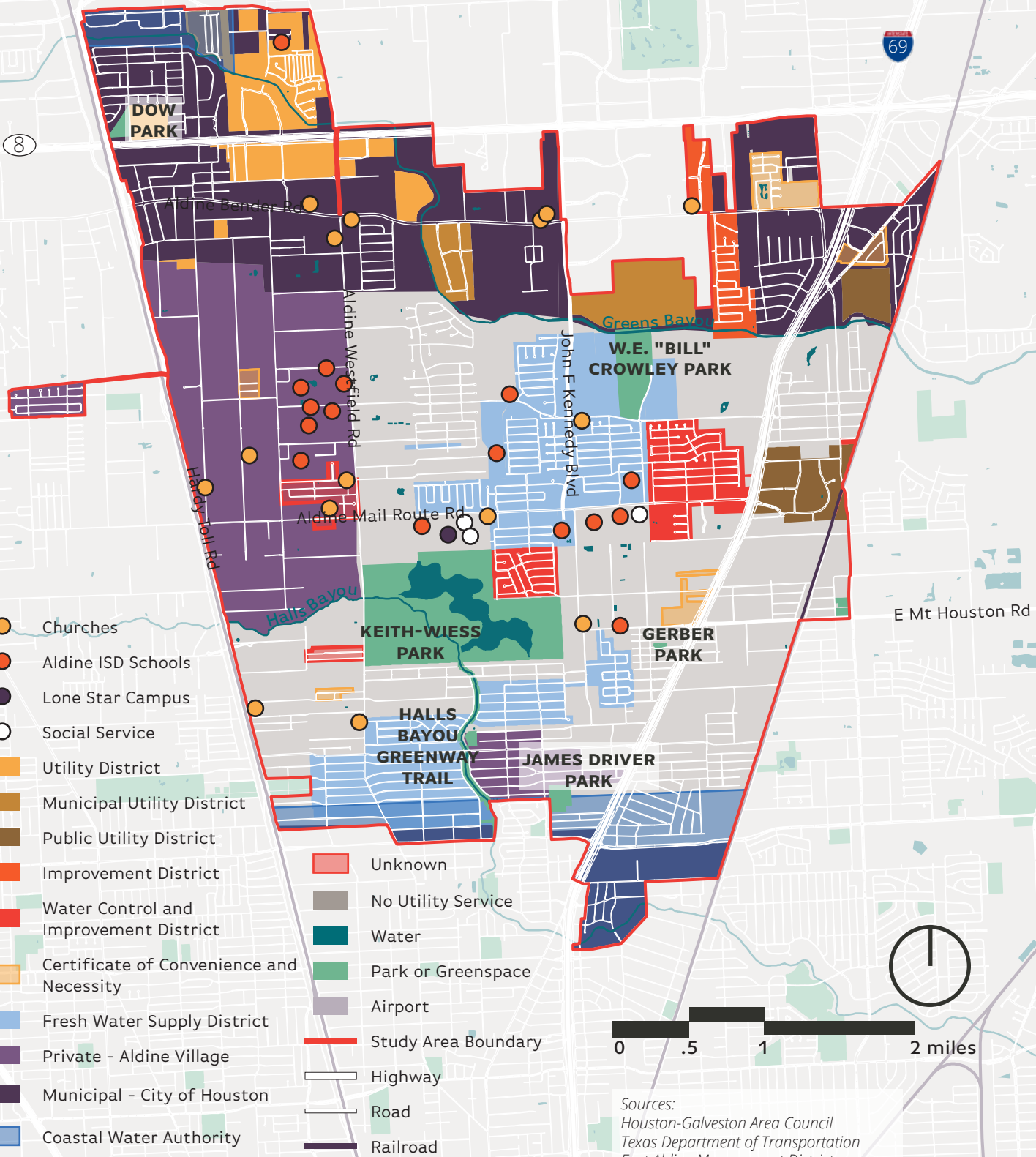
East Aldine Management District, 2002

Vision/Goals: In 2001, the Texas Legislature created the Aldine Improvement District and voters in the community approved a one-cent sales tax. The Service and Action Plan established the “vision, goals, and services to be rendered, and improvements to be made” by the District. The Plan categorizes action items into categories such as Water/Sewer Infrastructure, Transportation and Mobility, Security and Public Safety, Environmental and Urban Design, Neighborhood Clean-Up, Economic Development and Public Relations, and more.

Implementation: Major outcomes of this effort include the successful application to the Texas Water Development Board and subsequent increase in the number of residents with water and sewer service, the development of a website with information available to brokers and business/property owners, and street lights in East Aldine, with an additional 51 approved. Other implemented programs include a graffiti abatement program, a mosquito spray program, regular heavy trash service, the study and implementation of gateway improvements. There are opportunities in this planning effort to further many of the items in this plan. Looking for partnerships and funding for these items will be key to this effort.

George Bush
Intercontinental
Airport

SPECIAL DISTRICTS AND SOCIAL SERVICES



PEOPLE AND CULTURE

East Aldine's resilient and adaptable residents are what make this tight-knit community so unique. This plan seeks to center on these residents, employees, and business owners, and ensure day to day needs are met in addition to studying longer-term issues in the region.



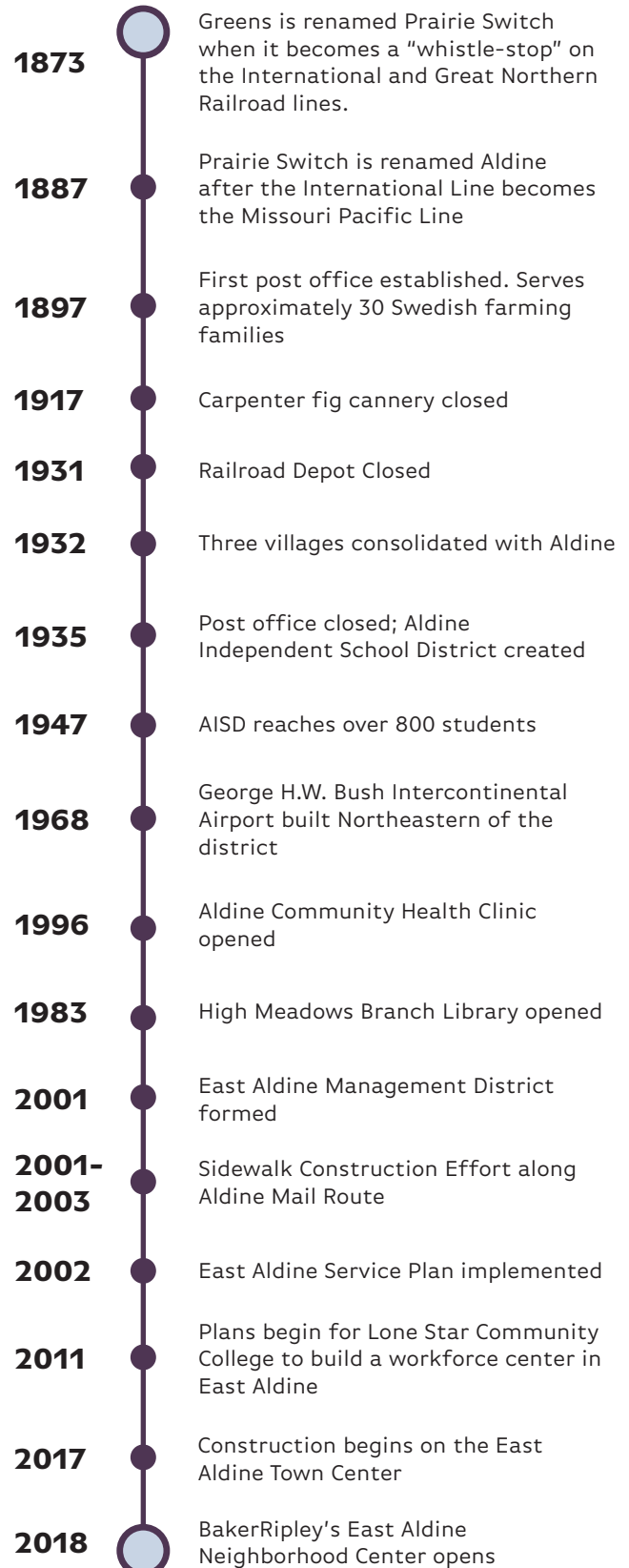
Halloween Caravan in East Aldine. Source: East Aldine Management District.

HISTORY

East Aldine has undergone several transformations in the last two centuries. The territory that is now Southeastern Texas was formerly occupied by the Atakapa-Ishak, Sana, and Tap Pilam Coahuiltecan nations. Colonial history saw the area settled by a small community of Swedish farmers. As the regional and national rail lines expanded through the site, the farmers became better connected to resources and goods. Several families moved from Kansas to help establish the growing market for fig farming and canning. While there was an economic boom for a few decades, this fledgling industry failed during World War I when the nation was rationing sugar, which played an essential role in the canning process. The local railroad depot was closed down during the Great Depression, cutting the community off from distant resources. However, at this point, the population of Harris County was growing rapidly, and three villages consolidated to form Aldine. By 1947, the Aldine Independent School District was serving more than 800 students.

In 1968, the Houston Airport Alliance built the Houston Intercontinental airport (later renamed the George H.W. Bush Intercontinental Airport) northeast of East Aldine. The airport is a major employment center and economic driver. Between 1980 and 1990 the population in East Aldine shifted from predominately White non-Hispanic to predominately Hispanic and or Latino. The trend has continued as the Hispanic and or Latino community has grown across Harris County.

The East Aldine Management District, formed in 2001, is successfully operating as a quasi-governmental body working together to provide resources and advocate on behalf of the East Aldine community in unincorporated Harris County.



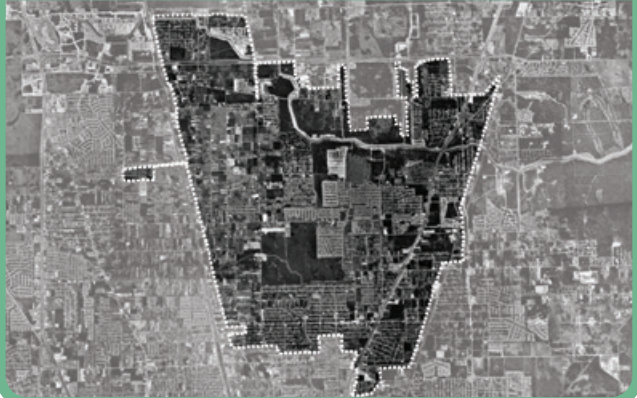
DEVELOPMENT HISTORY

The most exponential development growth in East Aldine occurred between 1946 and 1980, where the land use changed from largely rural to a sprawling suburb in all corners of the community. In the decades following, the community densified through infill in the established neighborhoods.

1946



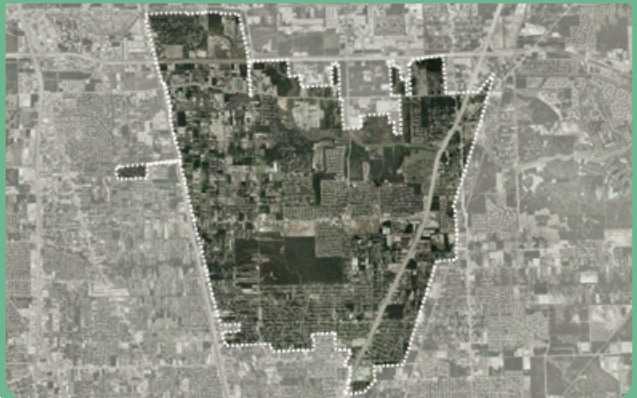
1978



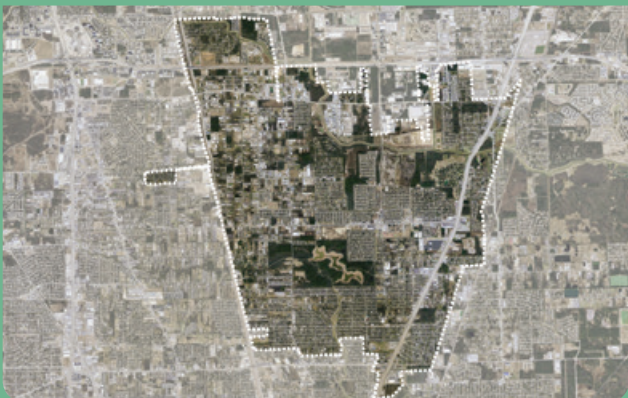
1995



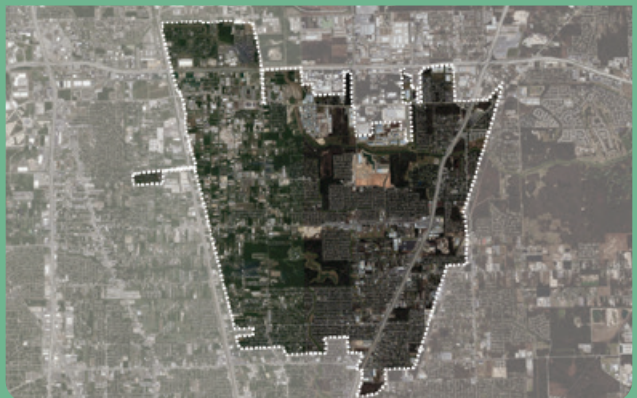
2006



2010



2016



ARTS AND CULTURE

The cultural environment of East Aldine is representative of the self-made history of the community. In the last year, East Aldine has created an Arts Council as a subgroup of the Management District whose chief purpose will be providing an avenue for the community to provide clear representation and resources for local artists, and to drive arts tourism to the neighborhood. Their inaugural project was to commission a mural for the local branch of the public library to encourage residents to participate in the 2020 census. They are developing plans to create murals, sculptures, and other publicly accessible representations of the community. Local artists are also able to access the makerspace in the new fabrication lab "Fab Lab" in the BakerRipley facility at the Town center, the Diaz Music Institute at MacArthur High School, and the Bucker Hope Family Center.

While predominantly a Latin(x) community, East Aldine's culture is multifaceted and it is important to recognize the fact that the Latin(x) ethnic title encompasses communities with origins from dozens of countries across North, Central, and South America. Each of these communities comes with its own set of unique cultural traditions. Historically in East Aldine, some of these cultures are celebrated through the annual Día de Los Muertos Festival conducted in partnership with Brookside Memorial Park cemetery, as well as represented at other multicultural community-wide events including the annual Fall Festival, the Kite festival, the annual bazaar at St. Leo the Great Catholic Church, and the National Night Out. Many of these events feature Tejano music, and foods from various Latin(x) identified communities.



Unveiling of 2020 Census Mural at the High Meadows Branch Library. Source: East Aldine Management District.

Historically, there has also been a strong car culture in the neighborhood. "Slab culture" is not as prevalent as it once was, but there are still weekly Truck meet-ups which operate as a space for community members to gather, share in community pride, and ride around the neighborhood together. Many of these are more informal events, but represent the myriad of ways that communities self-define and propel their cultures even without funding or traditionally acknowledged arts spaces. Carlos Silva, a board member of the Arts Council affirms this idea when he says, "just because we don't have it, doesn't mean we don't want it, or deserve it." Many working class communities are perceived to be spaces that won't support an arts community, but this flattens the reality of what is possible. Even in informal spaces, communities find ways to self-express, and as the formal support for the arts grows it will be an exciting way for the community to connect to greater Harris County and further define its own identity.



2020 Halloween Caravan.. Source: East Aldine Management District.



2017 MacArthur FFA Car Show. Source: East Aldine Management District.



2017 Earth Day Tree Planting at Keith-Wiess Park. Source: East Aldine Management District.



2019 Dia de los Muertos at St. Teresa Cemetery. Source: East Aldine Management District.

COMMUNITY HEALTH AND QUALITY OF LIFE

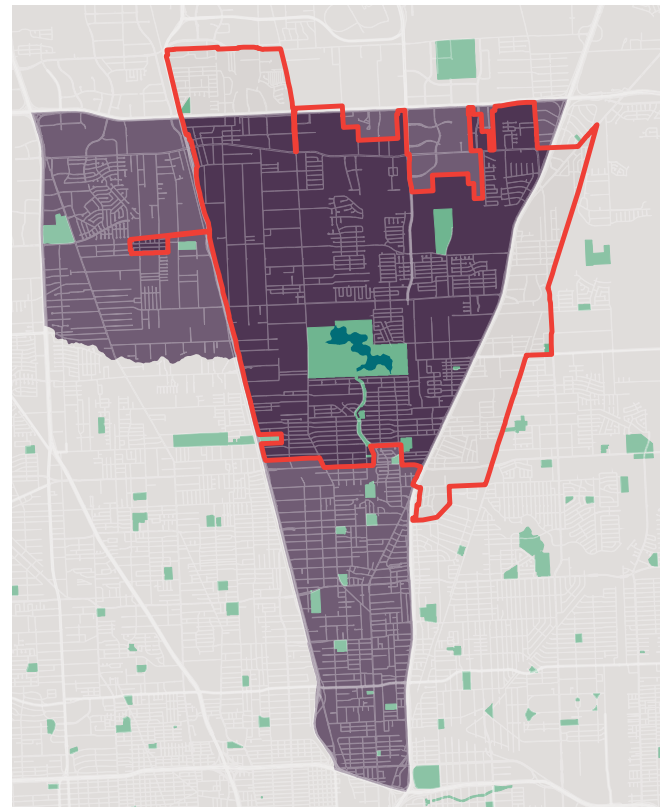
In a 2018 University of Texas survey, study area residents reported higher rates of chronic illness, health risk factors, poor mental health, and social and community cohesion across most measures than residents of Harris County as a whole. Residents of PUMA 4608 which includes most of East Aldine reported high rates of asthma, high blood pressure, diabetes, and other forms of chronic illnesses. Over 10 percent of residents report having had a heart attack, a high rate, especially compared to the 2.7 percent for Harris County as a whole. Additionally, residents in the study area have an average life expectancy that is three years shorter than that of Harris County as a whole.

Chronic Illness

| | ALDINE-COH NORTHSIDE (PUMA 4608) | HARRIS COUNTY |
|--|--|------------------|
| Adult asthma | 76.1% | 56.6% |
| High blood pressure | 29.2% | 29.2% |
| Diabetes | 15.9% | 13.0% |
| Heart attack | 10.8% | 2.7% |
| Cancer | 8.9% | 6.9% |
| Child asthma | 7.7% | 10.0% |
| Chronic Obstructive Pulmonary Disease (COPD) | 7.2% | 3.2% |
| Stroke | 4.9% | 4.2% |
| Heart Disease | 4.3% | 3.4% |

The statistics displayed above are self-reported. Source: University of Texas Institute for Health Policy, Health of Houston Survey, 2018 data. <https://bit.ly/36JFk7Y>

PUMA 4608: Aldine - COH Northside







PUMA stands for US Census Public Use Microdata Area. PUMA 4608, which includes most of East Aldine, is shown on the map above.

AVERAGE
LIFE
EXPECTANCY IN
EAST ALDINE:

75

AVERAGE
LIFE
EXPECTANCY IN
HARRIS COUNTY:

78

-  Study Area Boundary
-  PUMA 4608
-  Water
-  Park or Greenspace



KEY FINDING

An astounding 18.9 percent of residents said they were in poor mental health for more than half the month (compared to 9.9 percent for the County), while a similar 18.3 percent said they limited their access to mental health care due to cost. Only 2.3 percent of residents in the area reported receiving mental health care between 2017 and 2018, despite 14.6 percent saying they were under serious psychological distress.

Underlying the chronic physical and mental illnesses are determinants of health, such as social and community cohesion, neighborhood and built environment, and other risk factors (e.g., obesity, smoking, and physical inactivity).

Risk Factors

| | ALDINE-COH NORTHSIDE (PUMA 4608) | HARRIS COUNTY |
|------------------------------|--|------------------|
| Adults overweight or obese | 72.8% | 67.9% |
| Children overweight or obese | 61.8% | 32.8% |
| Cigarette smoking | 33.5% | 26.0% |
| Adult physical inactivity | 27.3% | 16.3% |
| Poor physical health | 16.3% | 9.9% |
| Binge drinking | 13.7% | 7.4% |
| Child physical inactivity | 9.8% | 8.6% |

The statistics displayed above are self-reported. Source: University of Texas Institute for Health Policy, Health of Houston Survey, 2018 data. <https://bit.ly/36JFk7Y>

- Much higher than Harris County
- Higher than Harris County
- Lower than Harris County
- Much lower than Harris County

Mental Health

| | ALDINE-COH NORTHSIDE (PUMA 4608) | HARRIS COUNTY |
|---|--|------------------|
| Poor Mental Health | 18.9% | 9.9% |
| Limited mental health care access due to cost | 18.3% | 10.5% |
| Serious Psychological Distress | 14.6% | 7.1% |
| Need for mental health professional | 8.6% | 16.5% |
| Received mental health care in last year | 2.3% | 10.4% |

The statistics displayed above are self-reported. Source: University of Texas Institute for Health Policy, Health of Houston Survey, 2018 data. <https://bit.ly/36JFk7Y>

Social and Community Cohesion

| | ALDINE-COH NORTHSIDE (PUMA 4608) | HARRIS COUNTY |
|--|--|------------------|
| No relationship with neighbors | 22.6% | 25.2% |
| Very much bothered by neighborhood noise | 16.7% | 5.3% |
| Has no one to confide in | 12.9% | 6.1% |

The statistics displayed above are self-reported. Source: University of Texas Institute for Health Policy, Health of Houston Survey, 2018 data. <https://bit.ly/36JFk7Y>

When it comes to the built environment, perceptions of limited sidewalk availability (80 percent) and violence and crime in their neighborhoods (34 percent) likely serve as deterrents to outside physical activity and even socializing in communities. Limited availability of sidewalks in the District is discussed further on page 74.

Although there are 24 grocery stores in the study area and 80 percent of residents believe there is a large selection of fresh produce available in the area, 31 percent of residents said fresh produce was unaffordable and there is a sense within the community that healthy alternatives and quality produce are lacking. A new Joe V's grocery store will be built in the East Aldine Town Center that will provide an additional source of fresh food to the community.

Neighborhood and Built Environment

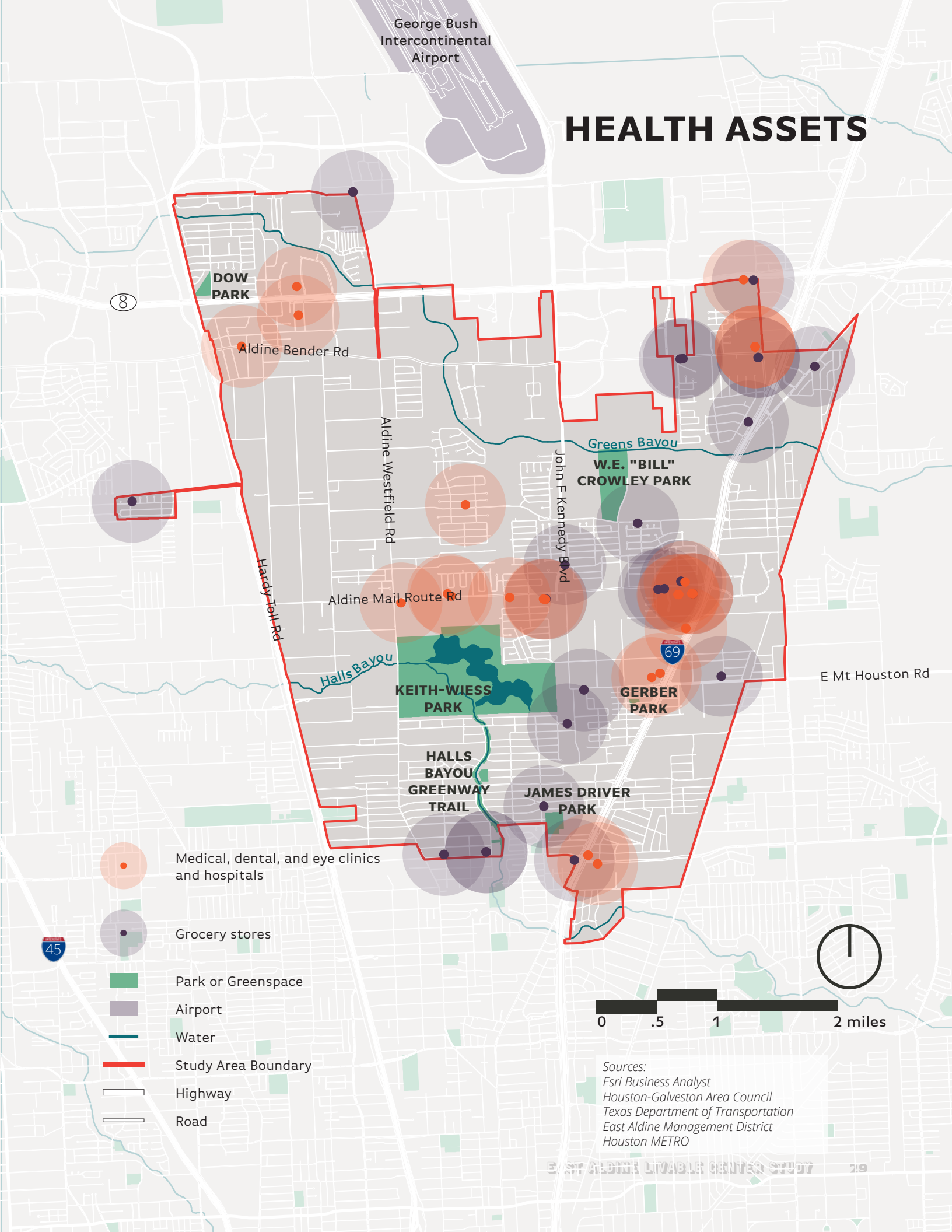
| | ALDINE-COH NORTHSIDE (PUMA 4608) | HARRIS COUNTY |
|------------------------------------|--|------------------|
| Limited sidewalks | 79.9% | 46.0% |
| Large selection of fresh produce | 79.5% | 78.9% |
| Violence and crime in neighborhood | 33.9% | 21.6% |
| Unaffordable fresh produce | 31.2% | 14.5% |
| Problematic drinking water | 18.2% | 13.1% |

The statistics displayed above are self-reported. Source: University of Texas Institute for Health Policy, Health of Houston Survey, 2018 data. <https://bit.ly/36JFk7Y>



Lack of sidewalks can contribute to poor health outcomes. Source: Traffic Engineers Incorporated.

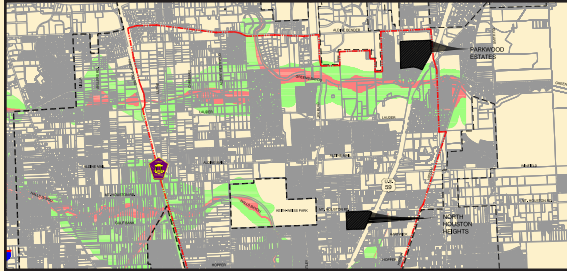
HEALTH ASSETS



Sources:
Esri Business Analyst
Houston-Galveston Area Council
Texas Department of Transportation
East Alaine Management District
Houston METRO

ALDINE IMPROVEMENT DISTRICT WATER & WASTEWATER PLANNING STUDY

East Aldine Management District, 2004



Vision/Goals: The existing water and wastewater infrastructure at the time of this report was insufficient to handle the capacity of residents in the area with nearly one quarter of individual septic systems in failing condition and thousands more were on lots too small for onsite septic systems. This planning study identified solutions to address the insufficient water and wastewater conditions of the East Aldine District area.

Implementation: The Aldine Water & Sewer Authority was established as the Local Government Corporation that allows for CDBG funds to support infrastructure improvements such as water and wastewater. The majority of the projects identified in this 2004 study have been implemented over time in partnership with Harris County or the Texas Water Development Board. There are still many improvements to be made, and the barriers to completing improvements are time and money/resources.



Lack of sidewalks and safe boarding for transit can impair mobility. Source: Traffic Engineers Incorporated.



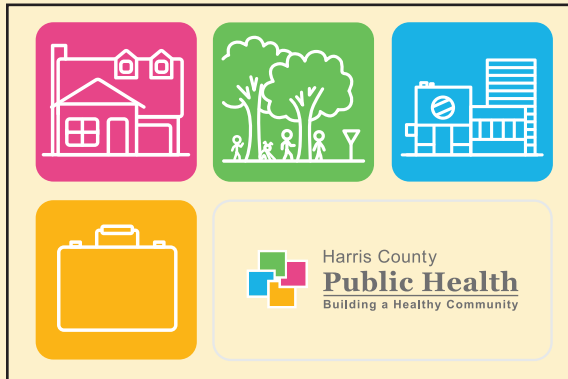
Despite a prevalence of grocery stores, 31 percent of residents say that fresh produce is unaffordable. Source: Traffic Engineers Incorporated.



Environmental pollution may be normalized in East Aldine despite its potential impacts on the community. Source: Asakura Robinson.

EAST ALDINE DISTRICT'S TOWN CENTER DEVELOPMENT: A HEALTH IMPACT ASSESSMENT IN HARRIS COUNTY, TEXAS

Harris County Public Health, 2015



Vision/Goals: East Aldine Management District (EAMD) proposed a town center with the aim to provide greater access to services and amenities such as a grocery store and health clinic for EAD residents. The HIA's main goal was to assess the potential health impacts and other health costs associated with the proposed town center. The HIA provided findings around community health and associated economic impacts, and also made recommendations to mitigate negative health impacts such as traffic accidents and to enhance predicted health benefits. The HIA recommended that EAD implement crash reduction strategies to reduce pedestrian injuries associated with increased traffic; enhance pedestrian and bicyclist comfort to increase physical activity levels; strengthen EAD's relationship with local law enforcement to implement crime reduction measures; increase or create funding and incentives for a quality and affordable grocery store in the town center; and engage community health workers to enhance access to health care.

Implementation: Since the report was published in 2015, according to the Pew Trusts, one of the funders of the HIA effort, the Town Center's plan was revised to incorporate the HIA's recommendations, including "sidewalks, lighting, and trail connections to nearby Keith-Wiess Park."¹ The HIA also led to the EAD's application to the Houston-Galveston Area Council for the East Aldine livable center planning study. EAD has used the HIA report to advocate for more pedestrian infrastructure near schools, and in 2019, Harris County Public Health published the Safe Crossings Project for East Aldine with the aim to improve pedestrian and bicyclist safety by "identifying improvements to streets and intersections that pose a risk for increased injury in East Aldine, with a special focus on the physical environment within a one-mile radius of the East Aldine Town Center and Keith-Wiess Park."²

¹ PEW, "East Aldine District's Town Center Development," Nov 1, 2016, <https://bit.ly/3fjm7h6>

² Harris County Public Health, "Safe Crossings Project," 2019, <https://bit.ly/2UHIh38>



PARK ACCESS

There are 6 public parks in the East Aldine area with a total of 599 park acres. The largest park in the area is Keith-Wiess Park, with 503 acres of parkland, followed by W. E. Bill Crowley Park with 30 acres. Keith-Wiess Park is owned by the City of Houston, while W.E. Bill Crowley and James Driver parks are owned by Harris County.

In addition to these public parks, the East Aldine Town Center, which is currently under construction, will include additional recreation amenities including an amphitheater and community green with a capacity of 1,500 people, a stormwater detention basin that will serve as a green space, splashpads and play areas, and roadway and trail access to Keith-Wiess Park.

According to a survey of adults in PUMA 4608, which includes East Aldine and a segment of the Greater Northside Management District of Houston, 69 percent reported that there was a park, playground, or open space within walking distance of their home. As the map on the right shows, several of the parks within walking distance of district residents are outside of the district. Despite the perception of park abundance in the area, there is limited park access for residents of East Aldine.

A half mile walk is estimated to take 10 to 15 minutes at a moderate pace. However, very small parts of the study area are within a half mile walk of a park. The half mile walkshed is based on the road network, but according to 80 percent of adults surveyed in PUMA 4608, there are either no sidewalks or only some sidewalks on their neighborhood streets. This means that, even if there are parks in their communities and roads that may take them to those parks, it may be difficult to access those parks by any means other than by car.

Park Amenities

| | KEITH-WIESS PARK | W. E. BILL CROWLEY PARK | JAMES DRIVER PARK |
|--------------------|------------------|-------------------------|-------------------|
| Park acres | 503 | 30 | 29 |
| Baseball field | | Y | |
| Basketball court | | Y | Y |
| Exercise equipment | | Y | |
| Football field | | | |
| Jogging trails | Y | Y | |
| Pavilion | Y | | Y |
| Picnic area | Y | Y | Y |
| Playground | Y | Y | Y |
| Rentable space | | | Y |
| Restrooms | | Y | Y |
| Skate park | | | Y |
| Soccer field | Y | | |
| Tennis court | Y | Y | |

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Airport

PARK ACCESS

8

DOW
PARK

Aldine Bender Rd

Aldine Westfield Rd

Aldine Mail Route Rd

Hardy Toll Rd

Halls Bayou

KEITH-WIESS
PARK

HALLS
BAYOU
GREENWAY
TRAIL

JAMES DRIVER
PARK

Greens Bayou

W.E. "BILL"
CROWLEY PARK

69

GERBER
PARK

E Mt Houston Rd

POPULATION DENSITY (PEOPLE PER SQUARE MI)

- Very Low (652-1,265)
- Low (1,266-2,922)
- Moderate (2,923-4,660)
- High (4,661-6,419)
- Very High (6,420-13,531)

- Park or Greenspace
- Within a half mile walk of a park
- Airport

Water

Study Area Boundary

Highway

Road

0 .5 1 2 miles

Sources:

Houston-Galveston Area Council
Texas Department of Transportation
East Aldine Management District
Houston METRO

LIVING AND WORKING

Understanding the local context, economic constraints and employment market are key aspects of the Case for Action report. This section contains analysis of housing, land use, development, employment, and East Aldine community demographics.



Local businesses in East Aldine. Source: Asakura Robinson.

LAND USE AND REDEVELOPMENT

EXISTING LAND USE AND CHARACTER

Distinct clusters of predominantly single-family residential homes are scattered throughout the district, interspersed with multi-family units, condominiums, mobile homes, and a mix of other uses. Commercial parcels cluster along Greens Bayou and major corridors. The district contains substantial industrial and warehouse uses adjacent to Greens Bayou and Highway 8.



Single-family homes are prevalent in East Aldine.
Source: Asakura Robinson.



Mobile homes are scattered throughout the district.
Source: Asakura Robinson



Multifamily development. Source: Asakura Robinson



East Aldine contains a large amount of industrial uses.
Source: Asakura Robinson.



Warehouses are a common land use in the district.
Source: Asakura Robinson.



Much of the commercial developments in East Aldine take the form of small strip malls. Source: Asakura Robinson.

KEY FINDING

Flooding is one of the most significant natural processes impacting the study area. Over 50 percent of the land area of East Aldine falls within the 100- year FEMA floodplain, both the current 100-year floodplain and the estimated 100-year

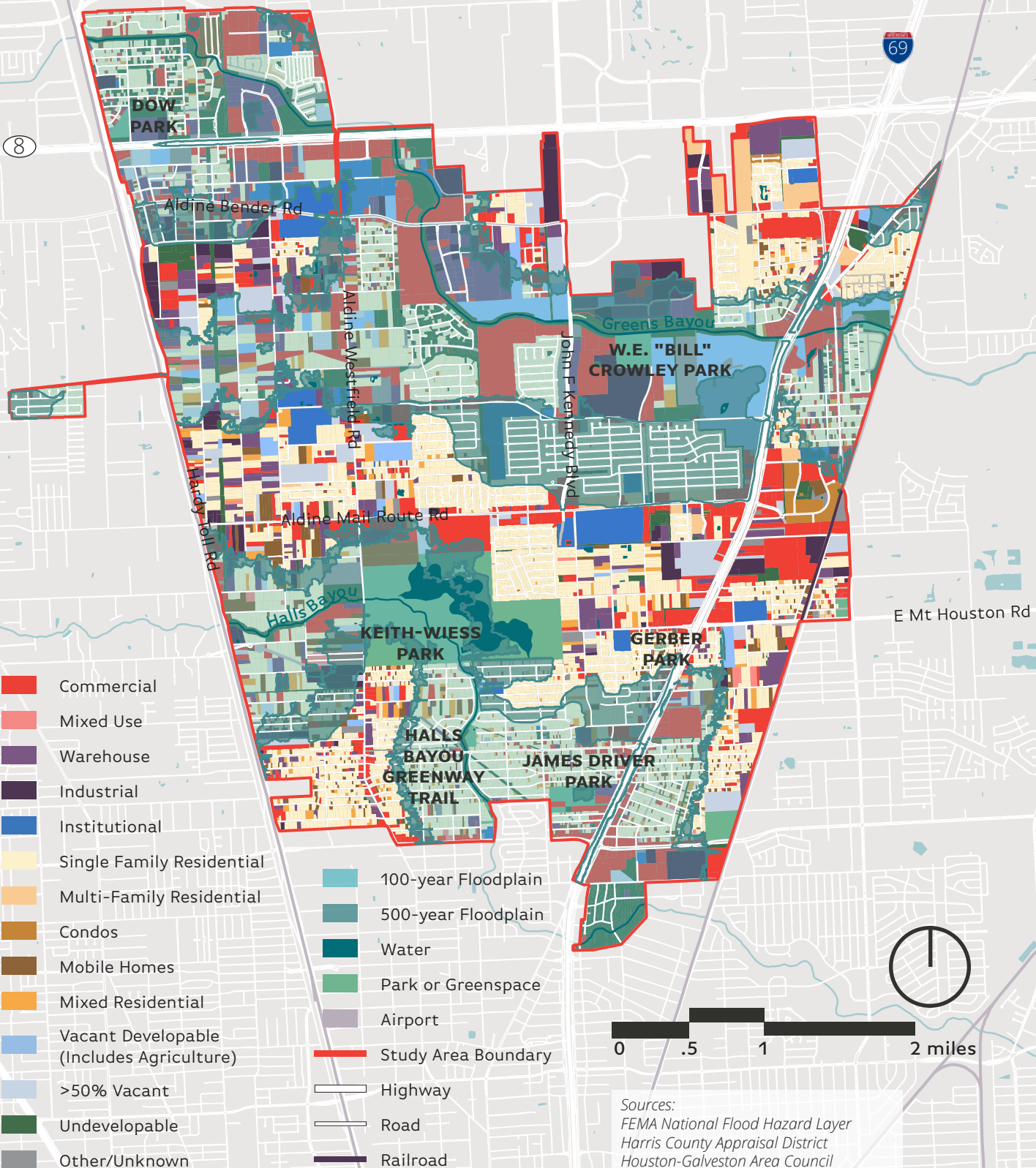
floodplain based on the NOAA-Atlas 14 program. Areas within the floodplains include a mix of uses, notably a significant portion of commercial and industrial areas, as well as large areas of residential use.



Many homes in East Aldine appear to have been raised or otherwise modified by their inhabitants in response to the threat of flooding.
Source: Asakura Robinson

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LAND USE AND FLOOD RISK



***100-YEAR FLOODPLAIN ESTIMATES REPRESENT THE FORMER 500-YEAR FLOODPLAIN BASED ON ATLAS-14 FLOOD RISK.**

Sources:
FEMA National Flood Hazard Layer
Harris County Appraisal District
Houston-Galveston Area Council
Texas Department of Transportation
East Alaine Management District
Houston METRO

Industrial and commercial uses are abundant in East Aldine, and are crucial to the economic and cultural vitality of the community. Commercial uses include both national chains and locally-owned businesses, and industrial uses employ many of the area's residents. As such, these uses are a key consideration for this community, and a major source of economic opportunity.



Commercial uses are a key part of the community and offer economic opportunity and cultural expression. Source: Asakura Robinson



Industrial uses in east Aldine are plentiful, and provide employment opportunities for the nearby community. Source: Asakura Robinson

EAST ALDINE DISTRICT TOWN CENTER PARK MASTER PLAN

East Aldine Management District, 2013



Vision/Goals: The East Aldine District Town Center Park Master Plan establishes a site design for the 61-acre EA Town Center with a mix of uses and amenities based on the community's needs. Proximity to Keith-Wiess Park and neighboring schools strengthens the town center's role as a resource and sets the stage for enhanced connectivity. The town center includes Lone Star College, East Aldine Center, Aldine ISD Victory Early College High School, Harris County 911 Call Center, BakerRipley East Aldine Campus (including the Fab Lab makerspace and a commercial kitchen), East Aldine Management District offices, commercial space for a major grocer, smaller retail and service storefronts, and other outdoor amenities.

Implementation: The East Aldine District Town Center Master Plan is a multi phase project unfolding over years dependent on funding. Most of the improvements associated with Phase One of the project have been implemented. Approximately 75 percent of the parcel has been developed.

The Aldine Village area north of Halls Bayou and between Hardy Toll Road and Aldine Westfield Road contains a patchwork of uses including a higher proportion of vacant or partially vacant parcels than the rest of the district as the map on the right shows. Outside of Aldine Village, several vacant parcels exist adjacent to Greens Bayou with additional vacant or partially vacant parcels scattered throughout the rest of the district.

The street grid in East Aldine is unevenly developed. The predominantly residential areas scattered throughout the district have relatively complete and connected street networks. In contrast, the industrial, commercial, multiple use, and vacant areas along major thoroughfares, around Greens Bayou, and in the Aldine Village area lack street connectivity.



Fully or partially vacant land is scattered throughout the District.
Source: Asakura Robinson

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VACANT LAND

8

69

DOW
PARK

Aldine Bender Rd

ALDINE
VILLAGE

Aldine Westfield Rd

Aldine Mail Route Rd

John F Kennedy Blvd

W.E. "BILL"
CROWLEY PARK

Hardy Toll Rd

Halls Bayou

KEITH-WIESS
PARK

GERBER
PARK

E Mt Houston Rd

HALLS
BAYOU
GREENWAY
TRAIL

JAMES DRIVER
PARK

- Vacant Developable (Includes Agriculture)
- >50% Vacant
- Undevelopable
- Not Vacant
- Water
- Park or Greenspace
- Airport
- Study Area Boundary
- Highway
- Road
- Railroad

0 .5 1 2 miles

Sources:
Harris County Appraisal District
Houston-Galveston Area Council
Texas Department of Transportation
East Aldine Management District
Houston METRO

EAST ALDINE LIVABLE CENTER STUDY



EXISTING REGULATORY AND DEVELOPMENT ENVIRONMENT

REGULATORY STANDARDS

Most of East Aldine--with the exception of small areas on the northern and southern district boundaries, Aldine Westfield Road, and Keith-Wiess Park--is outside the City of Houston boundary, and therefore not subject to all City of Houston development ordinances. However, East Aldine does fall within Houston's extraterritorial jurisdiction, within which the City has limited regulatory authority. Additionally, the District is subject to several Harris County regulations governing new developments, as well as Civil Development Standards governing alleys, driveways, curb ramps, pavement markings, traffic control plans, subdivision paving and street design, and bridge railings.

PROPERTY VALUES

Higher land values in the District are clustered in industrial and commercial areas along I-69 and Highway 8, and north of Greens Bayou. Areas of higher value also appear at the intersections of Aldine Mail Route Road with Aldine Westfield Road and John F. Kennedy Boulevard. Higher-value residential areas are seen south and northeast of Keith-Wiess Park and southeast of Bill Crowley park. Upon visual examination, there is some correlation between utility service area coverage and higher land value, although this relationship does not entirely explain the variation in land value throughout the district. Lower land values also appear to coincide somewhat with public or semi-public places such as schools, cemeteries, and stormwater detention ares.

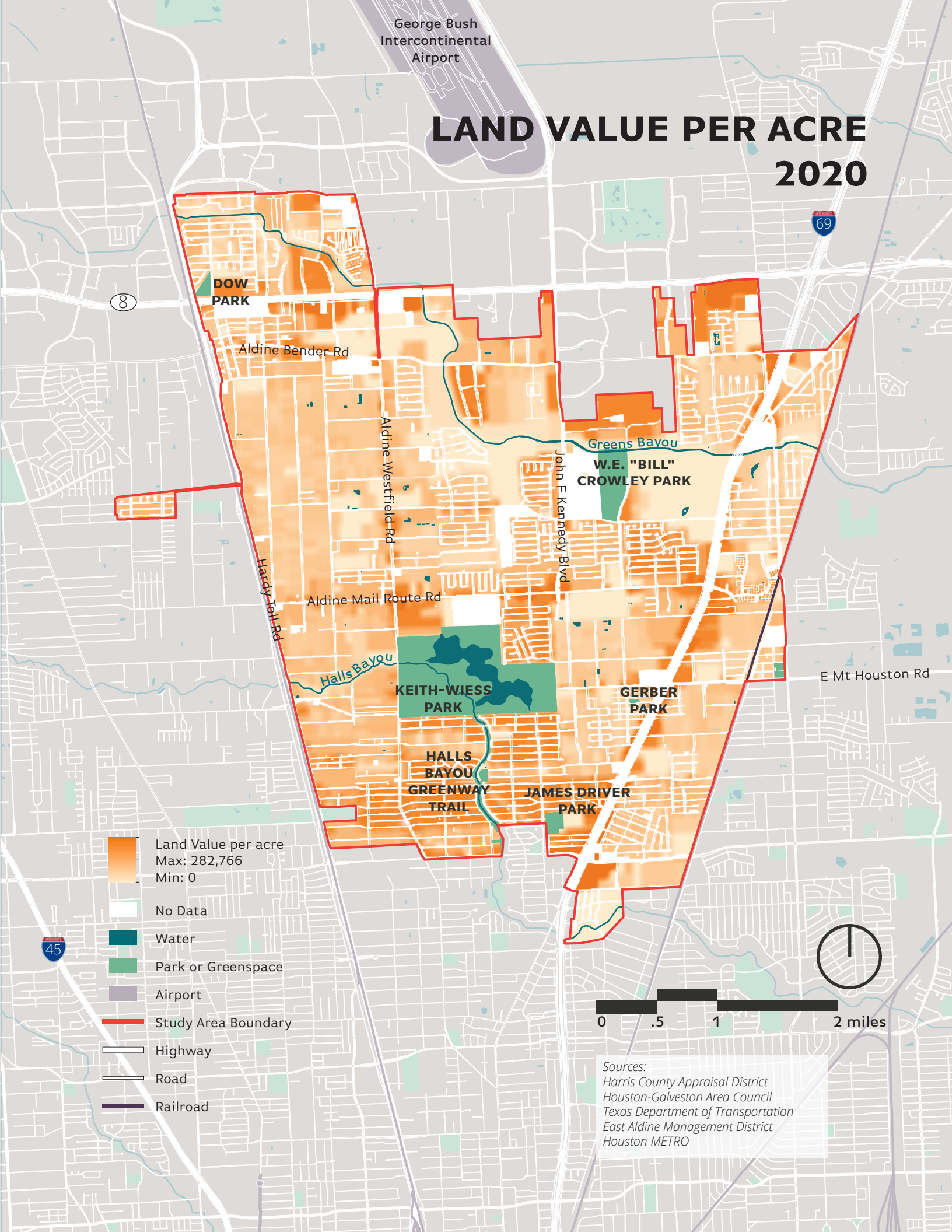
Harris County Development Regulations

| YEAR ADOPTED | SUBJECT OF REGULATION |
|--------------|--|
| 2005 | Construction of driveways and culverts on county easements and rights-of-way. |
| 2005 | Landscaping requirements for new residential and commercial developments. |
| 2007 | Development of unincorporated areas in floodplains (Amended in 2011). |
| 2009 | New facilities within the HCFCD rights-of-way, including construction and vegetation management. |
| 2009 | Construction of new subdivisions (Amended 2011). |
| 2011 | Low Impact Development and Green Infrastructure design criteria for stormwater management. |

Source: https://hcpid.org/PERMITS/civil_dev_standards.html

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LAND VALUE PER ACRE 2020

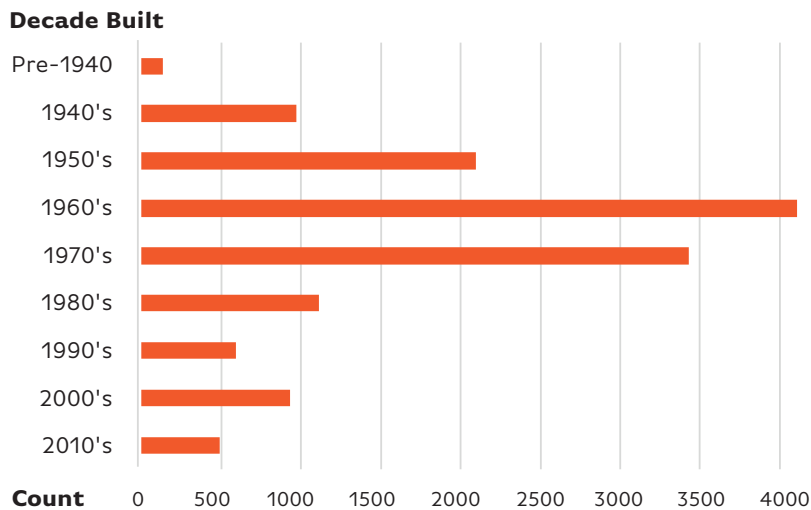


AGE OF BUILDINGS

The vast majority of buildings in the study area were built after 1940 as displayed in the charts below. The majority of residential buildings in the study area were built in the 1950's--1970's, with significantly less new residential construction in the following decades. This means that the majority of residential buildings in the District are at least 50 years old, putting them at risk for age-related deterioration and maintenance issues.

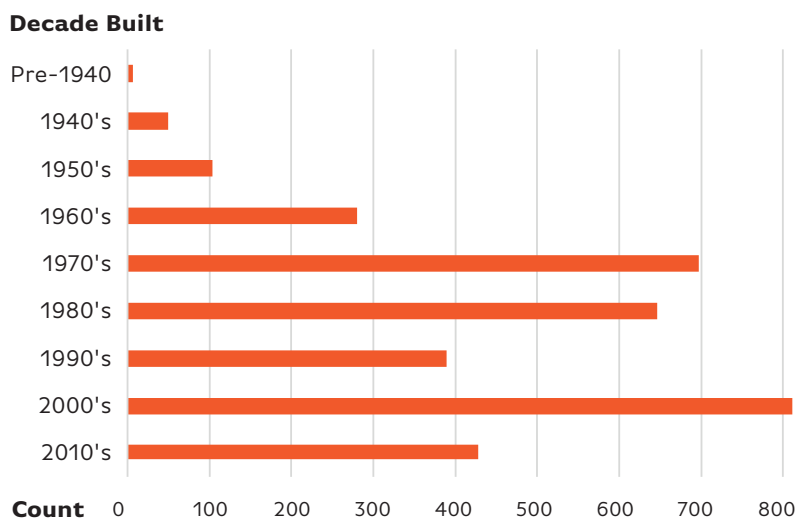
The majority of non-residential buildings are more recently constructed, with particularly high rates of new construction in the 1970's, 1980's, and 2000's. It should be noted that the data on building age is incomplete, and therefore is not displayed spatially. While the reasons for the gaps in building age data are not entirely known, one possible factor is the high rate of do-it-yourself building and remodeling that is evident throughout the district, particularly in residential areas, which could result in buildings that do not appear in Harris County Appraisal District data.

Residential Building Age by Decade



Source: Harris County Appraisal District

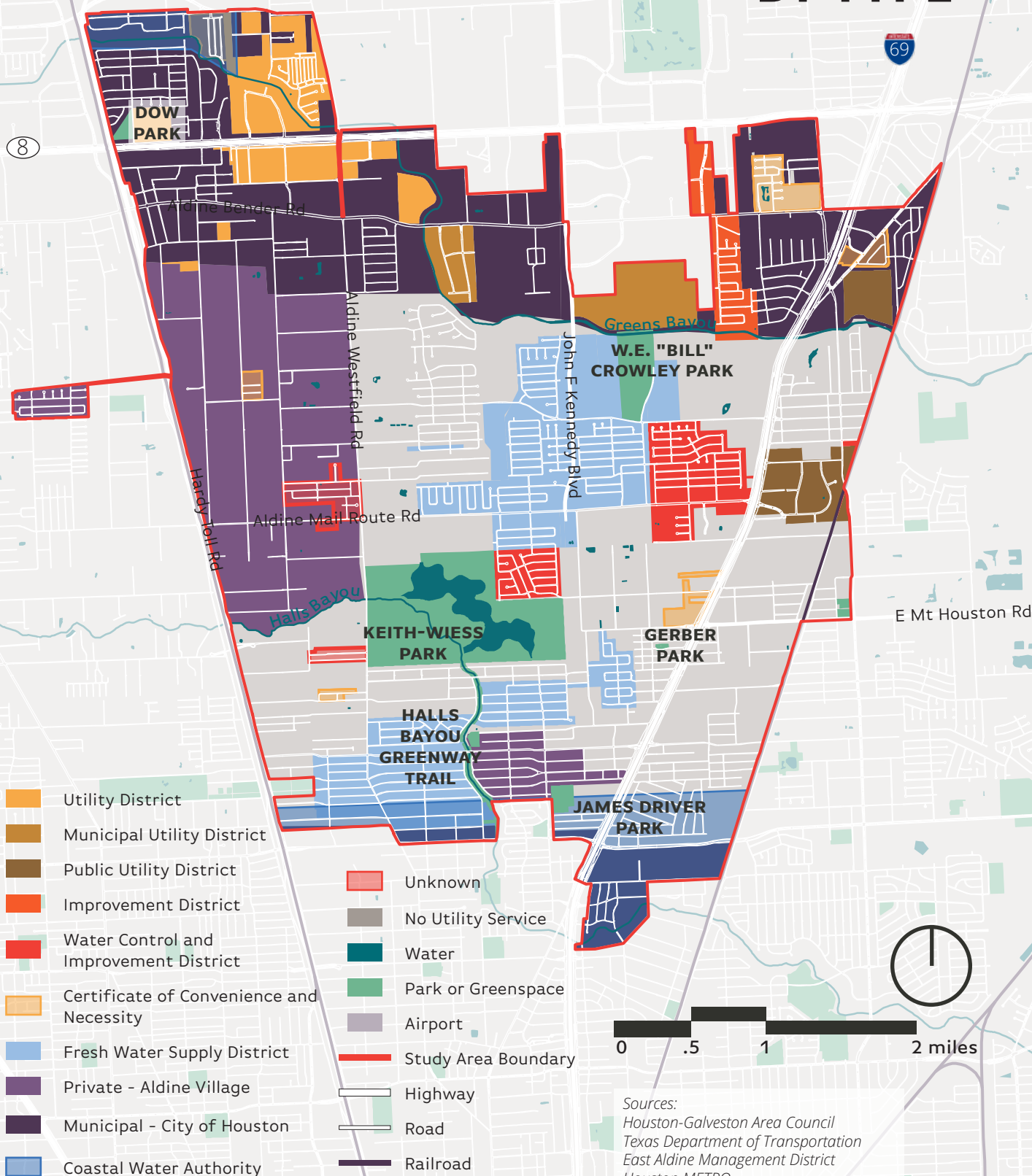
Non-Residential Building Age by Decade



Source: Harris County Appraisal District

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UTILITY SERVICE AREAS BY TYPE



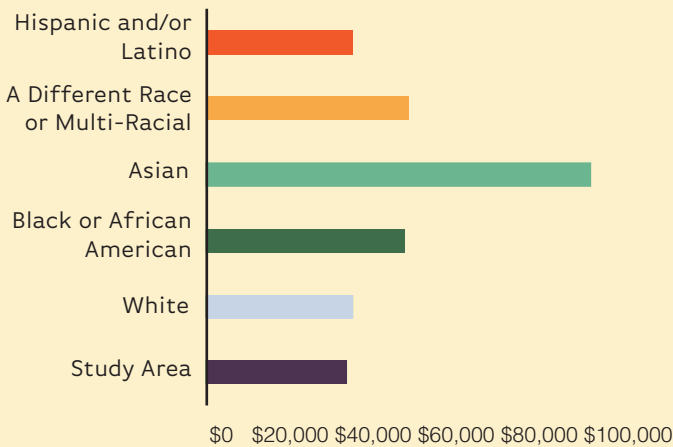
DEMOGRAPHICS AND HOUSING

DEMOGRAPHICS

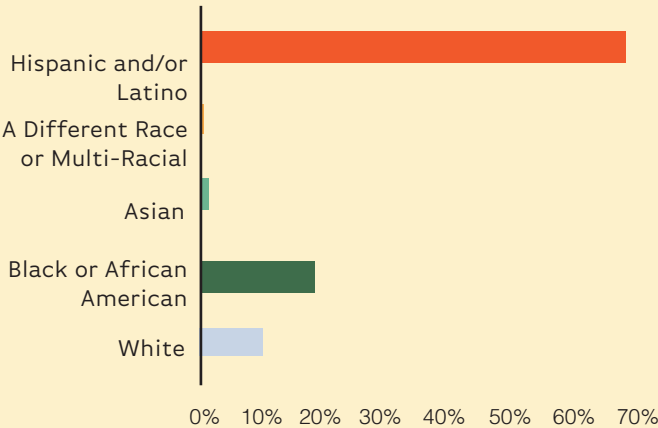
East Aldine has a notably lower median income than the typical income of Harris County. Harris County's median household income is approximately \$60,000, but the study area's median income falls closer to \$40,000. The majority of the community residents are Hispanic and/or Latino, and this ethnic group has the lowest income out of any other demographic in the district. Roughly 28 percent of East Aldine residents are living below the poverty line at a rate almost double the countywide rate. However, the percentage of seniors who are 65 years or older living in poverty is considerably lower than Harris County as a whole. This might be attributable to a cultural tendency for households to be composed of multiple generations.

The District has a strong Hispanic and Latino identity, and many families in the community speak Spanish as their primary language. More than 30 percent of households speak limited to no English, which is almost triple the county's rate. Additionally, more than 30 percent of the community does not have access to the internet at home. This indicates that information campaigns must reach out on a more in-person basis in Spanish to ensure that the East Aldine neighborhood is getting equitable access to information and resources.

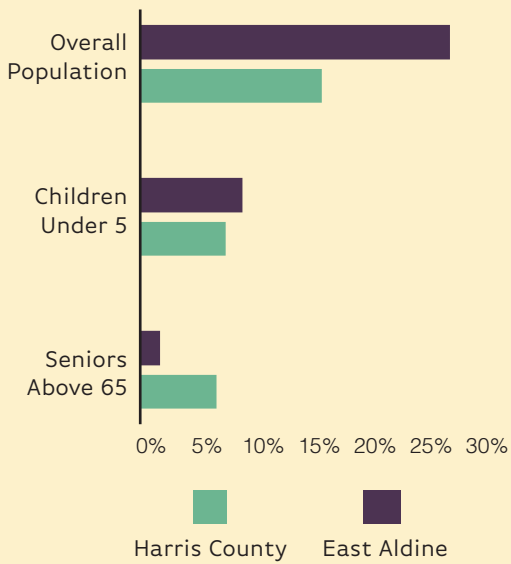
Median Household Income by Race or Ethnicity



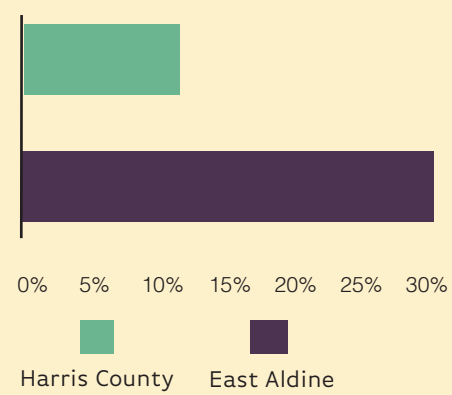
Race and Ethnicity



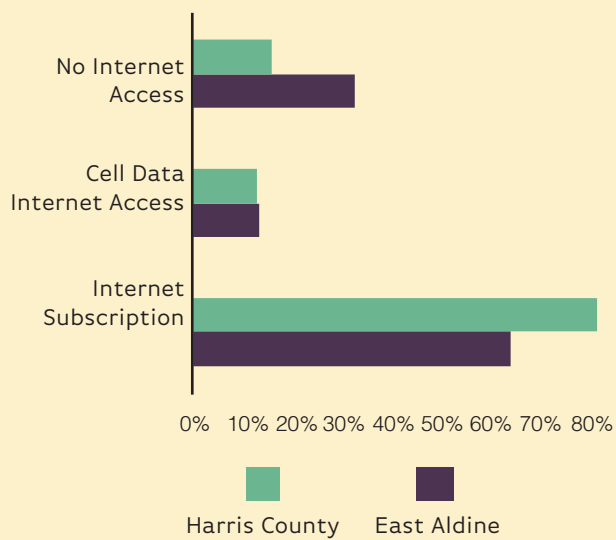
Population Living in Poverty



Limited English Speaking Households



Internet Access

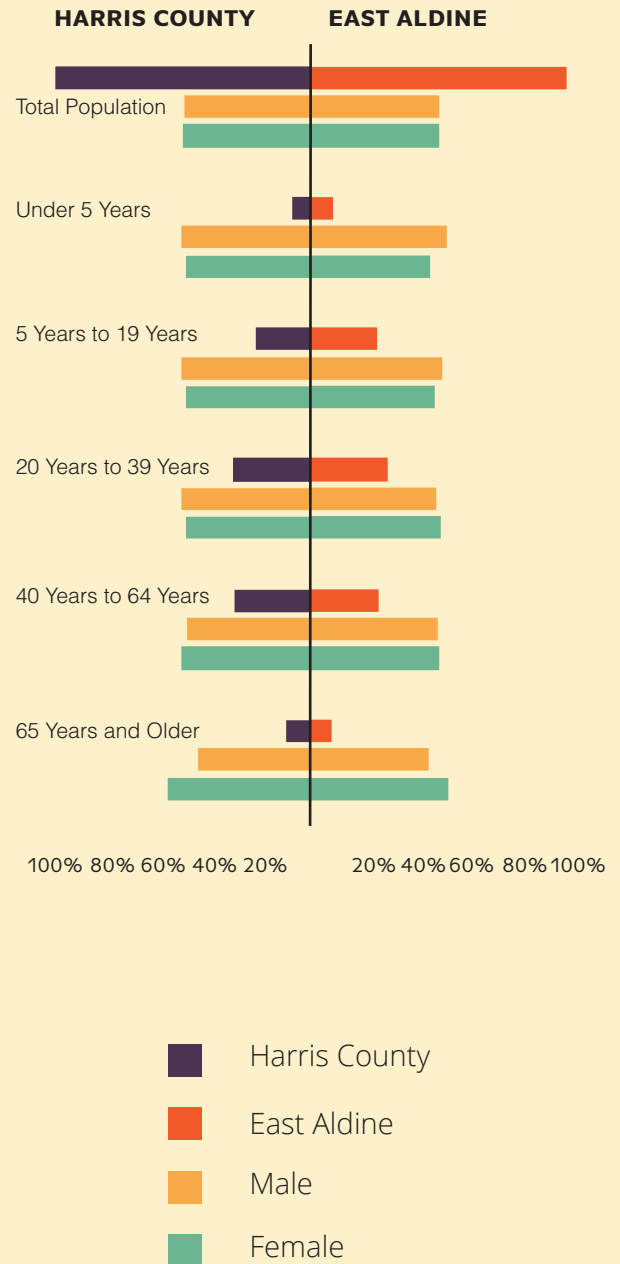


Source: 2018 5 Year American Community Survey

AGE

East Aldine makes up approximately 2 percent of Harris County's overall population. In general, East Aldine is younger than the County as a whole. At least 5 percent more of the East Aldine community is below age 19 than Harris County, and 2 percent less of East Aldine is above age 65 compared to the County. Additionally, 3 percent more of Harris County is above age 40 and under age 65 when compared to East Aldine. This points to a heightened need for programming and resources for children and young adults. There is a notable lack of senior living facilities in the community which will need to be addressed to ensure that the large population of young people will be able to age-in-place.

Age Range in Harris County and East Aldine



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SENIOR LIVING FACILITIES

8

**DOW
PARK**

Aldine Bender Rd

Aldine Westfield Rd

Aldine Mail Route Rd

Hardy Toll Rd

Halls Bayou

**KEITH-WIESS
PARK**

**HALLS
BAYOU
GREENWAY
TRAIL**

**JAMES DRIVER
PARK**

**GERBER
PARK**

Greens Bayou
**W.E. "BILL"
CROWLEY PARK**

John F Kennedy Blvd

E Mt Houston Rd

45



0 .5 1 2 miles

- Water
- Park or Greenspace
- Airport
- Study Area Boundary
- Highway
- Road
- Railroad
- Senior Living Facility

Sources:
Houston-Galveston Area Council
Texas Department of Transportation
East Aldine Management District
Houston METRO

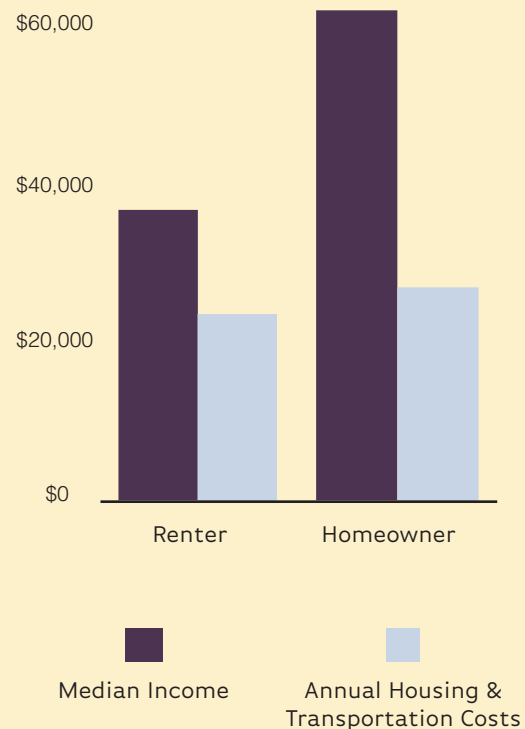
HOUSING

The majority of the community are homeowners, but this might also be attributable to the district's lack of rental units. The most consistent affordable housing gap in the area is for aspiring homeowners making between 30 - 50 percent and 70 - 100 percent of the area median income. Overall, there is a demand for approximately 7,000 affordable homes and 1,700 rental units.

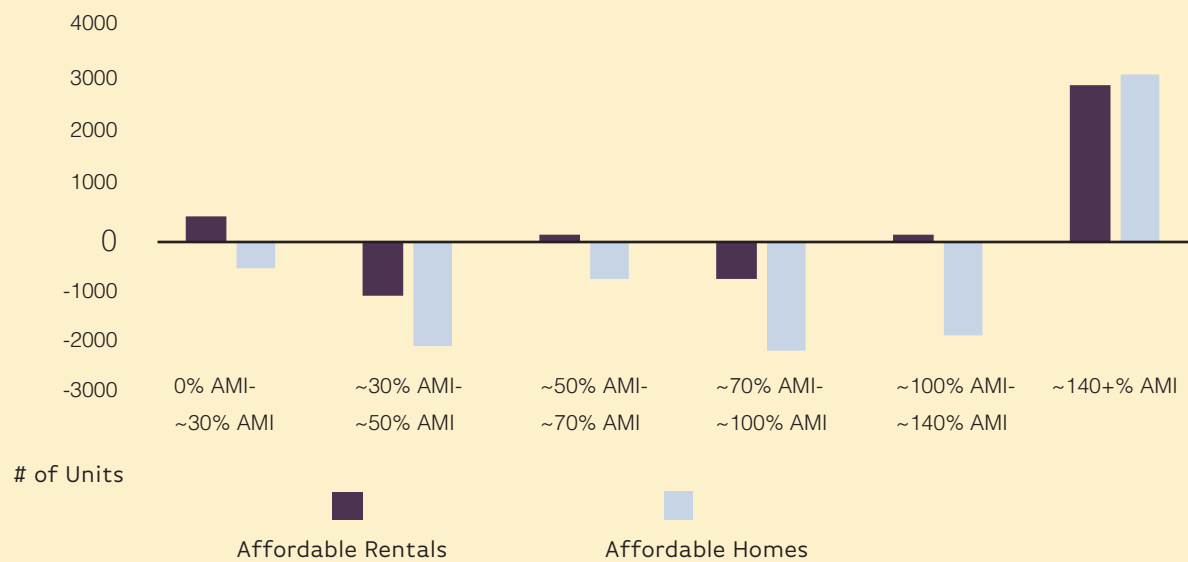
Community members in the district are facing extreme cost-burden from their annual housing and transportation costs. Renters in the neighborhood spend roughly 64 percent of their income on these expenditures, and homeowners spend around 73 percent of their income.

The disparity in median home values between East Aldine and the county follows the trend set by the previously assessed median incomes. While Harris County's median home value is approximately \$175,000, East Aldine's home median value is roughly \$88,000. This also implies that there is a large range in the typical quality of the available housing stock.

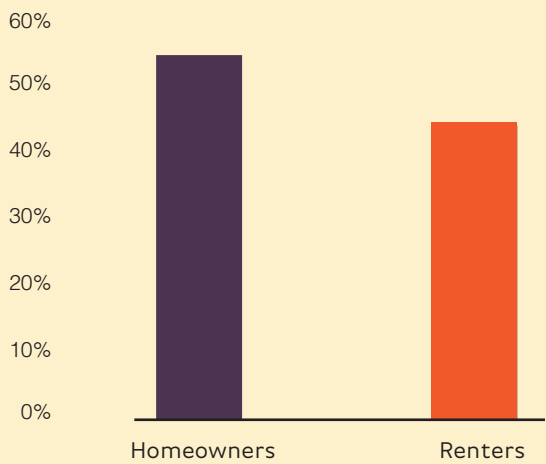
Annual Housing and Transportation Cost Burden



Housing Supply and Gap

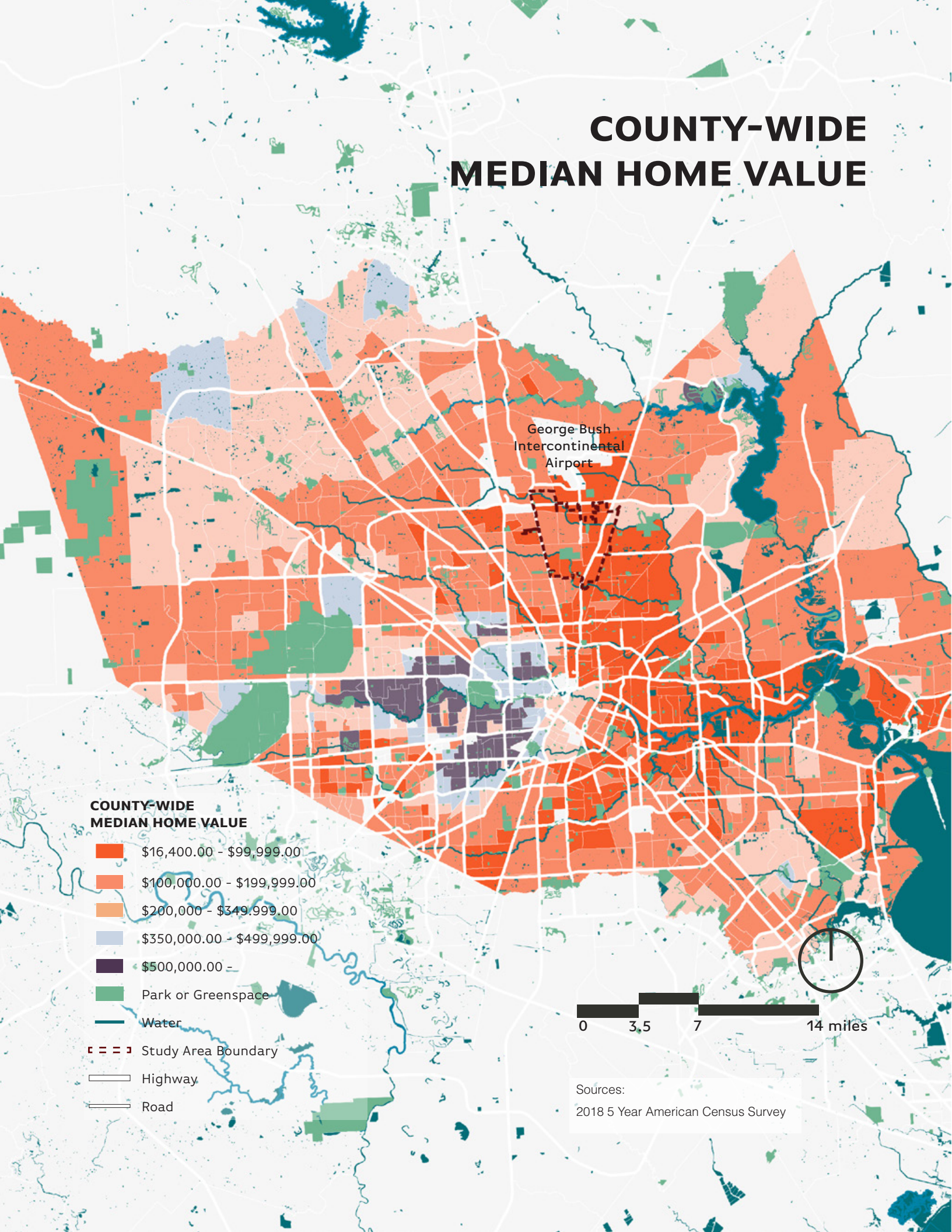


Home-Ownership and Rentership



Source: 2018 5 Year American Community Survey

COUNTY-WIDE MEDIAN HOME VALUE



REGIONAL MEDIAN HOME VALUE

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AIRPORT

John F Kennedy Blvd

Hardy Toll Rd

8

Greens Bayou

W.E. "BILL"
CROWLEY
PARK

Aldine Mail Route Rd

Halls Bayou

KEITH-
WIESS PARK

E Mt. Houston Rd

REGIONAL MEDIAN HOME VALUE

- \$16,400.00 - \$99,999.00
- \$100,000.00 - \$199,999.00
- \$200,000 - \$349,999.00
- \$350,000.00 - \$499,999.00
- \$500,000.00 -

Park or Greenspace

Airport

Water

Study Area Boundary

Highway

Road

69

610

0 .75 1.5 3 miles

Sources:

2018 5 Year American Census Survey

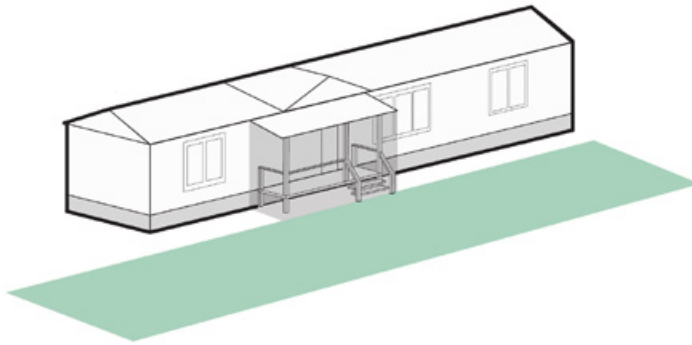
HOUSING TYPOLOGIES

East Aldine is home to a variety of housing types, as shown on this page, including a variety of single-family detached housing types and garden-style apartments. Opportunities exist for culturally-relevant generational housing, missing middle housing from duplexes to mid-sized apartment buildings, and built-to-flood typologies constructed to withstand flooding without sustaining damage. Many homes in this area have been adapted over time to reduce the impacts of flooding.



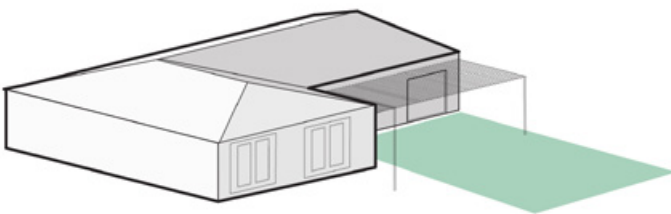
Single-Wide Manufactured Home

There are several communities of mobile homes across East Aldine. Typically there are several clustered together.



Single Family Home

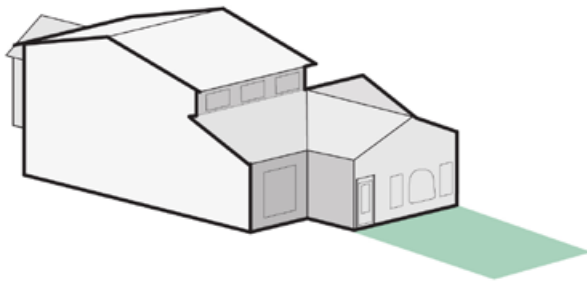
By far, the most common housing typology in East Aldine is the front loaded, single-story, single family home. Neighborhoods are typically composed of low density small lots. Many homes have secondarily built carports on the front.





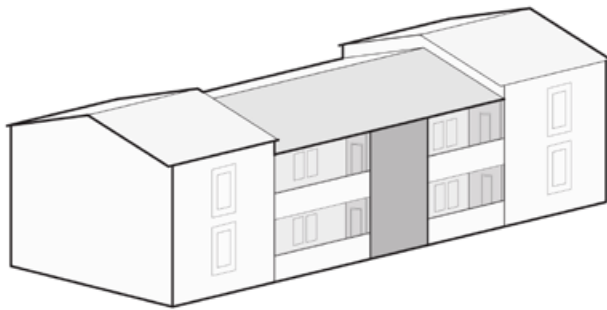
Two Story Single Family Home

Two story homes are much less common in East Aldine. Many of the two-story homes that exist appear to have been constructed in phases and provide additional space for ADUs within the lots.



Multi-Family Apartment Complex

Across the neighborhood, apartment complexes are limited. The most common style appears to be a 2 story 8-plex unit with balconies for each unit and central staircases. These units are typically clustered into a community.



ECONOMIC DEVELOPMENT

MARKET TRENDS

The breakdown of East Aldine's economy is reflected in part by the area's market surpluses and leakages. Market surpluses are sectors in which local supply is greater than local demand, implying that people travel to the area for these services. East Aldine has market surpluses in gasoline stations; building materials, garden equipment and supplies; food and beverage stores; motor vehicles and parts; nonstore retailers; and food service and drinking places. The most severe market leakages, or sectors in which local demand is greater than local supply and which East Aldine residents access outside of the District, are in sporting goods, hobby, books and music retailers; general merchandise; miscellaneous store retailers; furniture and home furnishings; clothing and accessories; electronics and appliances; and health and personal care.



*Construction is the top employer in East Aldine.
Source: Traffic Engineers Incorporated.*

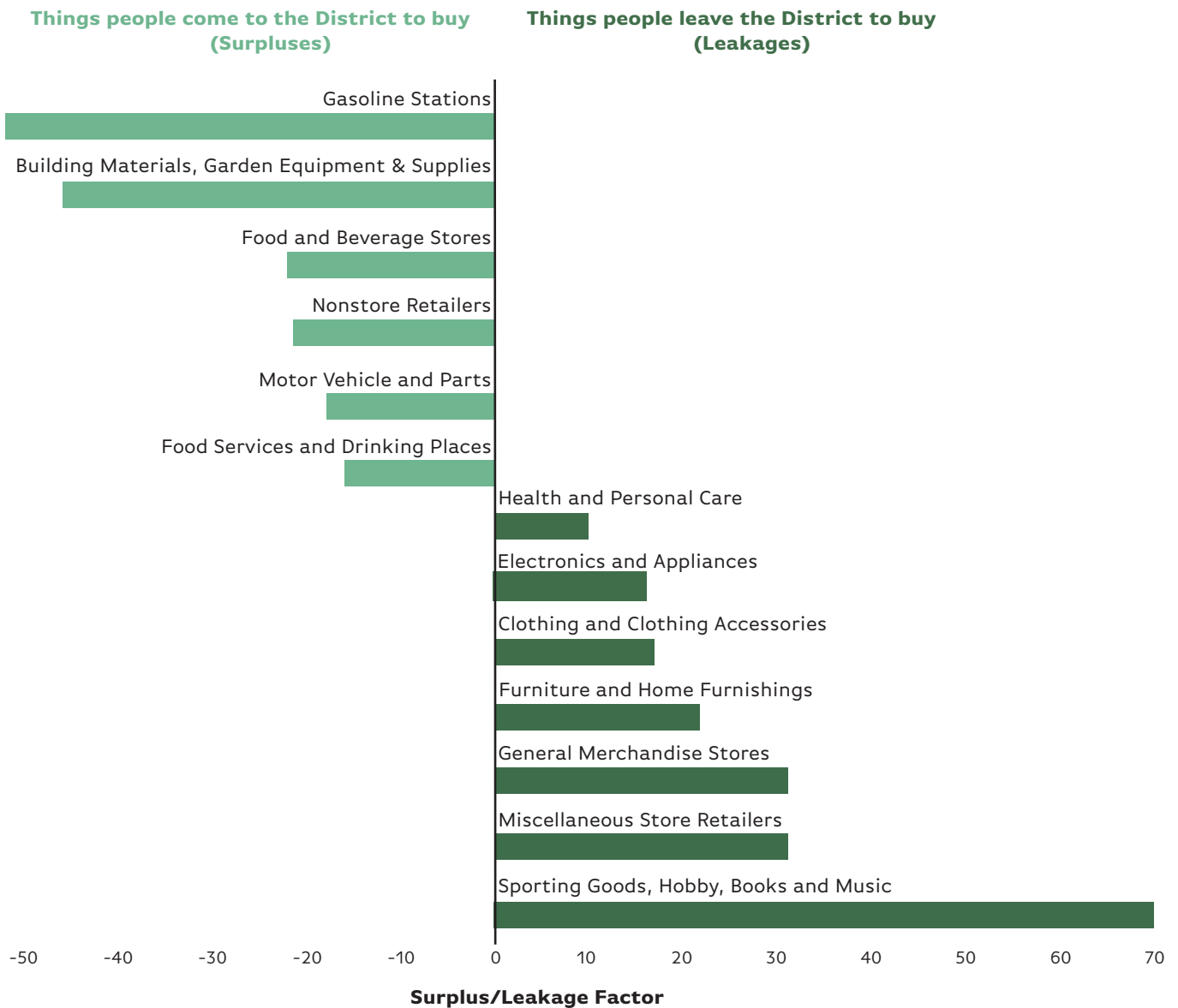
MARKET ANALYSIS AND ECONOMIC DEVELOPMENT STRATEGY

East Aldine Management District, 2009

Vision/Goals: The goal of the 2009 Market Analysis and Economic Development Strategy report, successor to a similar report completed in 2005, is to direct EAMD in planning, targeting and implementing programs for marketing and recruiting businesses to the District. The proposed strategies included: attracting development along John F. Kennedy Boulevard and US 69 between Little York and west Mount Houston; attracting light industrial and service businesses to match East Aldine's local workforce and skill sets and provide additional retail and restaurant demand; supporting small businesses with access to information and direct assistance; and implementing several marketing activities.

Implementation: Warehouse and light industrial activity has been robust along John F. Kennedy Boulevard and Beltway 8; however less redevelopment has taken place along US 69. A maker space to support local small businesses and potential entrepreneurs was created as part of the BakerRipley facility in the East Aldine Town Center. In the time since the report's writing, there has been substantial market activity along the major corridors and in the industrial areas where the plan's recommendations are focused, making implementation of the development strategies less crucial. These market dynamics leave room for a renewed focus on small business development in the District.

Market Surpluses and Leakages

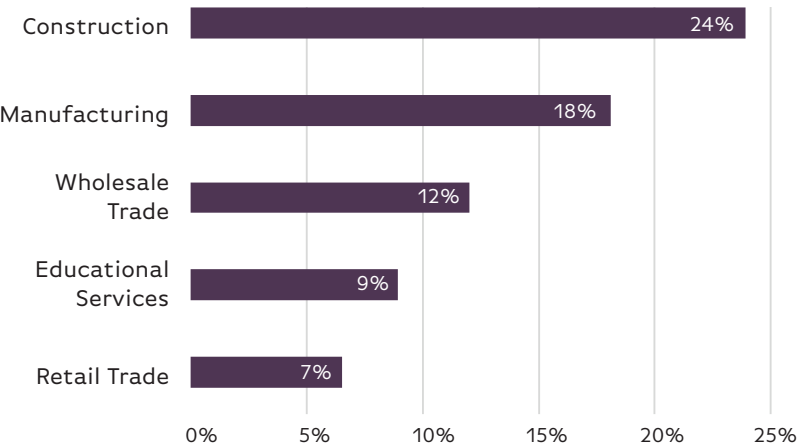


Source: 2017 ESRI Retail Marketplace Profile

From Esri: The Leakage/Surplus Factor presents a snapshot of retail opportunity. This is a measure of the relationship between supply and demand that ranges from +100 (total leakage) to -100 (total surplus). A positive value represents 'leakage' of retail opportunity outside the trade area. A negative value represents a surplus of retail sales, a market where customers are drawn in from outside the trade area.

East Aldine’s local economy is largely focused on construction and manufacturing, with these two industries accounting for over 40 percent of employment in the study area. Other top employers include wholesale trade (12 percent), educational services (9 percent), and retail (7 percent).

Top Employers in East Aldine



Source: 2020 ESRI Business Summary



Wholesale Trade and Educational Services are among the top five employers in East Aldine. Source: Asakura Robinson, Traffic Engineers Incorporated.



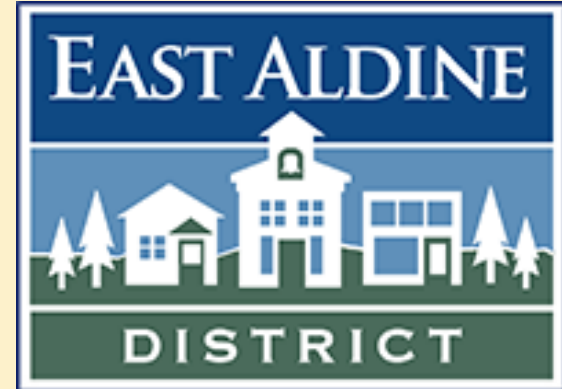
East Aldine contains a surplus of gas stations. Source: Asakura Robinson



Buyouts due to flood risk could be a contributing factor in population change projections for the study area. Source: Asakura Robinson.

EAST ALDINE ECONOMIC DEVELOPMENT STRATEGIC PLAN

East Aldine Management District, 2020



The East Aldine Management District completed the East Aldine Economic Development Strategic Plan in 2021 and outlines strategies for maintaining identity through growth, collaborating with investors, and avoiding gentrification. The plan addresses various types of economic development including entrepreneurship and small business, business recruitment and attraction, and community marketing.

Challenges to implementing this plan are the same challenges facing East Aldine as a whole: flooding, supporting locally owned businesses, crime, and gentrification.

A variety of recommendations in this plan are concurrent to and being carried forward by the East Aldine Livable Center Study.

REGIONAL GROWTH FORECAST

The Houston-Galveston Area Council forecasts population and job growth in the region to the year 2045. The majority of census tracts in the study area are projected to lose population or maintain current population levels relative

to 2018. Several tracts in the north and south of the study area are projected to experience population gains, while census tracts just outside the study area to the east and west are expected to experience notably more population growth than anywhere inside the district.

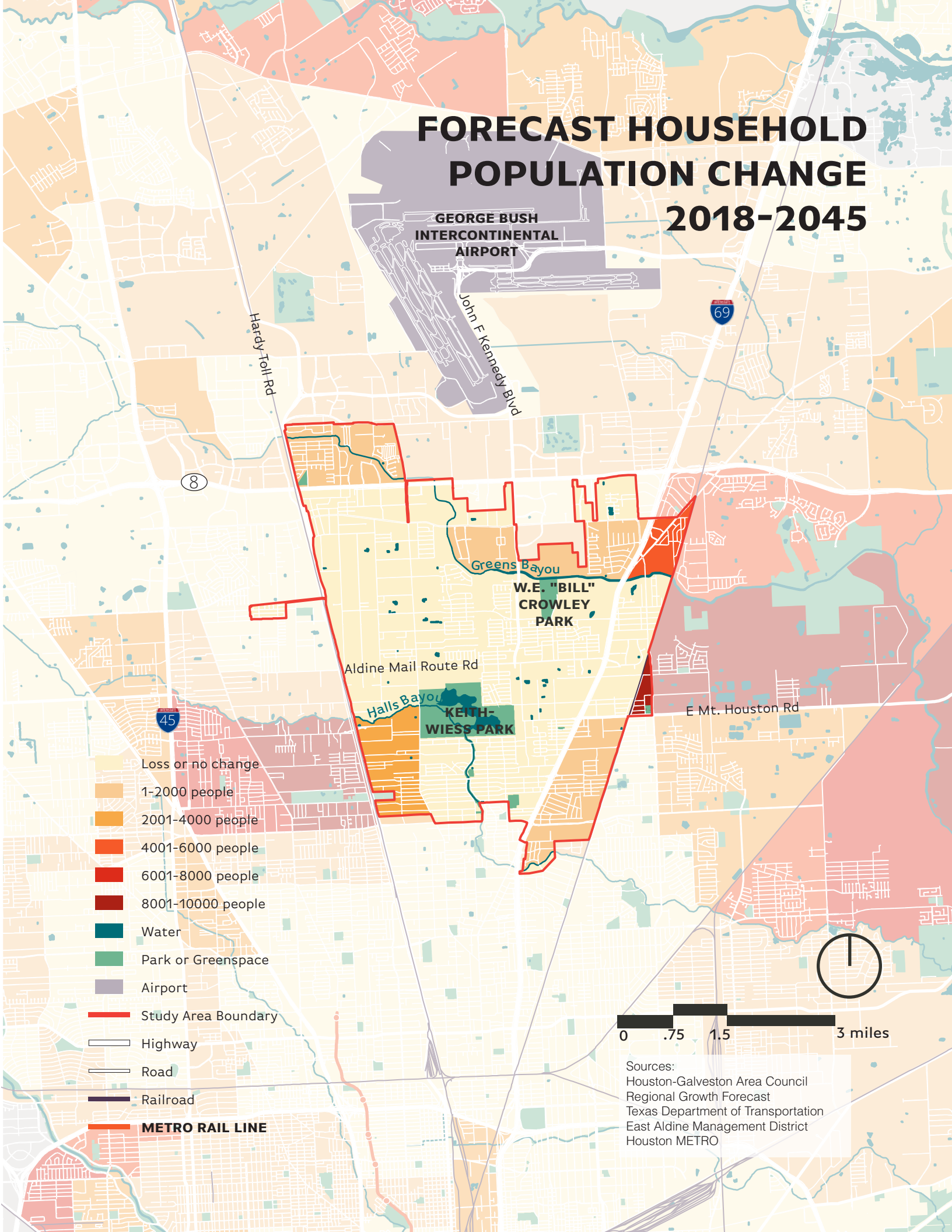


More people may begin travelling to East Aldine for work as the area experiences job growth. Source: Asakura Robinson.



Household population in much of the district is expected to remain constant or decline between 2018 and 2045. Source: East Aldine Management District.

FORECAST HOUSEHOLD POPULATION CHANGE 2018-2045



Significant job growth is expected in the census tract on the District's western edge corresponding to Aldine Village, while moderate job growth is expected in most other parts of the district with the exception of two tracts in

the District's southern corners. The mismatch between forecast population and job trends suggests that by 2045, more people will be travelling to East Aldine from outside the District for work.

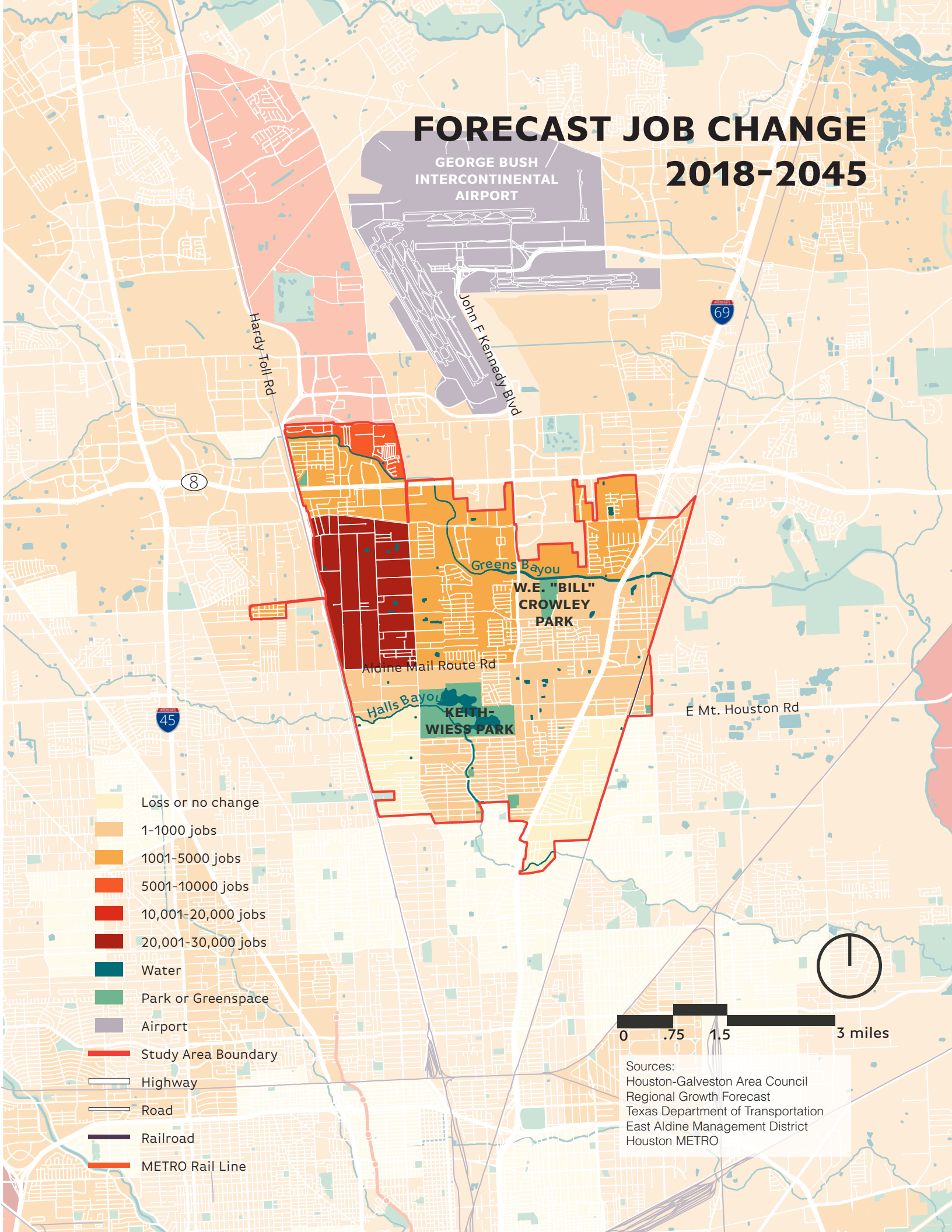


The construction industry is currently the largest employer in East Aldine. Source: Asakura Robinson.



New development is projected to create an increase in jobs by 2045, particularly in the western and northern parts of the District. Source: Asakura Robinson.

FORECAST JOB CHANGE 2018-2045



INFRASTRUCTURE AND ENVIRONMENT

The study area's location on Halls and Greens Bayous and near the Bush Intercontinental Airport presents great benefits, challenges and opportunities around environmental and mobility issues. This section explores these regional issues that affect East Aldine residents.



*Two bayous run through East Aldine: Greens Bayou and Halls Bayou.
Source: Traffic Engineers Incorporated.*



CONNECTIVITY AND TRANSPORTATION

INTRODUCTION

Mobility provides the means to access all aspects of life, including employment, education, recreation, and more. Therefore, it is essential to understand the transportation options currently available to the community and what barriers to access – such as missing sidewalks, incomplete street connections, and underinvested infrastructure – hinder mobility. Together, transit service, roadway options, bikeways, trails, and sidewalks comprise the universe of mobility options within the community and a well-integrated system can create the foundation for expanding access to opportunities and potential for promoting active living.

ACCESS TO OPPORTUNITY

While an ongoing challenge seen throughout the Houston region, existing conditions in the study area highlight the inequitable access to opportunity – such as employment, education, and health care, for example – that exists for those without access to a vehicle or whose access is limited. The area, bordered by tollways and a highway, is primed for driving for almost all trips, and the efficacy of transit is presently hindered by low-intensity land use.

However, not every resident has full-time access to a car, and the existing alternatives lack the same ability to connect citizens to these opportunities. This chapter will document these existing conditions – especially transit connectivity to destinations beyond the study area – to serve as an input to improving connecting for those who are walking, rolling, or ride transit to their jobs, classes, medical appointments, and more. Moreover, this chapter will provide a basis for future decision-making and prioritization of needs that can help move towards equity in access to opportunities for people of all ages, abilities, and incomes.

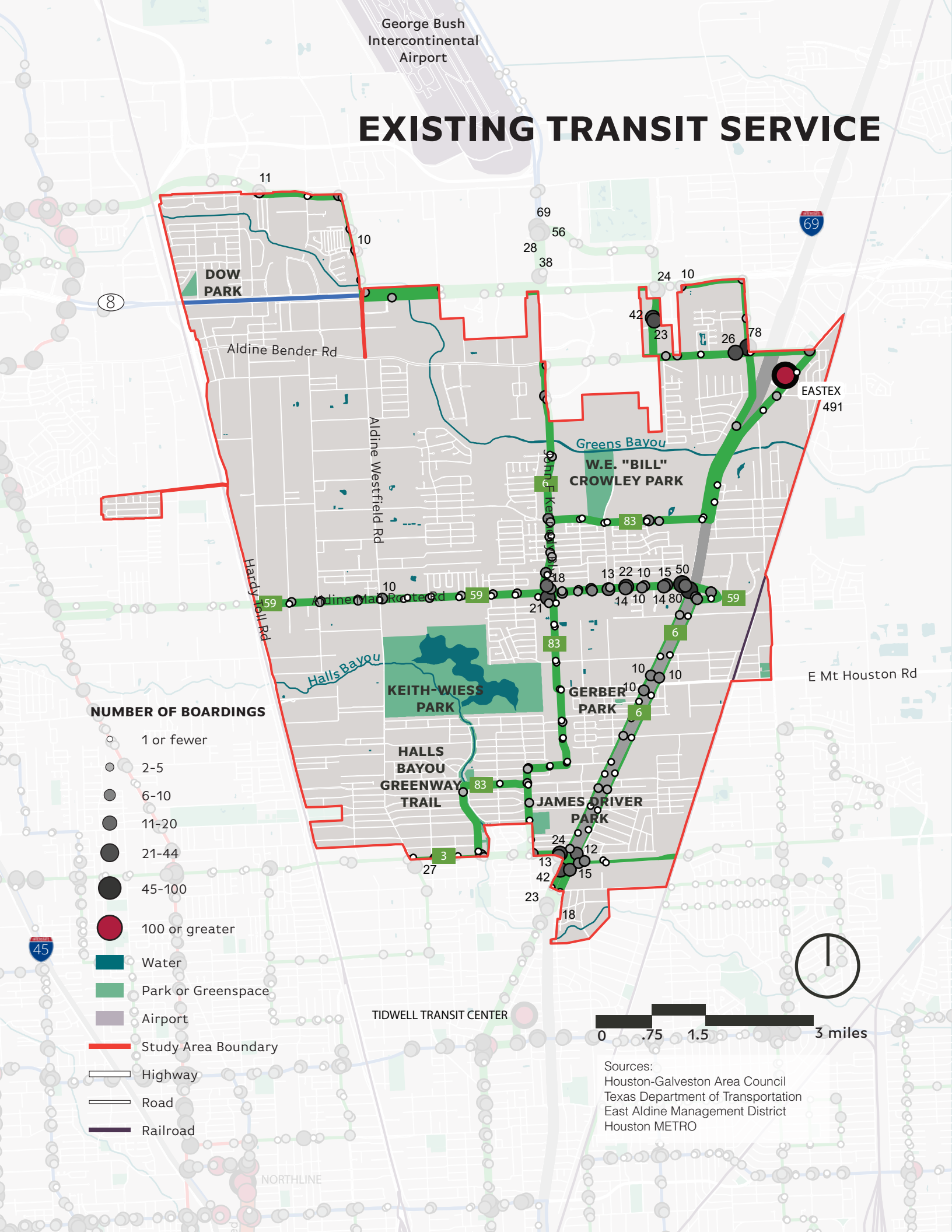
FACILITATING ACTIVE LIVING

Mobility options and their accessibility can significantly enhance the community's physical activity level and reinforce economic opportunities. Moreover, as communities around the world work towards using planning and design to increase sustainability in the face of a changing climate, the practice of creating '15-minute' neighborhoods has emerged; placing as many daily needs, such as grocery stores, within a reasonable distance along safe routes for walking and bicycling.

Active living is also contingent on being able to achieve wellness through outdoor recreation. The East Aldine Management District already has several great outdoor amenities that allow people to walk, bike, or play outside, such as Keith-Wiess Park, W.E. "Bill" Crowley Park, and the Halls Bayou Greenway trail. There is potential, however, for closing the gaps in many neighborhoods are not presently well-connected to these facilities and to address the portions of the study area whose lack access to the facilities is even more pronounced, whether due to lack of sidewalks or sheer distance.

Instilling an active lifestyle can be most effective when experienced early in life. While most schools have sidewalks or paths within their campus, this infrastructure does not extend beyond school boundaries. Without sidewalks and key connecting to and from the adjacent local neighborhoods, kids that could easily walk or bike to school must rely on a personal vehicle for drop off/pick up during the school year. Safe access to schools is essential, and this chapter notes the existing connectivity between neighborhoods. Tactics for implementation and partnership are presented later in this document.

EXISTING TRANSIT SERVICE



TRANSIT

The Metropolitan Transit Authority of Harris County, Texas (METRO) is the provider of transit service within and around most of the study area. Unincorporated Harris County to the east of the district does not contribute to the transit authority and instead is served by Harris County Transit. METRO operates four local lines as well as a Park & Ride along the Eastex Freeway. Three transit nodes – Tidwell Transit Center (TC), Greenspoint Transit Center, and Bush Intercontinental Airport – are situated outside but relatively close to the district's boundaries and serve as connection points or destinations for riders within East Aldine.

LOCAL SERVICE

Local transit service within East Aldine is provided by four lines, operating hourly service daily:

- 3 Langley - Little York (Burnett TC - Antoine Dr): Services Little York Road within the study area.
- 6 Jensen/Greens (Downtown TC – Tidwell TC): Services the Eastex Freeway frontage roads, Aldine Mail Route, John F. Kennedy Boulevard, and Vickery Drive within the study area.
- 59 Aldine Mail Route (N Shepherd PR – Eastex Fwy): Services Aldine Mail Route within the study area.
- 83 Lee Road - JFK (Tidwell TC - North Belt): Services Shady, Bentley Street, Hopper Road, Mooney Road, Hartley Road, Gloger Street, John F. Kennedy Boulevard, Lauder Road, the Eastex Freeway frontage roads, Aldine Bender Road, and Vickery Drive within the study area. Regional connection is available at Eastex Park & Ride.

Low residential density and commercial activity make providing frequent transit and attracting ridership challenging within the district. Historically, transit service along Aldine Mail Route and Aldine Westfield Road has existed in a



Tidwell Transit Center. Source: Google Maps.

cycle of addition – by request of the community – and elimination – due to poor performance.

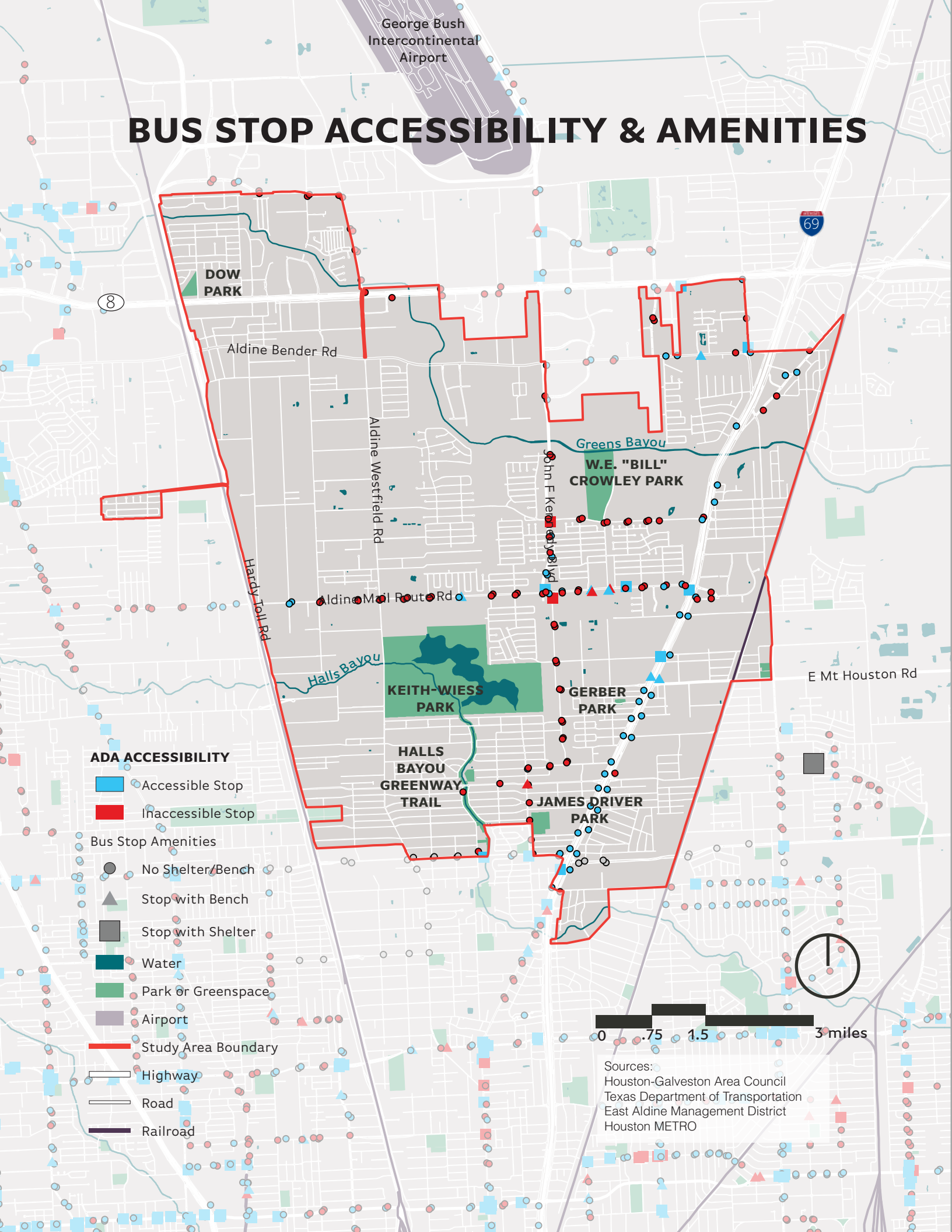
In 2015, METRO's New Bus Network, which reorganized the local network into an efficient grid structure while eliminating inefficiencies and expanding frequent service, maintained 'coverage' service within the district, improving evening and weekend service levels while maintaining access for all existing boardings. Transit service along Aldine Mail Route currently performs on-par with routes with comparable service; there is currently no transit service along Aldine Westfield Road between Beltway 8 and Little York Road.

REGIONAL SERVICE

METRO provides commuter-oriented service on weekdays from the Eastex Park & Ride located along I-69/US 59 and Old Humble Road between Aldine Bender and Homestead Roads. The fare for regional service from the lot is \$3.25, \$2 more than the local fare. A local connection is available via the 83 Lee Road at the Park & Ride.

- 256 Eastex (Peak; Eastex PR - Downtown): Express to/from downtown. Some trips are extended to Townsen Park & Ride in Humble.
- 259 Eastex Corridor (Midday/Late Evening): Express to/from downtown. All trips service Townsen and Kingwood Park & Rides.

BUS STOP ACCESSIBILITY & AMENITIES



ADJACENT SERVICE & DESTINATIONS

- Tidwell Transit Center: Facilitates sheltered connections to the 45 Tidwell and the 80 MLK/Lockwood. Serves as a layover facility for alternating trips on the 6 Jensen-Greens that do not continue to Greenspoint Transit Center via East Aldine. Ample parking as well as I-69 HOV access is available.
- Greenspoint Transit Center: Connection point for six services, including the final destination of alternating trips on the 6 Jensen/Greens as well as to frequent service on the 56 Airline/Montrose and limited-stop service along the 102 Bush IAH Express.
- North Shepherd Park & Ride: Large transit facility served by eight local lines, including the 3 Langley - Little York and the 59 Aldine Mail Route, in addition to two peak-oriented express routes and a Community Connector demand-response service.

BUS STOP ACCESSIBILITY & AMENITIES

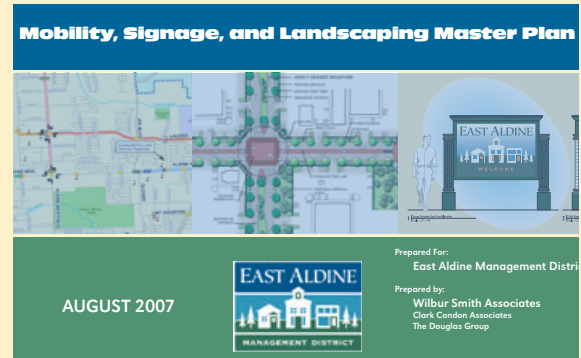
The majority of the 154 individual bus stops located within the district that were surveyed by METRO do not comply with the Americans with Disabilities Act (ADA); 40.3 percent of stops were determined to be accessible.

Only eight stops (5.2 percent) shelter passengers from sun, wind, and precipitation, with another nine (5.8 percent) offering only a place to sit. The remaining stops are comprised simply of a bus stop flag and attached static information post.

The existing large quantity and placement of stops hinder the ability to effectively allocate these passenger amenities. While shorter distances are often tolerated on hourly coverage lines – such as the four local routes that serve East Aldine – many road segments fall short of METRO's target of quarter-mile spacing in between stops; average spacing between stops along East Aldine Mail Route hovers between 0.12 – 0.13 miles.

MOBILITY, SIGNAGE, AND LANDSCAPING MASTER PLAN

East Aldine Management District, 2007



Vision/Goals: The purpose of the Mobility, Signage, and Landscaping Master Plan from 2007 was to identify mobility, landscaping, and signage improvements to address the District's lack of recognizable identity, mobility and safety concerns, and aesthetics. Through this effort, priority roadways for improvements were defined, as well as landscaping and signage recommendations including signage placement.

Implementation: Monument signage indicating East Aldine District with landscaping has been placed at key locations throughout the district to reflect branding and acknowledgement of entering the district. There are East Aldine street signs at most major intersection lights also, that were defined in this plan. Additionally, there were crosswalks implemented near MacArthur High School, in addition to other items. Implementation of mobility improvements has been slow due to the district's focus on water, wastewater and flood improvements as well as limited availability of funding by district partners.

FUTURE TRANSIT SERVICE

The METRONext Long Range Transit Plan, approved by voters in November 2019, outlines the construction of capital projects and investments in transit service throughout the METRO service area through 2040. East Aldine will benefit directly from planned service enhancements and will benefit indirectly from larger capital projects adjacent to the study area.

Service Enhancements

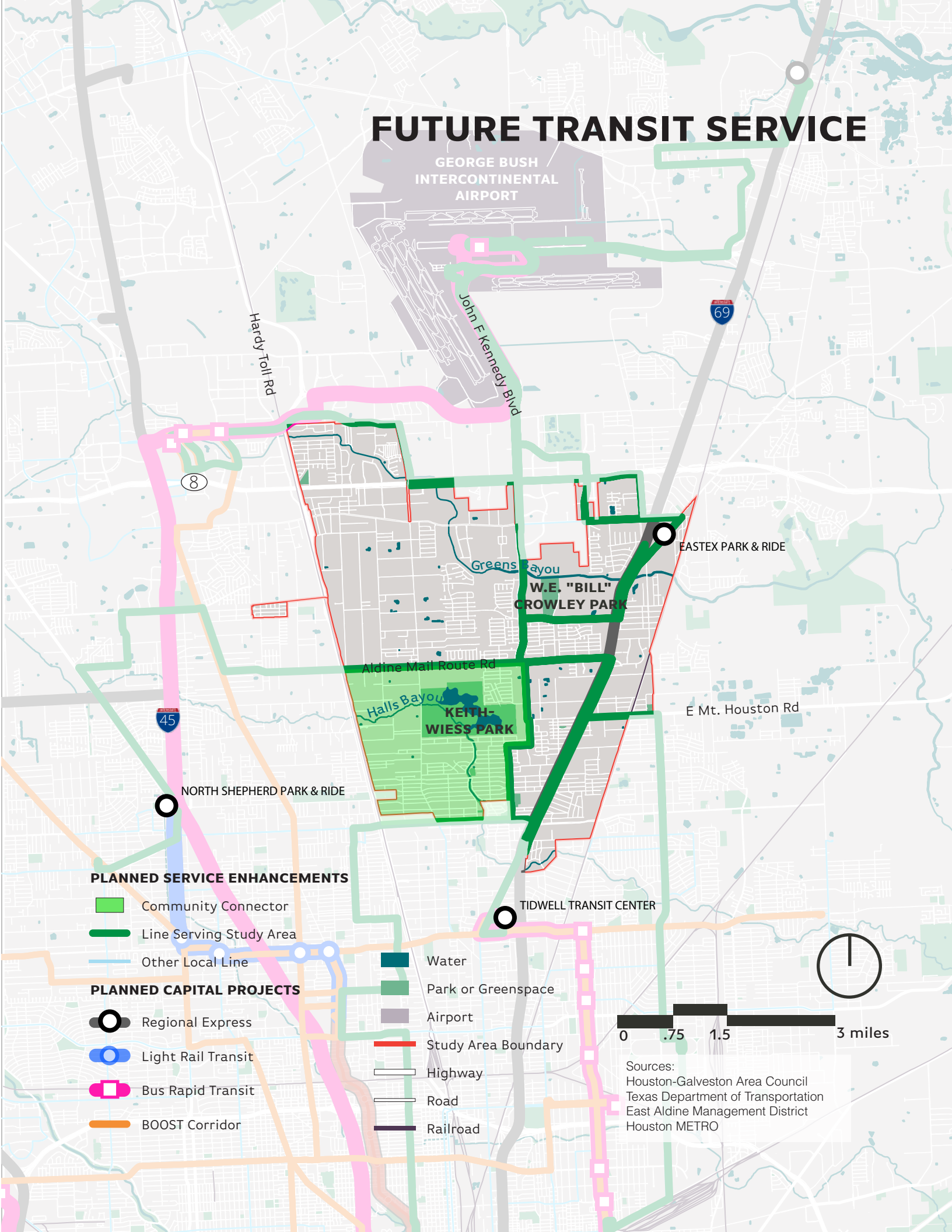
Service Enhancements shown and discussed below are planned, unprogrammed improvements within the 20-year horizon of the METRONext Long-Range transit plan.

- Introduction of Community Connector Service: Demand-Responsive transit will allow passengers to request rides within a pre-defined zone either by phone or by app with a 'hub' at Tidwell Transit Center. This service type allows for a cost-effective expansion of lifeline transit service and is currently offered today in the Acres Homes neighborhood and Missouri City. The preliminary proposed zone is bounded by Aldine Mail Route to the north, Hardy Toll Road to the west, Little York Road to the South, and to the east by Gloger and Bently Streets.
- Combination of 59 Aldine Mail Route and 77 Homestead: Joining an existing east-west and north-south service will create an 'L'-shaped pattern that improves scheduling efficiency on the existing 59, operator layover comfort, and transit access for passengers along both lines by increasing network connectivity.
- Combination of service along Irvington and the 83 Lee Road - JFK: Restructures service so that trips along the existing 83 Lee Road in the study area continue along Irvington Boulevard to Burnett Transit Center north of downtown, expanding transit access by removing the need to transfer vehicles. This includes planned extension to Bush Intercontinental Airport.
- Extension of the 6 Jensen to Bush Intercontinental Airport: Realigns north end of the line to the airport, eliminating an existing transfer to Line 102 along John F. Kennedy Boulevard for passengers coming from East Aldine; discontinues direct service along Line 6 from East Aldine to Greenspoint Transit Center/North Houston District.

ADJACENT CAPITAL PROJECTS

- METRORail Red Line extension to North Shepherd Park & Ride: Passengers in East Aldine may connect from transit service along Aldine Mail Route and Little York Road to light rail at North Shepherd Park & Ride.
- METRORapid along Lockwood Drive: East Aldine passengers who currently connect to Line 80 at Tidwell Transit Center will experience faster trips with the introduction of Bus Rapid Transit along the University/Lockwood corridor.
- METRORapid to/from Bush Intercontinental Airport: East Aldine passengers bound for downtown may find it fastest to connect to Bus Rapid Transit service along the North Freeway at North Shepherd Park & Ride.
- Eastex Corridor Regional Express service: Introduction of two-way, all-day, seven day a week regional service between downtown, Humble, and Kingwood - accessed in East Aldine at the Eastex Park & Ride, greatly improving weekend long-distance travel and elevates the importance and the land-use potential of Eastex Park & Ride.

FUTURE TRANSIT SERVICE



TRANSIT COVERAGE WALKSHED

The ability to access transit is a function of both street connectivity and bus stop placements, on top of the existence of a sidewalk or bicycle facility to safely walk or roll to and from transit. The figure below highlights the areas of East Aldine which are served within one-half mile, or a ten-minute walk, from a bus stop.

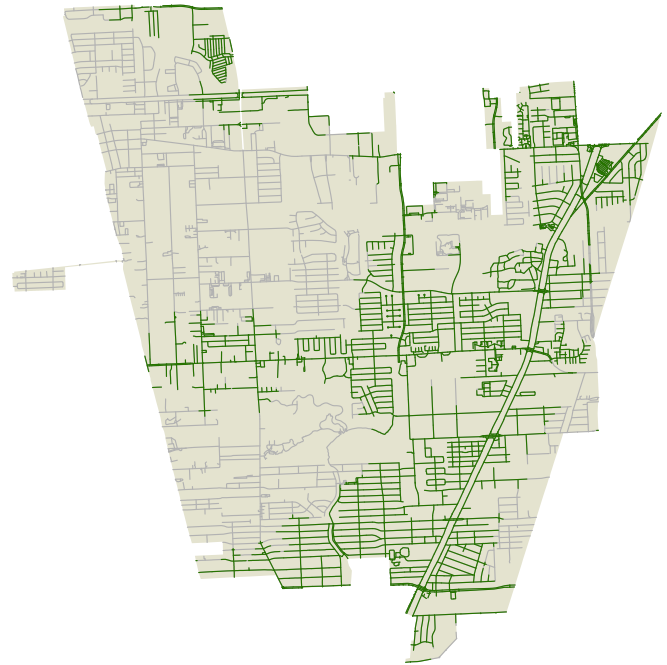
TRANSIT NETWORK CONNECTIVITY

The diagram on the opposing page highlights the routings and final destinations of transit lines serving East Aldine.

Although METRO's local bus network often requires passengers to transfer vehicles as a part of most trips by design in order to operate a grid of straight, frequent, simplistic routes, it is difficult for hourly 'coverage' services to facilitate the connections. Trips where riders' origins and destinations fall along the same service can involve the least hassle when the headway in-between buses is every 60 minutes.

Local Service in the study area emanates to the west and the south. Park & Ride service is oriented towards downtown with reverse commuting enabled towards Humble and Kingwood.

Transit Coverage Walkshed



The map above illustrates the areas of East Aldine that are served within one-half mile, or a ten-minute walk, from a bus stop.



East Aldine is served by four lines that operate hourly, including the 6 Jensen/Greens. Source: Traffic Engineers Incorporated.

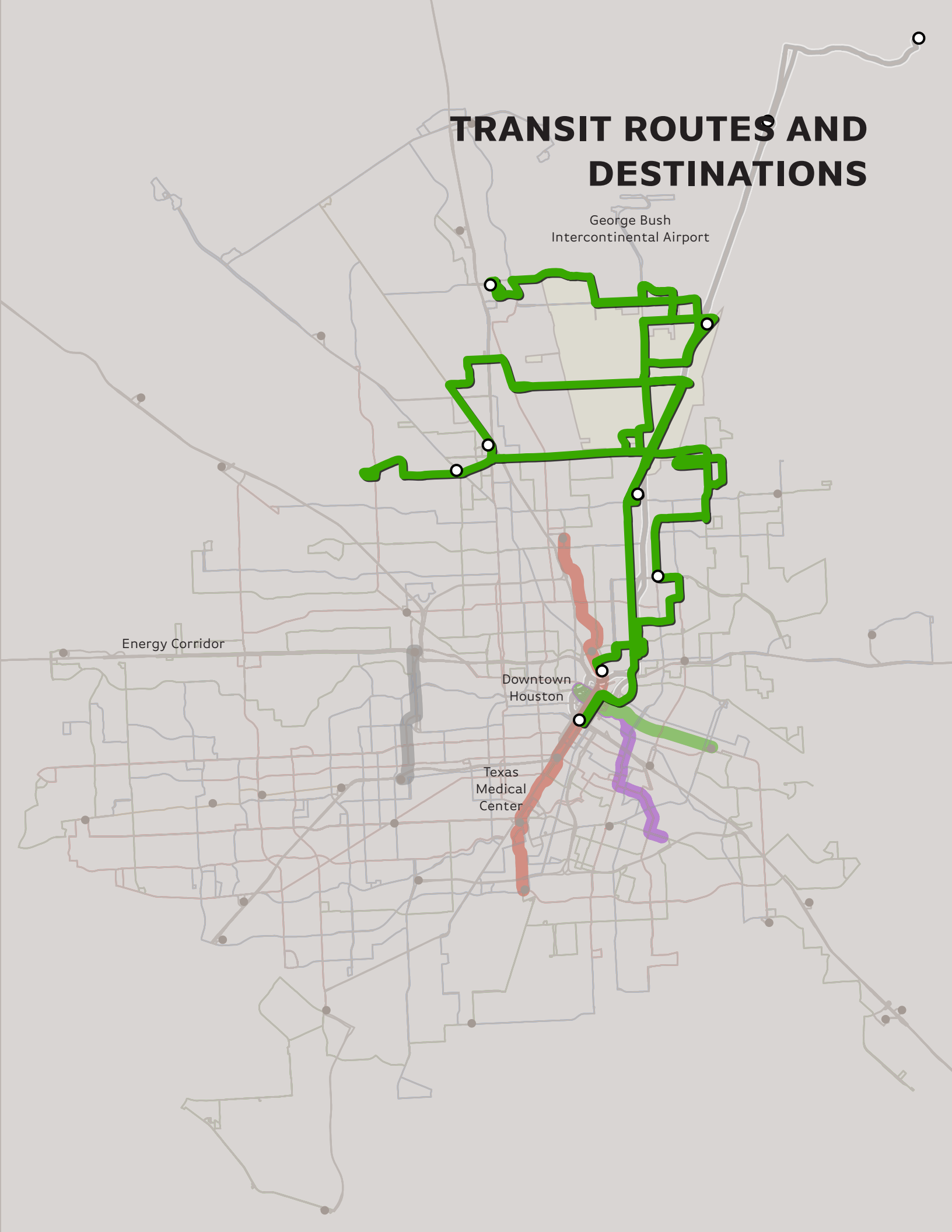
TRANSIT ROUTES AND DESTINATIONS

George Bush
Intercontinental Airport

Energy Corridor

Downtown
Houston

Texas
Medical
Center



ROADWAYS

East Aldine area residents have access to three major highways including the Eastex Freeway (or IH 69), Beltway 8 (TxDOT), and the Hardy Toll Road (a Harris County Toll Road Authority, or HCTRA, facility). The network of roads between the highways is somewhat limited to a few east-west and very limited north-south thoroughfares that support a roadway network. Aside from the limited north-south and east-west thoroughfares, the District does not have much for a street grid network, causing the main thoroughfares to become congested and unsafe at times. The Harris County Major Thoroughfare and Freeway Plan in the map on the right shows proposed roadway widenings and/or corridor extensions that support a more comprehensive grid.

Most of the roadways in the District are open ditch corridors, meaning there are drainage ditches parallel to the road pavement without a curb or gutter. During a rainfall event, the ditches collect the rain and can oftentimes flood the roads. The open ditch streets oftentimes do not have sidewalks and pose a safety hazard to anyone walking, biking, or taking transit within the corridor.

MAJOR THOROUGHFARE AND FREEWAY PLAN (MTFP)

The Harris County Major Thoroughfare and Freeway Plan presents a coordinated roadway function and classification plan with the City of Houston and documents intended future roadway widenings and extensions supporting network connectivity. The lines on the MTFP do not indicate that a project is guaranteed to take place, but that it could in the future upon needs assessment, further study, environmental clearance, and public support. The East Aldine District is featured in the plans for future action.

PROPOSED MTFP ROADWAYS

A number of potential projects to fill-in existing network gaps include:

- An extension of East Mount Houston Road through Keith-Wiess Park to Aldine Westfield Road, continuing onto Gulf Bank Road
- A connection between Pinafore Lane and Gault Road, along with widening the existing segments.
- A gap-filling of Greenranch Drive
- The continuation of Vickery Drive south to W.E. "Bill" Crowley Park

PLANNED MTFP WIDENING

Nearly all portions of each Thoroughfare – except for Aldine Bender Road and North John F. Kennedy Boulevard – are shown on the MTFP as proposed for widening. Recommendations on the district's role for advocating for context-sensitive roadway design, as well as provisions for those walking, bicycling, or riding transit, are explored later in this study.

PROGRAMMED PROJECT

At the time of writing, a widening of Aldine Mail Route west of Aldine Westfield Road is programmed in the Harris County Precinct Two Capital Improvement Plan.

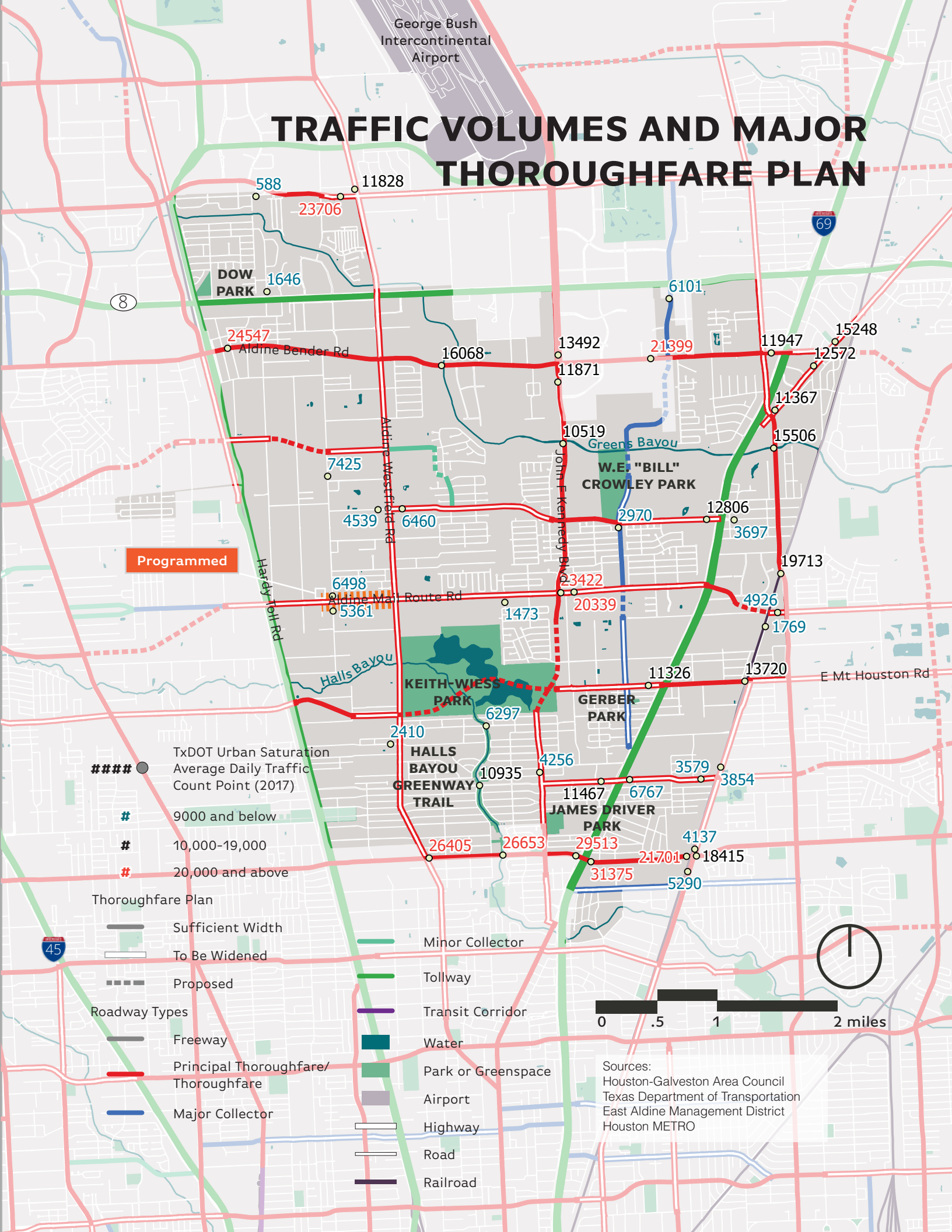
CITY OF HOUSTON COORDINATION

While almost all of the study area falls outside of the City of Houston in unincorporated Harris County, the right-of-way for Aldine Westfield Road – as well as Keith-Wiess Park – is owned by the City. Coordination will be necessary for any realization of the aforementioned roadway extension or widening.

AVERAGE DAILY TRAFFIC VOLUMES

TxDOT traffic counts (most recently taken in 2017) populate the map on the opposing page. Vehicular volumes help to inform recommendations for roadway design and safety improvements.

TRAFFIC VOLUMES AND MAJOR THOROUGHFARE PLAN



SPEED

Speed limits along the major thoroughfares are 35 miles per hour or 45 miles per hour. Local streets are marked at 30 miles per hour in most cases.

STREET CONNECTIVITY

A well-connected street network facilitates completing trips by walking, bicycling, or taking transit by ensuring that large deviations are not required to travel short distances. Such deviations occur today in a number of locations where development patterns or a short segment of missing roadway hinders mobility.

The figure below charts the course of a potential student residing along Ladin Drive and attending Vardeman Elementary. Despite being able to see the school from their driveway, the student is obstructed by a drainage canal and fencing (shown in orange). What would otherwise be a short two-minute walk to school becomes a 48-minute trek if following the roadway network. Likely, existing trips such as this one forge their own paths along compressed grass to the sides of these drainage facilities.

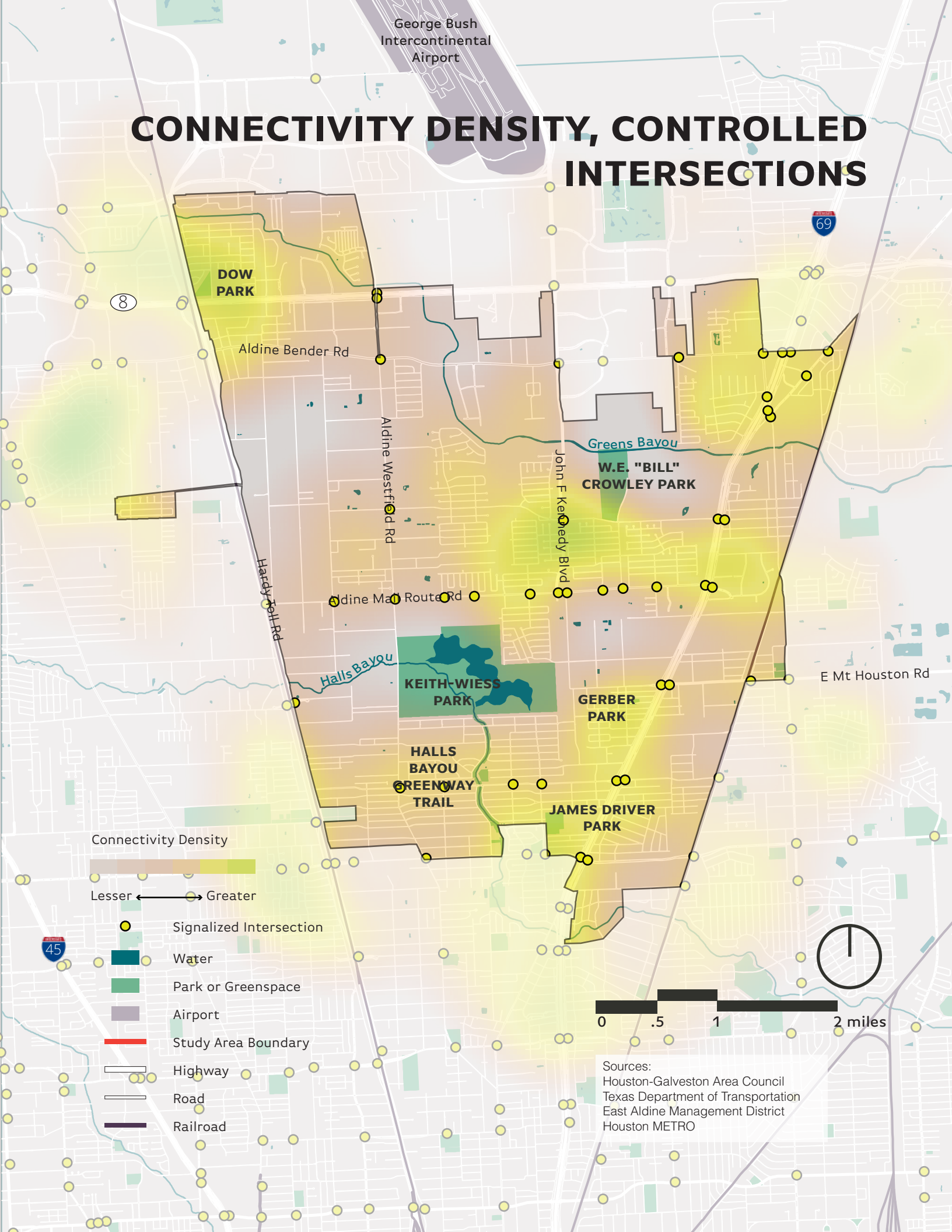
The map on the opposing page highlights the areas of East Aldine which feature a more connected street network.

CONTROLLED INTERSECTIONS

Existing traffic signals are also charted on the map to the right. These controlled intersections provide a safer crossing opportunity along large roadways with voluminous traffic levels and high rates of speed. Identifying crossing improvement opportunities will bolster efforts to improve safety for vulnerable road users.



CONNECTIVITY DENSITY, CONTROLLED INTERSECTIONS



SAMPLE STUDY AREA CORRIDORS

A few study area corridor examples are shown in the following pages to illustrate the various roadway types that are representative of the existing roadway characteristics in the District.

ALDINE MAIL ROUTE

Major Thoroughfare with Sidewalks Example

Aldine Mail Route is a county maintained east-west corridor that supports the heart of the East Aldine District where the Town Center is located as well as many Aldine ISD schools such as: Stephens Elementary School, Avalos Poly-Tech School, MacArthur High School, and Hambrick Middle School. Gus A Oleson Elementary School is just one block north of Aldine Mail Route Road.

Approximately 15 years ago, Aldine Mail Route Road did not have sidewalks, but there were multiple pedestrian fatalities including concerns over safety for kids going to and from the schools along the corridor. Today, most of the corridor includes four-to-five foot sidewalks as well as a few well-marked crosswalks to and from the schools. There are still some areas without curb and gutter, but sidewalks are mostly consistent and some are safer than others. This is the only corridor with consistent sidewalks across the District.

Aldine Mail Route Road is a two-way four-lane corridor in some segments and a five-lane corridor with a center turn lane closer to the commercial areas and schools. METRO's 59 hourly bus route has stops all along the corridor in the district. With new development occurring near the Town Center and beyond, there are opportunities to provide new, wider sidewalks, enhanced traffic signals at key intersections to allow for a protected and safe crossing, and other improvements to the pedestrian and bicycle realm that enhance safety along this busy corridor.



Aldine Mail Route example of unsafe sidewalks and bus stop.

LAUDER ROAD

Major Thoroughfare without Sidewalks Example

Lauder Road, is a two-lane east-west major thoroughfare in the District. The thoroughfare portion of the corridor ends at Aldine Westfield, and continues to the eastern boundary of the District. Lauder Road does not have sidewalks except on the property of Steve Mead Middle School facility, and has a steep open ditch directly adjacent to the corridor pavement.

METRO's hourly 83 bus route has stops on portions of the eastern side of Lauder Road with unsafe bus stops located in the drainage ditches directly adjacent to the busy road. Without sidewalks or space for a person to wait for the bus, this corridor is extremely dangerous for anyone outside of their car. According to the crash data along this corridor, there have been multiple pedestrian crashes that could have been prevented with safe places for people to walk or wait for transit.

In addition to Steve Mead Middle School, there are two older schools across from an Aldine ISD bus facility. The schools are the Reed Academy (Kindergarten through 12th grade) and the Hinojosa Early Childhood Center. Aside from the middle schools, these Aldine ISD campuses do not have sidewalks at all.



Lauder Rd. bus stop located in the drainage ditch.

ALDINE WESTFIELD ROAD

Major Thoroughfare without Sidewalks Example

Similar to Lauder Road, Aldine Westfield is a north-south, two-lane major thoroughfare that is owned by the City of Houston and lacks basic curb, gutter, and sidewalks with steep open ditches. Aldine Westfield is a major north-south spine of the area and is very unsafe.



Aldine Westfield Road two-lane corridor without sidewalks.

TYPICAL NEIGHBORHOOD STREET

The neighborhoods throughout the East Aldine District area do not have sidewalks and have open drainage ditches directly adjacent to the street pavement. Although many of the neighborhood corridors can be fairly quiet and people can usually walk or bike safely, sidewalks on the collectors or major thoroughfares, as well as other interventions within the right-of-way, could help people get around without a vehicle more safely.

Opportunities exist near and around the Aldine Town Center with some sidewalks, crosswalks, and signalized intersections for crossing.



A typical neighborhood street without sidewalks.

ALDINE TOWN CENTER

The Aldine Town Center has some of the newest buildings and infrastructure in the District, and has wide, safe sidewalks for people to walk or bike with safe pedestrian crossings including mid-block crossing opportunities. The corridor and sidewalk design in the Town Center can be the example for what may be desired in other areas of the District.



A safe, well-marked pedestrian crossing in the Town Center.



Wide walking and biking paths around the Town Center.

BIKEWAYS

Traveling by bicycle can compliment mobility and access for people already walking or taking transit and is an economical alternative to owning a car. However, without safe places to bike, it can be unsafe and challenging to navigate with car traffic and other barriers.

EXISTING FACILITIES

The Halls Bayou Greenway Trail currently connects the trails of Keith-Wiess Park south along the waterway up to I-69, with a planned, yet unfunded, future extension to the rest of the trail east of Hirsch Road.

BAYOU GREENWAYS/BEYOND THE BAYOUS

In addition to the connection of the discontinuous Halls Bayou trail, plans call for the construction of a greenway along Greens Bayou, with the goal to connect to the existing trail to the west in the North Houston District; a short segment just north of Beltway 8 is currently being planned.

A planning effort, "Beyond the Bayous" was conducted by the Houston Parks Board to identify future investments in projects to increase access to the linear bayou parks. A number of conceptual alignments within East Aldine were documented.

HOUSTON BIKE PLAN

The Houston Bike Plan calls for a high-comfort bicycle facility to be constructed along the city-owned Aldine Westfield Road when it is next reconstructed; the connection is important to the city's plan due to its connectivity to two bayou greenways and its future connections to the North Houston District and Bush IAH airport.

HARRIS COUNTY PRECINCT TWO TRAILS MASTER PLAN

At the time of writing, Harris County Precinct Two is identifying a prioritization list of bikeway and trail projects for near-term investment. These preliminary draft connections – subject to change – are shown in dashed-red on the opposing map.

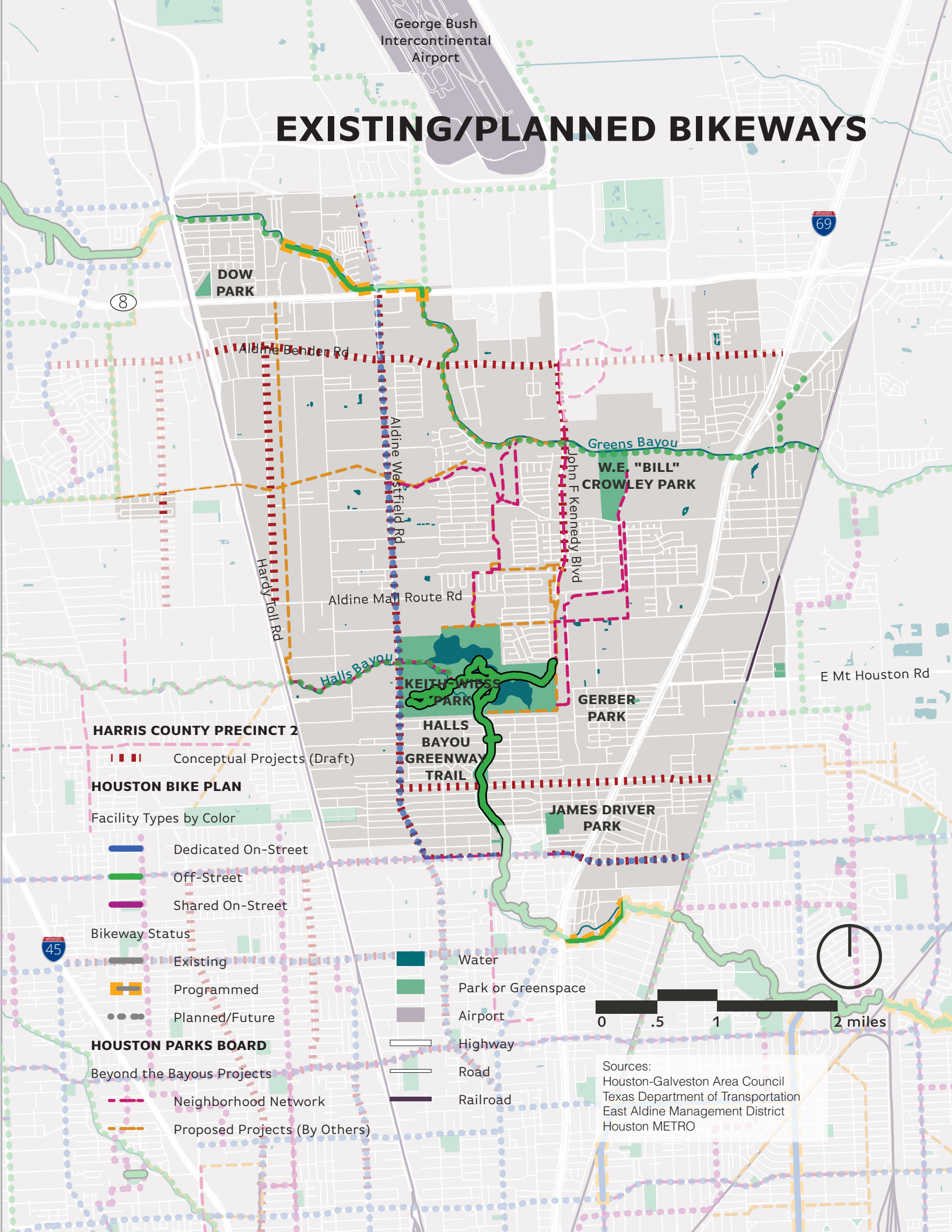


Much of the study area lacks bicycle facilities. Source: Traffic Engineers Incorporated.



Plans call for expanding and improving trails along Halls and Greens Bayous. Source: Traffic Engineers Incorporated.

EXISTING/PLANNED BIKEWAYS



SIDEWALKS

Sidewalks are few and far between within the District, largely driven by the long-time policy of Harris County to not include sidewalks during new roadway construction. Harris County Precinct Two, where the district primarily resides, ranks last in terms of sidewalk miles compared to street miles when compared to its three peer precincts.

Continuous sidewalks exist along Aldine Mail Route and the Eastex Freeway frontage roads. While these existing facilities are the most traversable for people walking in the district, they do not provide a comfortable, safe, and enjoyable place to walk. A lack of shade trees makes walking unpalatable during high temperatures. A lack of controlled crossings makes crossing streets dangerous. The auto-dominant nature of businesses along these roadways and lack of orientation to pedestrians or outdoor experience leaves a dearth of eyes on the street lowers the perception of safety.

Regardless of the quality of experience, people walk in the district. Desire lines, or worn-down paths in grass, point to the latent demand and necessity of proper facilities. All transit riders in the district are themselves pedestrians, walking or wheeling to and from bus stops.

Many streets within the district feature open drainage, hindering the ability to add walkways where right-of-way is limited and increasing cost during future installation if performed outside of a roadway widening project.

The current condition of street connectivity further hinders the ability to safely walk in the district; no continuous parallel side streets exist to offer an alternative to walking in grass along Aldine Westfield Road and John F. Kennedy Boulevard, for example.

There are presently 36.7 sidewalk miles covering 239.4 roadway centerline miles meaning that, if the ideal goal were to construct sidewalk along both sides of every street within the study area, about 7 percent of those sidewalks presently exist. (This analysis excludes freeway mainlanes and bayou trail paths and includes freeway frontage roads.)

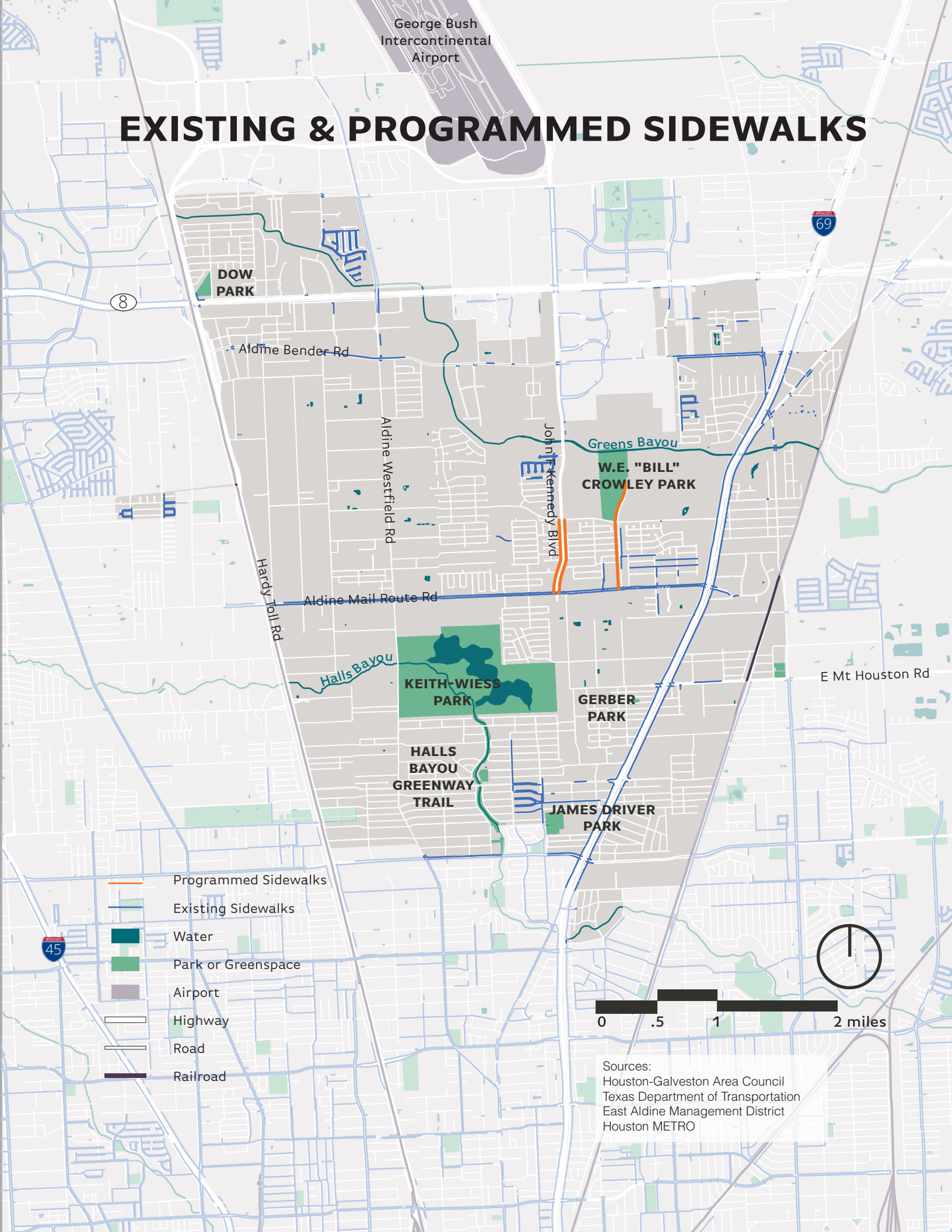
At the time of writing, new sidewalk is being constructed along John F. Kennedy Boulevard between Lauder Road and Aldine Mail Route by Harris County Precinct Two. A separate project to construct a sidewalk from Aldine Mail Route to W.E. "Bill" Crowley Park is currently programmed in the list of Capital Improvement Projects.



Desire lines in the roadside grass indicate high pedestrian activity despite the lack of sidewalks in the District. Source: Traffic Engineers Incorporated.

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EXISTING & PROGRAMMED SIDEWALKS



8

DOW
PARK

Aldine Bender Rd

Aldine Westfield Rd

Hardy Toll Rd

Aldine Mail Route Rd

Halls Bayou

KEITH-WIESS
PARK

HALLS
BAYOU
GREENWAY
TRAIL

Greens Bayou

W.E. "BILL"
CROWLEY PARK

GERBER
PARK

JAMES DRIVER
PARK

E Mt Houston Rd

45



0 .5 1 2 miles

Sources:
Houston-Galveston Area Council
Texas Department of Transportation
East Aldine Management District
Houston METRO

BARRIERS TO ACCESS

All modes of mobility experience various types and levels of barriers in the natural and built environments. These barriers can significantly impact the community's ability to access destinations both locally and regionally. In the East Aldine District, primary barriers exist on a large-scale and include the perimeter highways and the traversing bayous, which affect both inter-and intra-district travel patterns. Secondary barriers also exist on a smaller scale, affecting access to local destinations, including utility easements and storm ditches, wide corridor and intersection crossings, and large block sizes. Many of these barriers are discussed in other areas of this document, but are highlighted together here.

PRIMARY BARRIERS

Highways

Separating the interior of the study area from the neighborhoods to the north, east, and west are Beltway 8, I-69, and the Hardy Toll Road, respectively. The former two roadways feature elevated mainlanes while the Hardy Toll Road, surrounding a Union Pacific railroad mainline, possesses elevated frontage roads at intersections.

Opportunities to either access or cross-under Beltway 8 and I-69 occur at each intersection of a thoroughfare, and most are equipped with marked crosswalks and pedestrian signal heads, although the user experience of crossing such wide, high-traffic frontage roadways is not enticing. A gap in crossing opportunities (1.5 miles) abets in isolating the small portion of the study area northeast of the Hardy Toll Road/ Beltway 8 interchange.

A couple of elevated crossings above the Hardy Toll Road contain at least a narrow sidewalk and ramps through the intersections; their paths, however, terminate abruptly rather than connecting to a sidewalk, and are considered here to be inaccessible or dangerous to cross on foot.

Water

Together, Greens Bayou and Halls Bayou trisect the study area. While the stretch of existing bayou greenway along Halls Bayou south of Keith-Wiess Park facilitates walking and bicycling permeability, the lack of sidewalks within the district compounded with the present lack of trails along Greens Bayou requires walking in the roadway to traverse the waterway.

SECONDARY BARRIERS

While more localized and smaller, secondary barriers can cause significant impacts for people of all ages and abilities to access daily destinations in the community, including schools, shopping, parks, and more. While each of the three secondary barriers identified here is distinctive and presents unique challenges, many potential solutions to the challenges can be similar.

Utility easements and storm ditches have created many local streets that do not connect, instead dead-ending with no pedestrian or bicycle access provided across them. When this happens, the distances for people walking and biking to access destinations are increased, many times to the point where making the trip is not feasible without a vehicle. Many intersections and primary corridors can be wide and challenging to cross safely without a vehicle. Additionally, many corridors in the District have large block sizes with few safe crossing options that further increase distances for people walking and biking to access transit, business, and other destinations. Shortening crossing distances, increasing visibility at intersections, and providing cut-throughs for walking and biking between neighborhoods and destinations are opportunities to address secondary barriers and improve local connectivity.

BARRIERS TO ACCESS



CRASHES

Crash data was collected from the TxDOT Crash Records Information System (CRIS) database for the years 2015 through 2019. Crashes that occurred on the Eastex Freeway, Sam Houston Tollway, or Hardy Toll Road mainlines were excluded from the crash analysis. Frontage road crashes, however, were included.

Within the five year analysis period, 5,971 crashes occurred within the study area. Of the 5,971 total number of crashes, 99 crashes involved a person walking and 40 involved a person bicycling. 31 of the crashes resulted in a fatality, 14 were people walking.

Crashes were categorized by corridor and intersection (if the crash was intersection-related). The summary of total crashes at intersections and corridors is shown on pages 78-81. All crash data was mapped, and density

maps were developed to identify crash hotspots. Due to the high volume of daily traffic along the Eastex Freeway frontage roads, sixteen percent of all non-intersection related crashes occurred here.

The map to the right indicates crash hotspots within the study area. A density of only pedestrian and bicycle related crashes is shown in the map on page 81. This map also identifies locations where a crash resulted in a fatality or a recorded serious injury.

Aldine Mail Route, Aldine Westfield, and the Eastex Freeway frontage roads emerge as hotspots for targeted safety improvements in terms of both intersection and non-intersection related crashes. Given the separate jurisdictions of the facilities – the former is controlled by Harris County, the middle is in the City of Houston right-of-way, and the latter belongs to TxDOT – interagency coordination will be vital to mitigating future crashes.

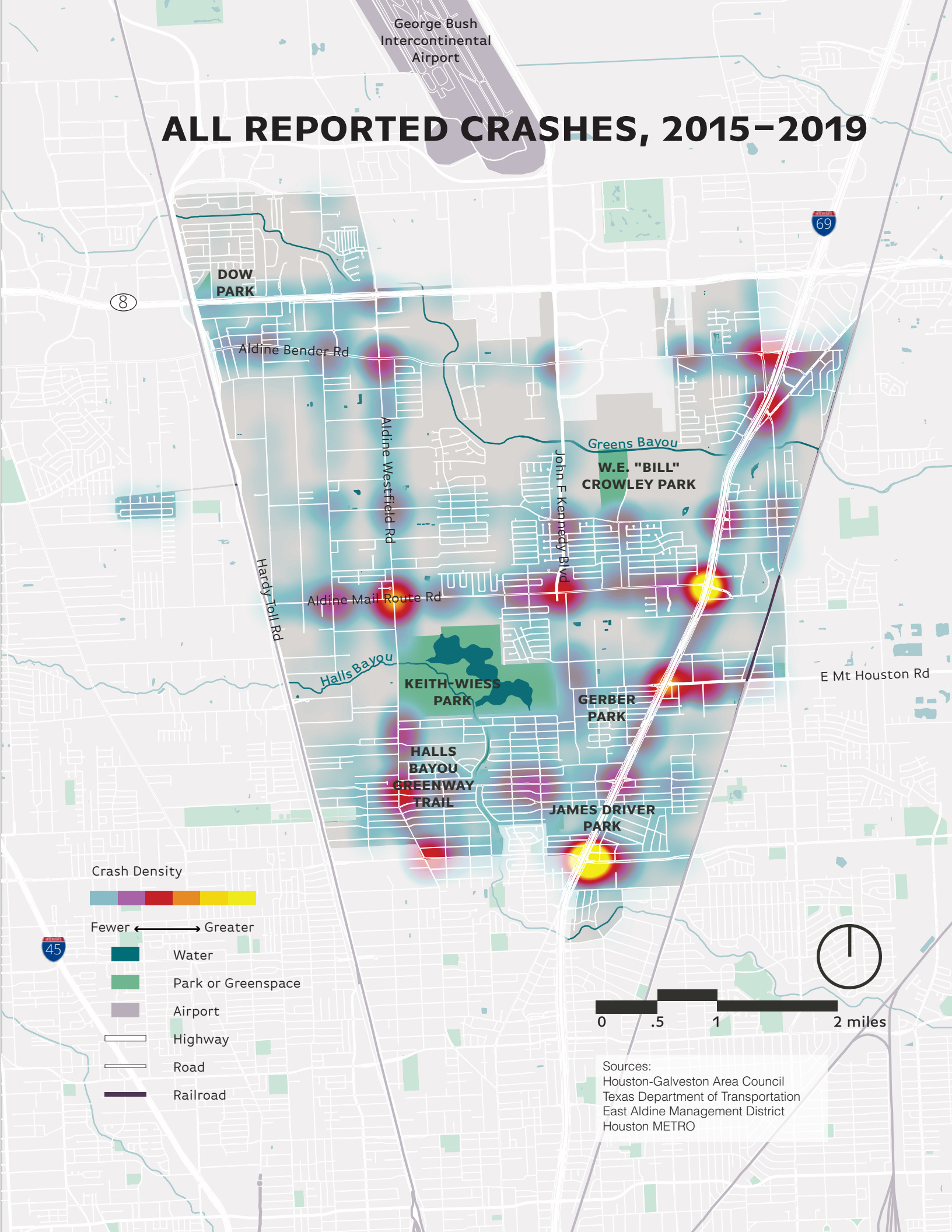
Crashes in East Aldine, 2015-2019

| INTERSECTIONS | TOTAL NUMBER OF CRASHES | FATALITIES | INCAPACITATING INJURIES | INVOLVING PERSON WALKING | INVOLVING PERSON BICYCLING |
|----------------------------------|-------------------------|------------|-------------------------|--------------------------|----------------------------|
| Little York @ Eastex Freeway | 276 | 1 | 3 | 7 | 2 |
| Aldine Mail @ Eastex Freeway | 217 | 1 | 5 | 6 | 0 |
| E Mount Houston @ Eastex Freeway | 155 | 1 | 4 | 0 | 1 |
| Aldine Mail @ Aldine Westfield | 129 | 1 | 0 | 1 | 0 |
| Little York @ Aldine Westfield | 110 | 0 | 0 | 1 | 0 |
| Aldine Bender @ Aldine Westfield | 74 | 0 | 5 | 3 | 2 |
| Aldine Bender @ Lee | 72 | 0 | 1 | 1 | 0 |
| Aldine Mail @ John F Kennedy | 71 | 0 | 2 | 1 | 0 |
| Aldine Bender @ Eastex Freeway | 70 | 1 | 4 | 0 | 0 |
| Hopper @ Eastex Freeway | 63 | 0 | 1 | 0 | 1 |
| Hopper @ Aldine Westfield | 61 | 0 | 7 | 0 | 0 |
| Aldine Mail @ Chrisman | 57 | 0 | 1 | 0 | 0 |
| Aldine Bender @ John F Kennedy | 49 | 1 | 0 | 0 | 1 |
| Old Humble @ Homestead | 48 | 0 | 3 | 0 | 0 |
| Hopper @ Bentley | 36 | 0 | 1 | 1 | 1 |
| Old Humble @ Eastex Freeway | 25 | 0 | 1 | 0 | 0 |

Source: TxDOT Crash Records Information System (CRIS) database, 2015 - 2019.

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ALL REPORTED CRASHES, 2015-2019



Pedestrian fatalities were most densely concentrated along Aldine Mail Route between John F. Kennedy Boulevard and the Eastex Freeway. The high number of commercial and institutional destinations and on-street transit connections – combined with voluminous, high-speed roads designed for the fast conveyance of vehicles – could explain this finding.

Little York Road at the Eastex Freeway was found to be the most dangerous intersection to cross on foot or by bike. Other hotspots involving vulnerable road users emerged along Aldine Bender Road, Aldine Westfield Road, and along other points of the Eastex Freeway.

Approximately 80 percent of all crashes are geo-referenced, so the data summarized on this page is likely an underestimate of all crashes within the assessed time period. Additionally, near-misses are not captured through the database.

Non-Intersection Related Crashes

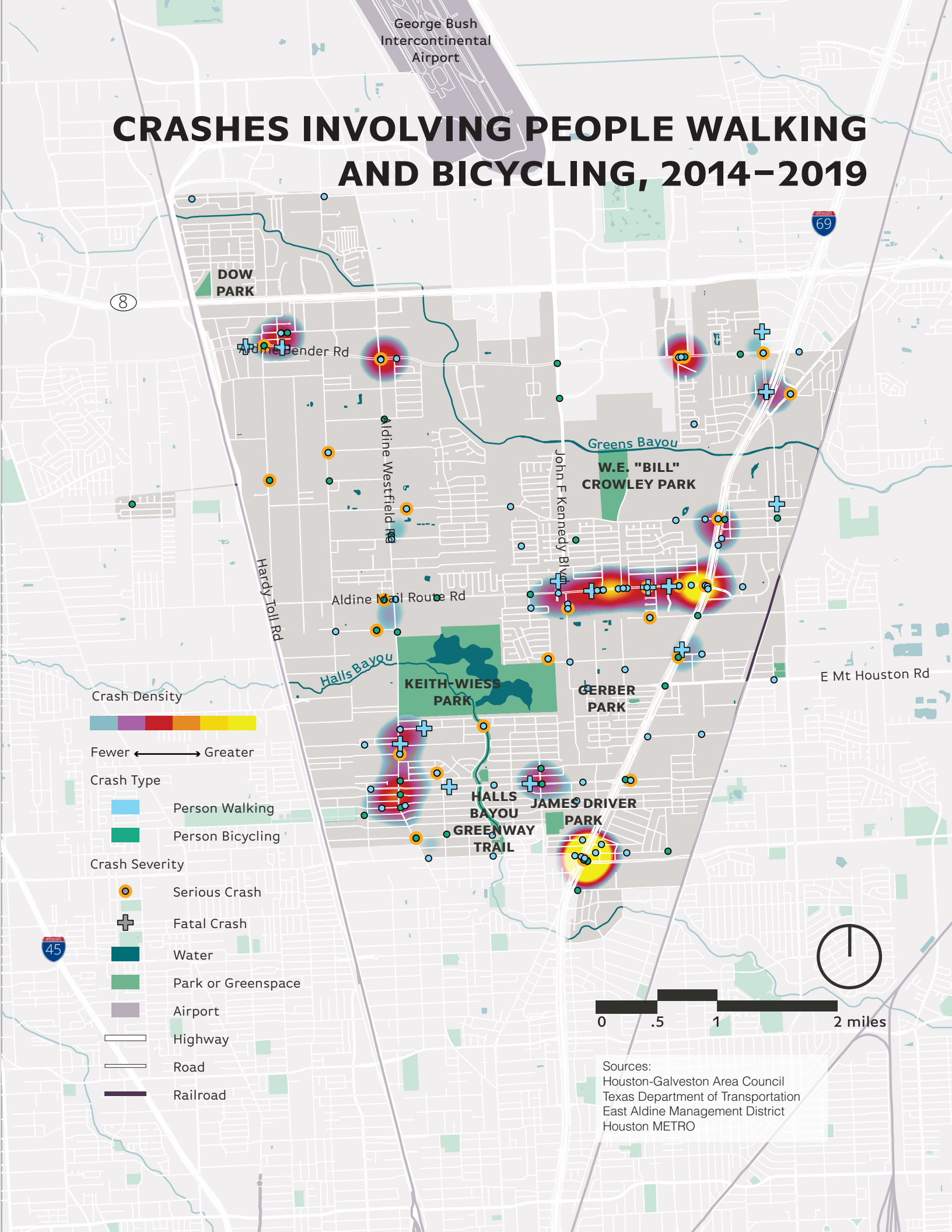
| CORRIDOR | NUMBER OF CRASHES |
|----------------------|-------------------|
| Eastex Fwy | 534 |
| Aldine Mail Rd | 323 |
| Aldine Westfield Rd | 244 |
| Little York Rd | 241 |
| Aldine Bender Rd | 219 |
| Aldine Mail Route Rd | 162 |
| Hopper Rd | 127 |
| Beltway 8 | 118 |
| Mt Houston Rd | 141 |
| Lauder Rd | 107 |
| Homestead Rd | 68 |
| Lee Rd | 63 |
| Chrisman Rd | 62 |
| Old Humble Rd | 43 |
| John F Kennedy Blvd | 33 |
| Bertrand St | 32 |
| Gloger St | 32 |
| Hartwick Rd | 26 |

Source: TxDOT Crash Records Information System (CRIS) database, 2015 - 2019.



Signalized Intersections with moderate-to-high vehicular volumes but without dedicated, protected left turn phases, such as at the intersection of Aldine Mail Route at Aldine Westfield Road, limit total intersection capacity while also increasing the risk of collision with oncoming vehicles and crossing vulnerable road users. A Harris County CIP project is currently addressing this intersection. Source: Traffic Engineers Incorporated.

CRASHES INVOLVING PEOPLE WALKING AND BICYCLING, 2014-2019



INGRESS/EGRESS

ROADWAY ACCESS

The East Aldine District is mostly bounded on three sides by three separate highway corridors with a fourth close-by:

Harris County Toll Road Authority (HCTRA)
Operated:

- Hardy Toll Road: An extension from IH-610 to Downtown is presently under construction.
- Beltway 8 (Sam Houston Parkway)

Texas Department of Transportation (TxDOT)
Operated:

- Interstate 69/United States Highway 59 (Eastex Freeway)
- Interstate 45 (North Freeway): An increase in vehicular roadway capacity is currently under consideration as a part of the North Houston Highway Improvement Project (NHHIP).

OTHER ACCESS

The study area is served by four hourly Houston METRO local lines and houses a Park & Ride along I-69/US-59. Existing service is further described on Pages 55-62. The nearest access to Intercity bus and rail is Downtown. Bush Intercontinental Airport Houston (IAH) is located just north of the district.

Two freight rail corridors border the district within the Hardy Toll Road median and parallel to Hirsch Road, the latter presently featuring minimal industrial siding access and the former containing none.

MODE SHARE

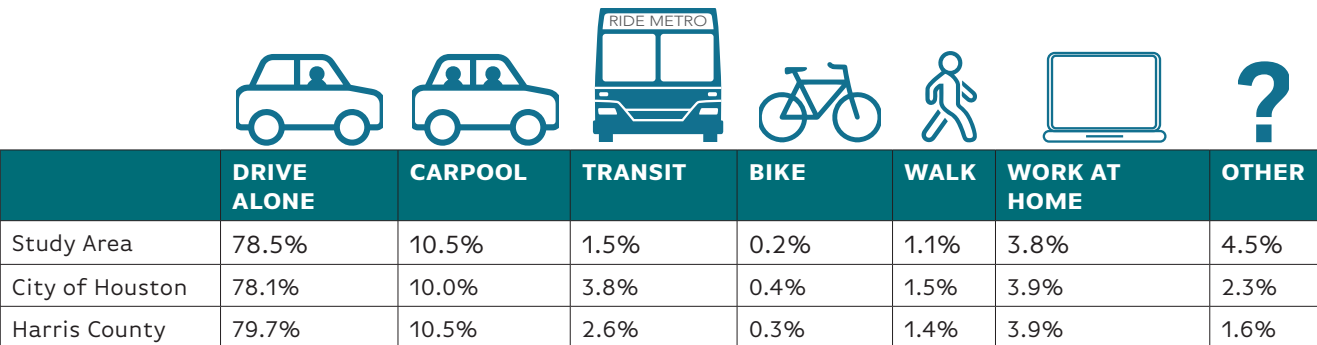
The typical means of transportation to work reflects the current land-use and existing transportation infrastructure. Rates of driving alone and carpooling within the district are roughly comparable to other portions of unincorporated Harris County (see Figure X below) while the mode share of walking, bicycling, or taking transit is notably less.

EMPLOYMENT INFLOW/OUTFLOW

The study area experiences roughly fifty percent more employment inflow than outflow, according to respondents to the U.S. Census Bureau's 2014-2018 American Community Survey 5-Year Estimates. Only about 2,000 of the district's 22,000 or so employed residents both live and work within the boundaries.

An examination of where residents work and where employees live provides an understanding of the mobility options that people currently have as well as what options might be feasible in the future.

MODE SHARE

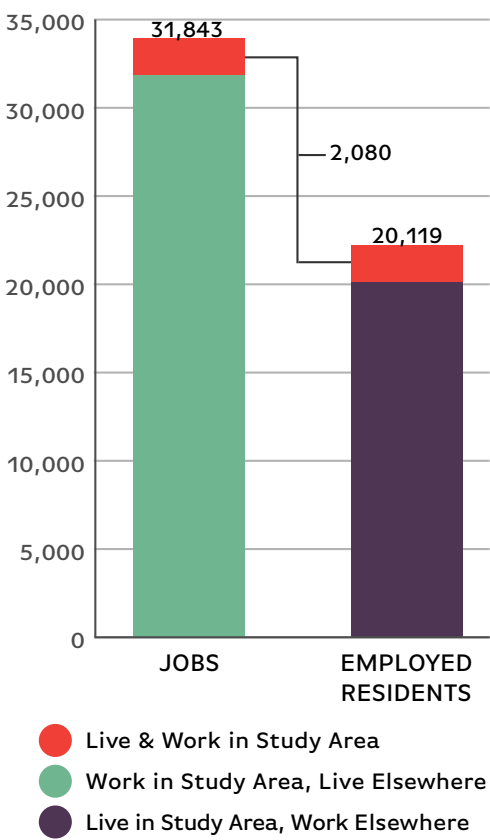


Source: 2014-2018 American Community Survey 5-Year Estimates

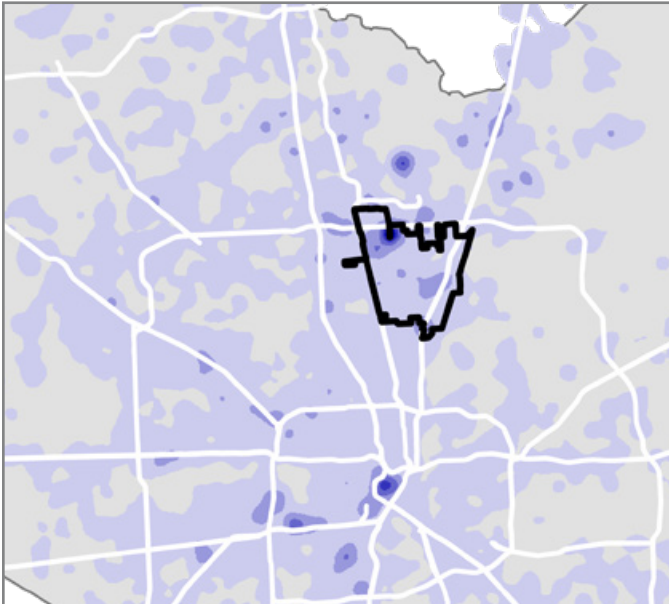
People who both live and work in the district are the most likely to be able to walk or bike to work. Looking at people who live in the District but work outside, approximately 35 percent travel 10 miles or less. This distance may be easily traveled by walking, biking, and/or transit if adequate facilities and services are provided. The greatest pockets of locations where people work are near Beltway 8, Downtown Houston, IAH, TMC, and Greenway/Galleria. Many of these activity centers have transit service.

Where people who work in the District live provides a different picture. Many people who work in the District live in the central and southern parts of the District, to the west, and north, near IAH. Approximately 39 percent travel 10 miles or less to get to work in the District. This also allows for future opportunities to use walking, biking, and/or transit for commuting purposes. There are currently some transit options from these areas to the District, but access to local transit may be more challenging in these areas as well as from bus stops to businesses. Future investment in robust regional transit may facilitate more longer commutes by transit to areas other than downtown in the future.

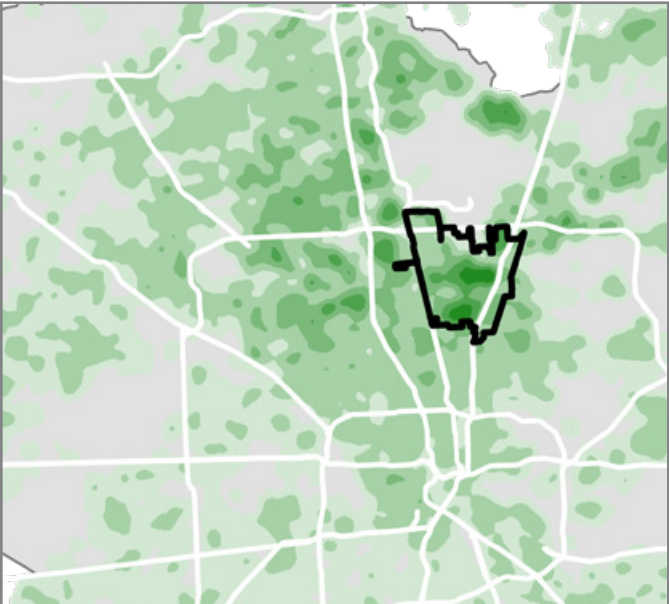
INFLOW AND OUTFLOW



WHERE RESIDENTS WORK



WHERE WORKERS LIVE



Source: Longitudinal Employer-Household Dynamics Data (LEHD), Census



INFRASTRUCTURE AND RESILIENCE

INTRODUCTION

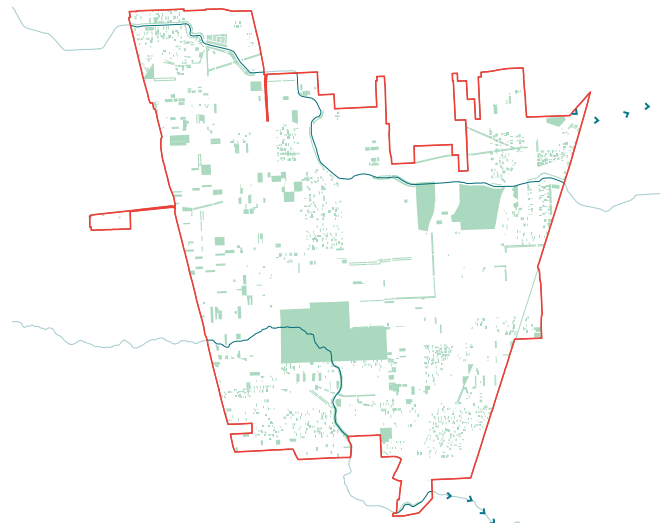
The environmental context of Houston is one of contrast. On one hand, the area is rich in natural character sitting at the intersection of the great and western prairies, the southern forests and the Gulf of Mexico providing overlapping environmental conditions that foster diverse plant and animal species. However, striking a balance between the natural assets, the important industrial legacy, and the flooding challenges associated with the bayous that bisect the area is challenging. The following sections discuss the ecoregions, wildlife and habitat, and hydrology that shape East Aldine.

ECOLOGY

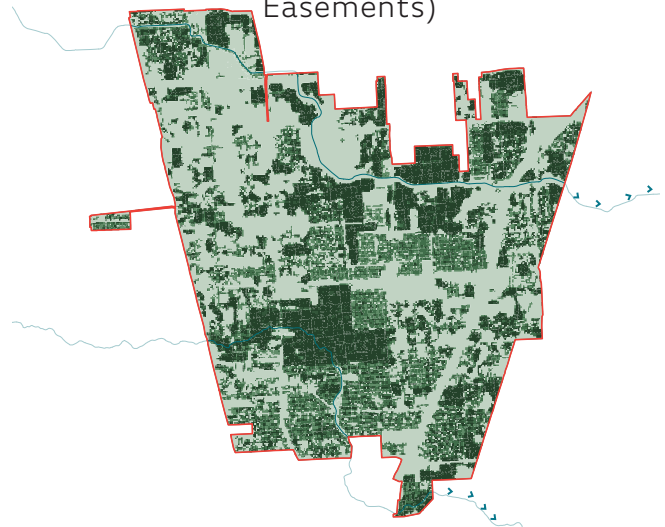
East Aldine is bisected by the Gulf Coast Prairie and Pineywoods ecoregions which generally aligns with the Halls Bayou subwatershed and the Upper Greens Bayou subwatershed, respectively. The bayou wilderness areas or riparian zones (the interface between land and a waterway) are also an important ecological characteristic of East Aldine. Much of this land has been altered and is urban lands with impervious surfaces, built structures, and altered conditions.

The Gulf Coastal Prairie system, an ecoregion historically dominated by mid-to tall grass plant communities are diverse, help slow and filter stormwater, but because of the geographic location much of this ecoregion has been altered by humans. Historically the coastal prairie covered 6.5 million acres in Texas, now less than one percent of these systems remain.¹ The grasslands in prairie systems are maintained by large grass consuming animals, fire and drought to deter woody plant encroachment. These processes can be mimicked by implementing prescribed fire and rotational mowing programs.

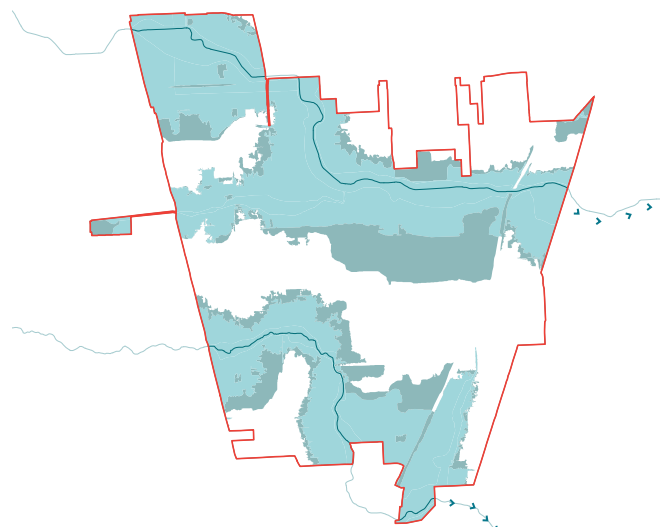
¹ "About Ecoregions," Houston Wilderness, accessed June 28, 2020, <http://houstonwilderness.org/about-ecoregions>.



Green Figure Ground* (Parks, Greenspace, Vacant land, Cemeteries, Easements)



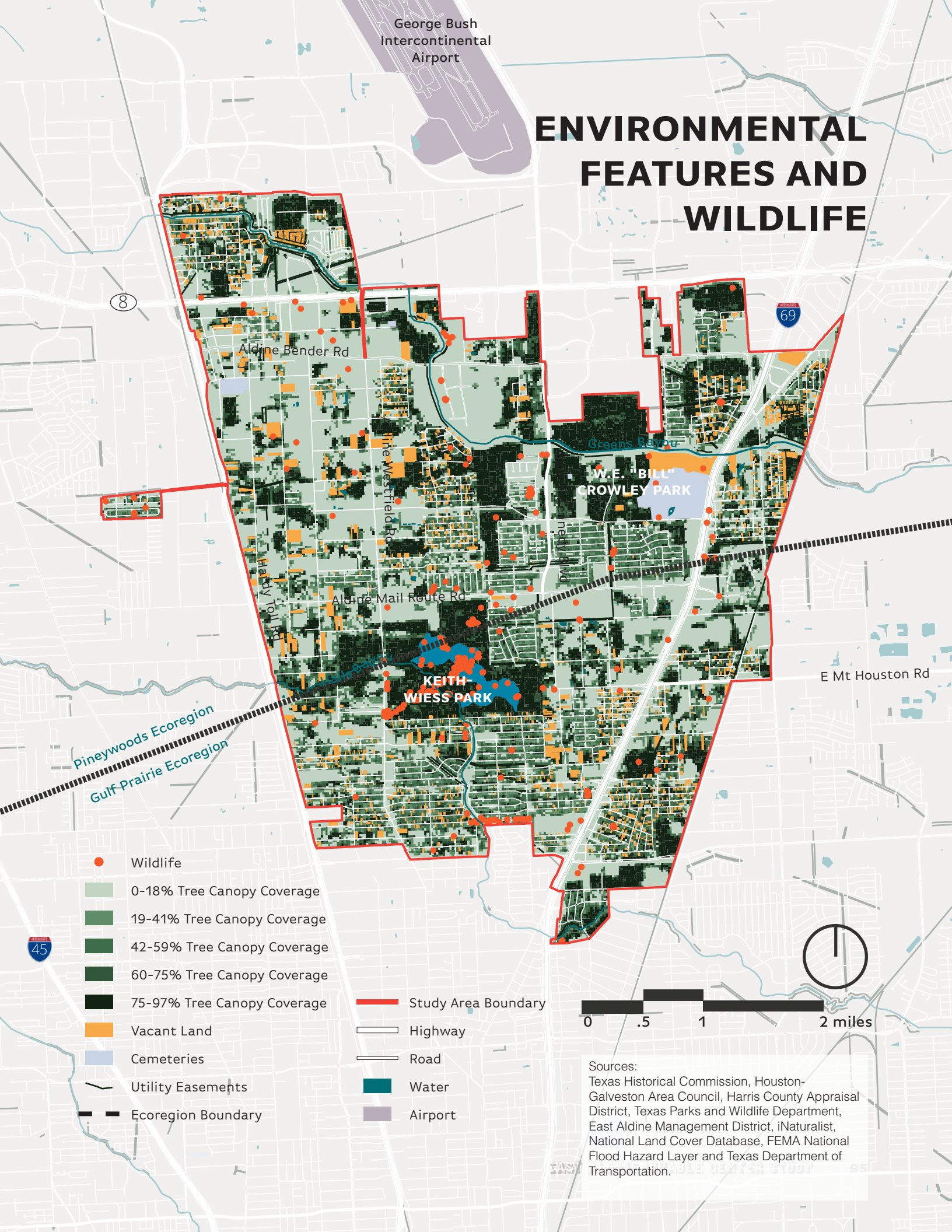
Tree Canopy*



Floodplains*

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ENVIRONMENTAL FEATURES AND WILDLIFE



The northern portion of East Aldine is within the Pineywoods ecoregion. This area is dominated by loblolly and shortleaf pine with mixed hardwoods and stretches north of Houston to encompass the Sam Houston National Forest. East Aldine is crossed by two major bayous, Halls and Upper Greens. These ribbons of green not only provide important areas of recreation within the city, but provide wildlife habitat corridors and the critical function of transporting stormwater during rain events. Most creeks and bayous around Houston have been altered and only a few natural bayous remain intact.

iNaturalist, a citizen science application for recording wildlife and plant species around the globe, shows records of different organisms in East Aldine with an increased concentration of sightings around Keith-Wiess Park and along the bayous. The species observed represent both migratory and resident species, and include approximately 383 iNaturalist observations in the district. Many of the resident urban wildlife rely on East Aldine's water resources, using the bayou networks and drainage areas as corridors and finding refuge in wetlands and detention ponds. Parkland and open space (including vacant land, cemeteries and utility easements) can be managed to support wildlife and provide needed refuge, while balancing human focused activities.

Urban trees not only provide habitat, but help to mitigate the hot temperatures experienced in dense urban areas. Not surprisingly tree densities are highest along portions of the bayous and corresponding to parks and detention areas. A little over 2,000 acres in East Aldine have at least 80% canopy cover. The tree densities in more of the residential areas are between 19-41% tree canopy coverage.

Understanding ecosystems and how they function is critical to our survival and the survival of all organisms on the earth. One way to think about the importance of ecosystems is by the services healthy ecosystems provide called ecosystem services. This includes goods and services of direct and indirect benefit to humans and other organisms that are produced by ecosystem processes that involve interacting



Whitetail deer (*Odocoileus virginianus*). Source: Flickr, U.S. Fish and Wildlife Service



Bald eagle (*Haliaeetus leucocephalus*). Source: Flickr, U.S. Fish and Wildlife Service



Giant green anole (*Anolis cuvieri*). Source: Flickr, U.S. Fish and Wildlife Service



River otter (*Lontra canadensis*). Source: Flickr, U.S. Fish and Wildlife Service



Indian blanket (*Gaillardia pulchella*). Source: Lady Bird Johnson Wildflower Center



Common egret (*Ardea alba*). Source: Flickr, U.S. Fish and Wildlife Service



Texas lantana (*Lantana urticoides*). Source: Lady Bird Johnson Wildflower Center



Spiny softshell turtle (*Apalone spinifer*). Source: Flickr, U.S. Fish and Wildlife Service



Dollarweed (*Hydrocotyle umbellata*). Source: Lady Bird Johnson Wildflower Center

living (plants, animals) and non-living (water, bedrock) elements. Examples of ecosystem services include: tree canopy regulating local air temperatures, animals pollinating agricultural plants, insects breaking down waste and creating soil, and wetlands providing flood water storage and water cleaning functions. In East Aldine the ecological context can tell us about how the area has been developed, what opportunities are available to increase open space and recreation opportunities, and how development can adapt to natural processes, such as flooding and prolonged hot weather.

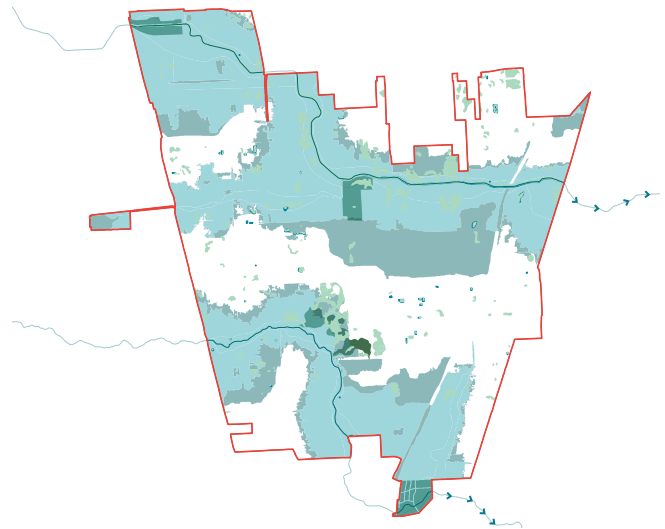
HYDROLOGY

The hydrology that influences Houston and East Aldine is an ever changing landscape. The rivers, streams and bayous meander, move and deposit sediment; and when it floods spreads a new layer of sediment on top of the old. The metropolitan area was built upon this layering effect of sands and clays, which is about 10 miles thick.² Although the area has subtle elevation change and an understated appearance, it is dominated by powerful and dynamic hydrological processes as the surface water makes its way to the Gulf of Mexico. East Aldine is particularly influenced by this powerful dynamic from the Upper Greens Bayou and the Halls Bayou that bisect the district.

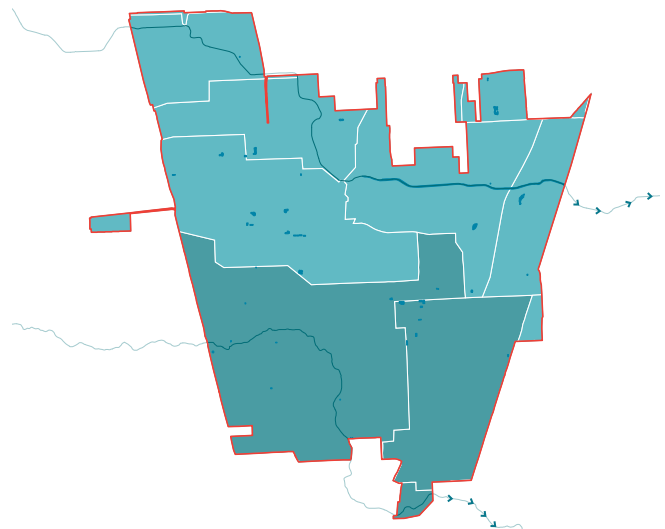
Located in northeastern Harris County, the Greens Bayou watershed is about 212 square miles and encompasses over 500,000 residents. With over 300 miles of streams and smaller tributaries the watershed includes the primary channels of Greens and Halls Bayous.³ These two waterways join east of East Aldine and flow toward Buffalo Bayou/Houston Ship Channel. East Aldine is bisected by the upper reaches of Greens Bayou, the Upper Greens Bayou Subwatershed in the northern portions of the district. The Halls Bayou Subwatershed is located in the southern neighborhoods of East Aldine and crosses into the southwest corner of Keith-Wiess Park.

² *Houston Atlas of Biodiversity, Houston Wilderness, Texas A&M University Press College Station, 2007* <http://www.greatgreenquest.org/resources/HW%20Biodiversity%20Atlas.pdf>

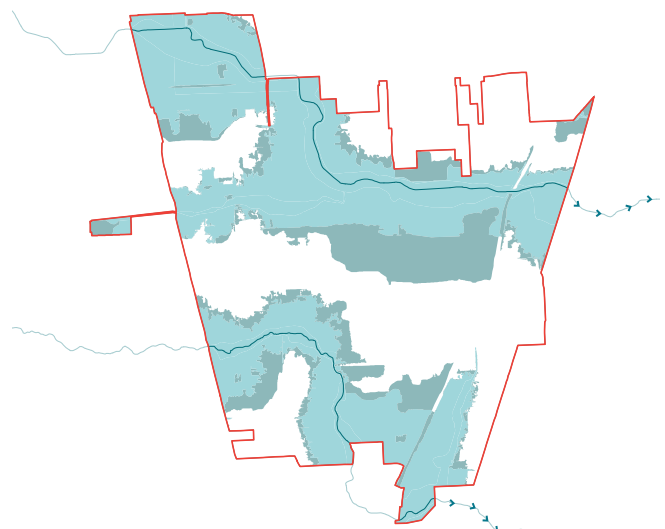
³ Greater Houston Flood Mitigation Consortium. "East Aldine Resiliency Plan: Greens Bayou Analysis and Resiliency Planning," accessed November 05, 2020



Waterways, Wetlands, and Detention*

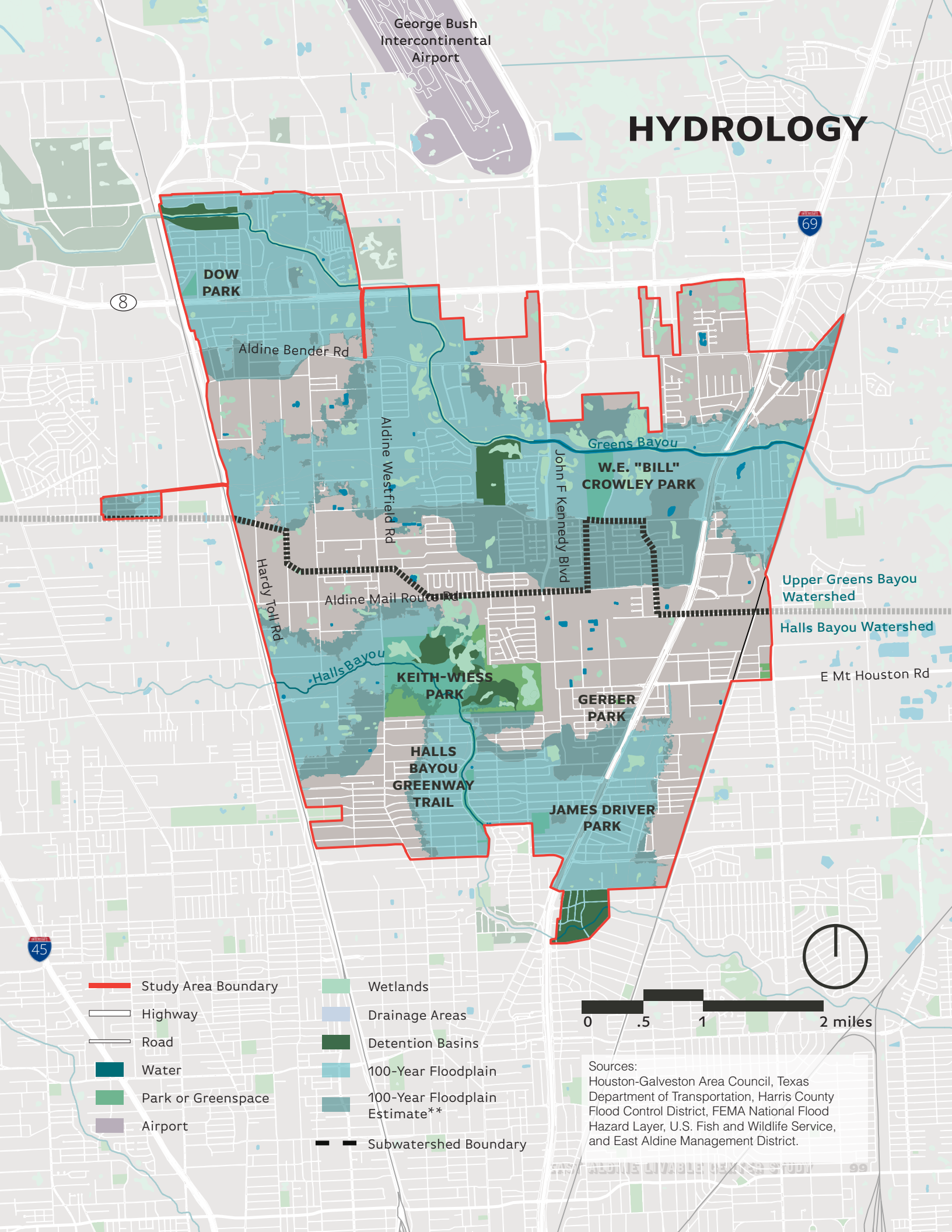


Subwatersheds*



Floodplains*

HYDROLOGY



Over 50 percent of the land area of East Aldine is in the 100-year FEMA floodplain, both the current 100-year floodplain and the estimated 100-year floodplain based on the NOAA-Atlas 14 program. The new 100-year and 500-year rainfall are now 17.0 and 25.4 inches in 24 hours, respectively for Greens Bayou watershed according to the Atlas 14 information.

National Wetland Inventory shows wetland habitats throughout East Aldine with the main concentration within the floodplain of the two bayous. The wetland types include riverine wetlands, freshwater ponds, freshwater forested/shrub wetlands, and freshwater emergent wetland. These landscape features are incredibly important providing essential ecosystem services by slowing stormwater, decreasing flooding, soaking up water, reducing erosion, protecting coastal areas, providing habitat, providing recreation areas, and offering a sense of beauty and place. Unfortunately, these wetlands in the area are in decline; the high growth within Harris County has resulted in a loss of 29 percent of freshwater wetlands between 1992 and 2010.⁴

⁴ John S Jacob et al., "More Flooding, Fewer Fish: Freshwater



East Aldine contains several wetland types including forested wetland. Source: Asakura Robinson.



Wetland habitat in the District is concentrated within the floodplains. Source: East Aldine Management District.



Natural areas are scattered throughout the study area, providing habitat for wildlife.

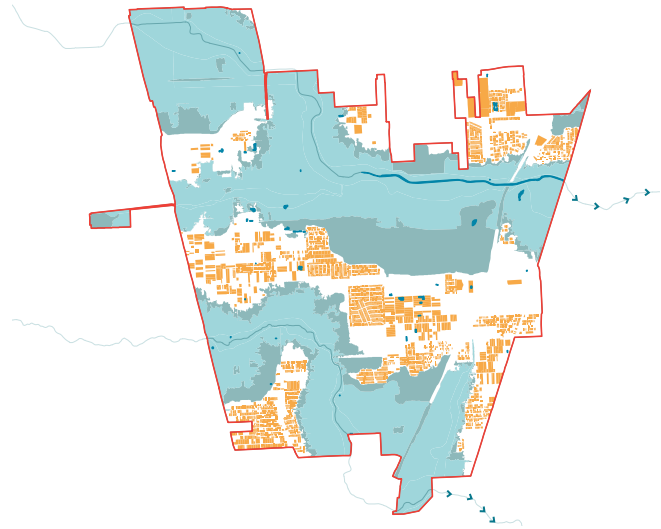
FLOOD RISK

Although minor-to-moderate flooding is a common and natural occurrence in coastal plain regions, the severity of flooding has increased in the Houston metropolitan area due to climatic changes and the development of land, adding vast tracts of impervious area to the landscape. Hard surfaces shed rainwater significantly faster than vegetated areas, sending water to stormwater infrastructure that often gets overwhelmed by volume resulting in flooding. In addition, backwater effects of flooding are common in East Aldine where current stormwater infrastructure is undersized and where bayous pass under bridges that constrict flow.

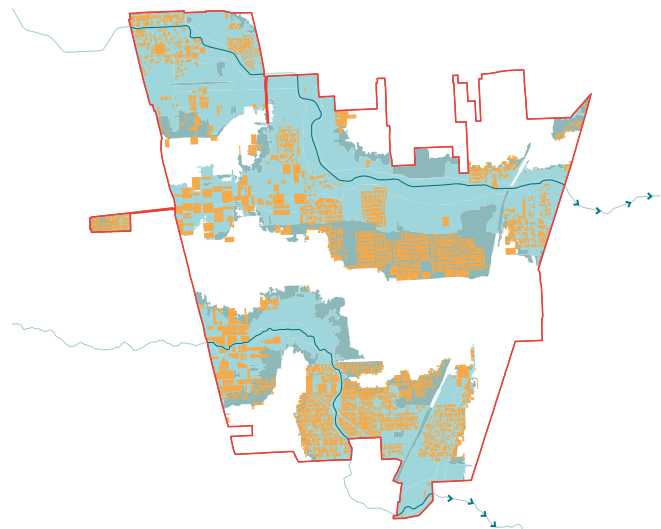
Both the waterways, Upper Greens Bayou and Halls Bayou, have flooded during past storms including Tropical Storm Allison in 2001, the Tax Day Flood in 2016, and Hurricane Harvey in 2017. The Harris County Flood Control District reported over 24,000 structures flooded during Hurricane Harvey along Greens and Halls Bayous. Out of all Houston bayou watersheds, Greens and Halls had the second highest number of flooded structures, second to Brays Bayou. This is a result of historic development patterns and drainage criteria that have allowed homes to be built inside floodplain boundaries and/or insufficient stormwater drainage infrastructure that can cause flooding in localized areas.

As mentioned earlier, over 50 percent of the land area of East Aldine is within the 100-year floodplain and 11 percent of land area is in a floodway. The East Aldine Resiliency Plan: Greens Bayou Analysis and Resiliency Planning indicates that neighborhoods in East Aldine are subject to overbank flooding from Upper Greens and Halls Bayou, with areas experiencing flood depths between three to five feet. The actual flood hazard for watersheds in Houston and Harris County has historically been underestimated; a study found that about 47 percent of flood claims from 1978 to 2008 in Harris County originated outside the 100-year floodplain.

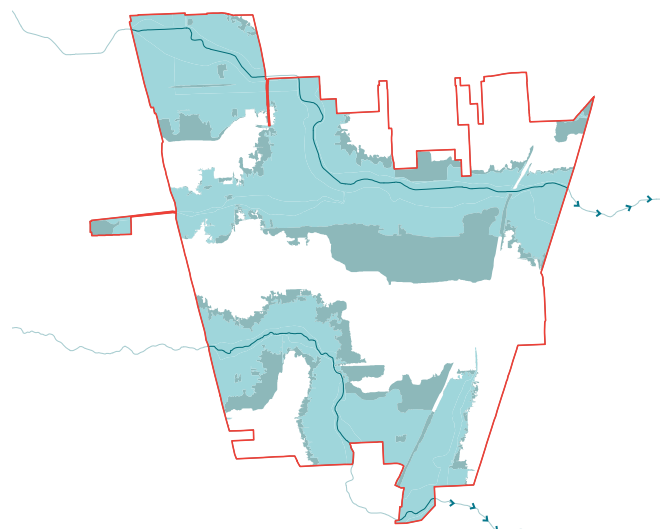
Wetland Loss in the Houston Area, 1992–2010," n.d., 3.



Parcels Outside of Floodplain*

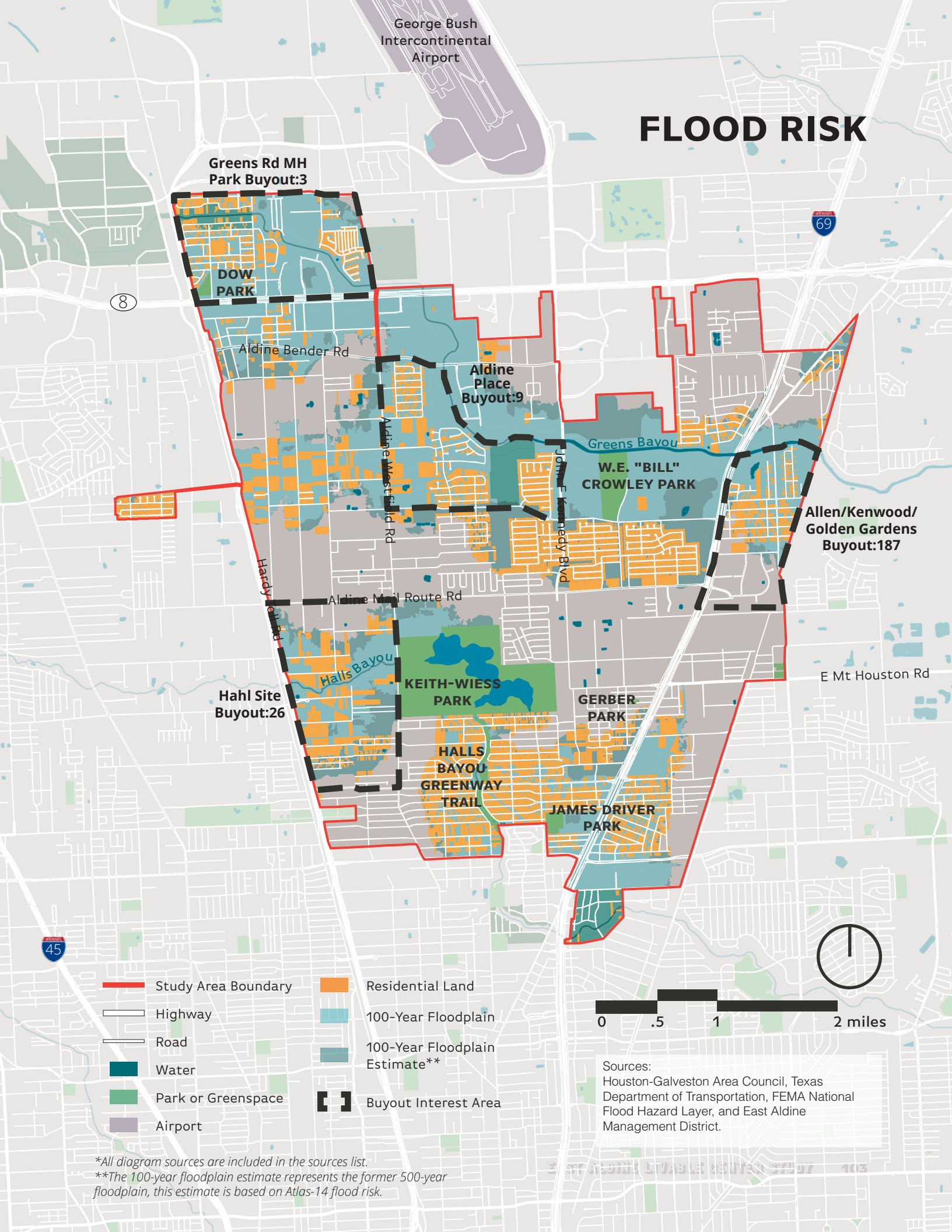


Parcels in Floodplain*



Floodplains*

FLOOD RISK



- Study Area Boundary
- Residential Land
- Highway
- 100-Year Floodplain
- Road
- 100-Year Floodplain Estimate**
- Water
- Park or Greenspace
- Airport
- Buyout Interest Area

0 .5 1 2 miles

Sources:
Houston-Galveston Area Council, Texas
Department of Transportation, FEMA National
Flood Hazard Layer, and East Aldine
Management District.

*All diagram sources are included in the sources list.
**The 100-year floodplain estimate represents the former 500-year
floodplain, this estimate is based on Atlas-14 flood risk.

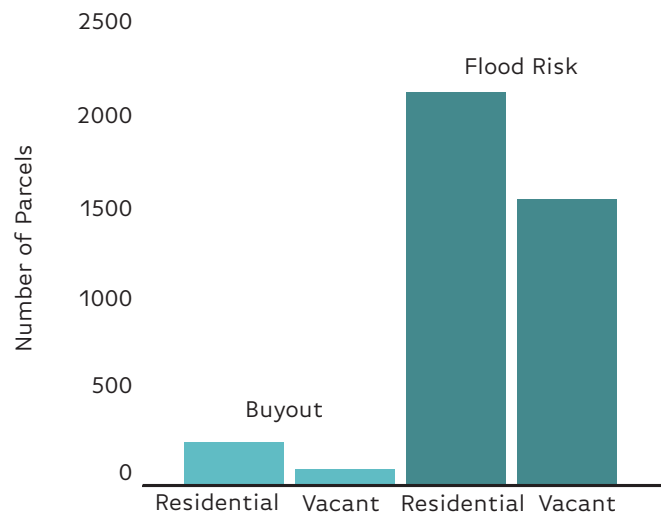
Many East Aldine residences and structures are at risk of flooding. FEMA estimates that nearly half of all properties in the East Aldine District flooded during Hurricane Harvey. The type of housing in the floodplain varies from single family to multifamily and mobile homes. Single family is the most common housing typology within the Upper Greens and Halls Bayou; in East Aldine that is approximately 7,213 parcels at risk. Mobile homes make up approximately 503 parcels and multifamily about 77 parcels are at risk of flooding.

While Houston and Harris County residents will never be free from flooding there are some ways to help mitigate these problems. These include developing strategic buyout and relocation programs, funding new mitigation projects, engaging in comprehensive planning at the watershed level, adopting stricter building regulations in flood prone areas, and ensuring the public is informed of flood risks and mitigation strategies. These will increase the future resiliency of families and communities as a whole, and may be appropriate in the concept phase of this study,

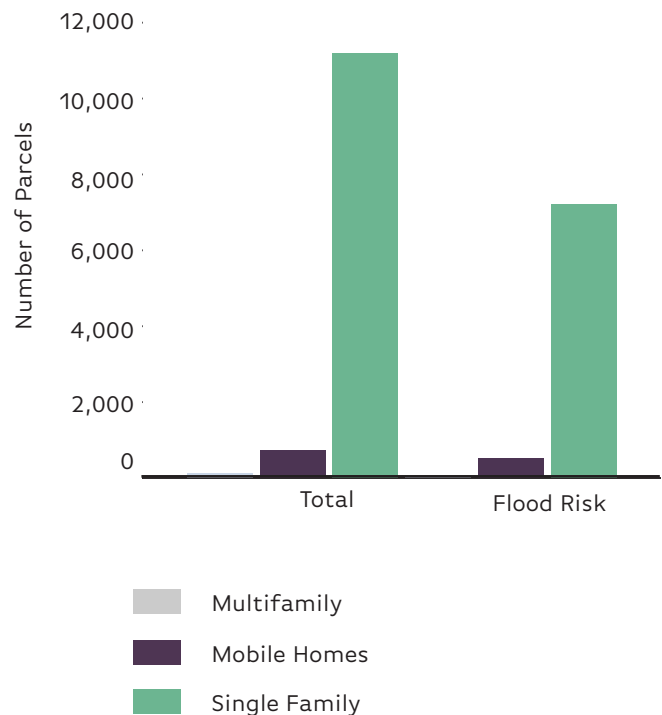
There are several flood mitigation detention basins and ponds along Upper Greens Bayou and Halls Bayou including areas that overlap with recreation opportunities at Keith-Wiess Park and the East Aldine Town Center. Several detention projects are ongoing including Little York and Hopper Road Basins on Halls Bayou, and Lauder Basin and Aldine Westfield Basin on Greens Bayou. In addition to these mitigation projects that are ongoing in the district, buyout areas are also proposed and occurring in phases throughout East Aldine. Property buyouts have been occurring along Greens Bayou since Hurricane Allison in 2001. The East Aldine Resiliency Plan indicates that about 596 properties have been bought out by the Harris County Flood Control District (HCFCD) with an estimated 2,417 future buyouts projected.⁵

⁵ Greater Houston Flood Mitigation Consortium. "East Aldine Resiliency Plan: Greens Bayou Analysis and Resiliency Planning," accessed November 05, 2020

Buyouts and Flood Risk



Flood Risk by Housing Type





Both Greens Bayou and Halls Bayou pose significant flood risk.
Source: Traffic Engineers Incorporated.



Flooding can cause repeated damage and destruction of property..
Source: Wikimedia user Shootthedeavu.



Many homes in East Aldine have been modified in response to flood risk.
Source: Asakura Robinson.



Homes raised on cinder blocks are common. Source: Asakura Robinson.



Detention basin at the Town Center development. Source: Traffic Engineers Incorporated.



Detention basin at Keith-Wiess Park. Source: East Aldine Management District.

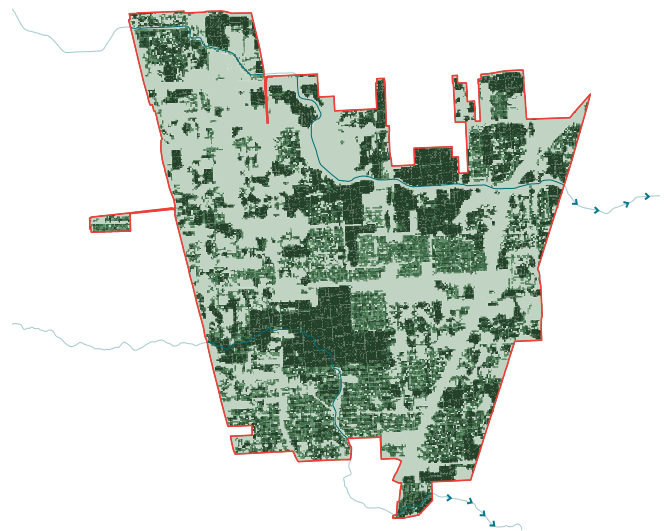
URBAN HEAT & AIR QUALITY

Impervious surfaces in our urban cores can have negative environmental and health related effects. When it rains stormwater is unable to infiltrate into the vegetation and soils, and water is forced to travel to the stormwater drainage system. As discussed in the previous sections of this report, these systems can often back up and cause localized flooding. Water flowing over impervious surfaces such as roadways picks up oils, chemicals, trash, and particulates reducing the water quality in streams and bayou systems. Impervious surfaces also contribute to the heat island effect experienced in urban areas, by increasing the ambient air temperature.

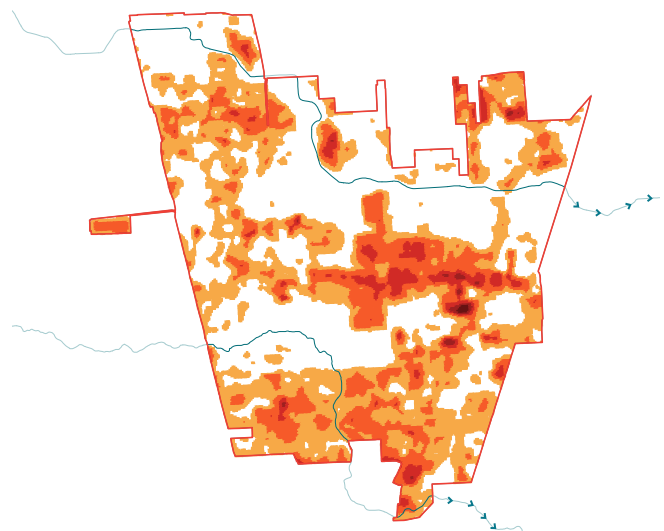
Houston faces extreme heat during much of the summer. This can pose major health risks particularly to people who work outdoors and for people who are very young, elderly, or medically vulnerable. Temperatures in urban Houston are on average 1.3 degrees warmer than in rural Houston. On certain days this can increase to up to 13 degrees and urban Houston has on average 3 more days above 90 degrees than in rural Houston.⁶ The hotter urban conditions in East Aldine correspond to centralized areas that have lower tree canopy densities and along major roadways with sprawling commercial areas such as along Aldine Mail Route Road and along I-69. Also, hotter temperatures increase peak energy demand, negatively affect air and water quality, and cause higher rates of heat-related illnesses and mortality.

The regional air quality challenges in Harris County have much to do with the industrial activities concentrated around the Houston Shipping Channel and throughout the county. The Environmental Protection Agency's Toxic Release Inventory (TRI), which tracks the annual industrial release of over 650 toxic chemicals that threaten human health, found that in 2017 the Greater Houston area emitted more

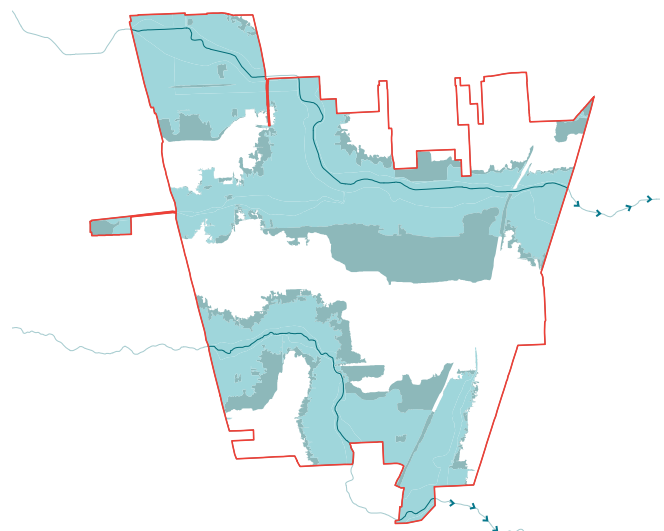
⁶ *Houston Tomorrow, An institute for research, education, and discussion. "Urban heat island effect measured in 60 US cities," accessed July 20, 2020, <http://www.houstontomorrow.org/livability/story/urban-heat-island-effect-measured-in-60-us-cities/#:~:text=Temperatures%20in%20urban%20Houston%20are,than%20rural%20Houston%20at%20times.&text=Las%20Vegas%20tops%20the%20list,degrees%20warmer%20than%20rural%20areas.>*



Tree Canopy*



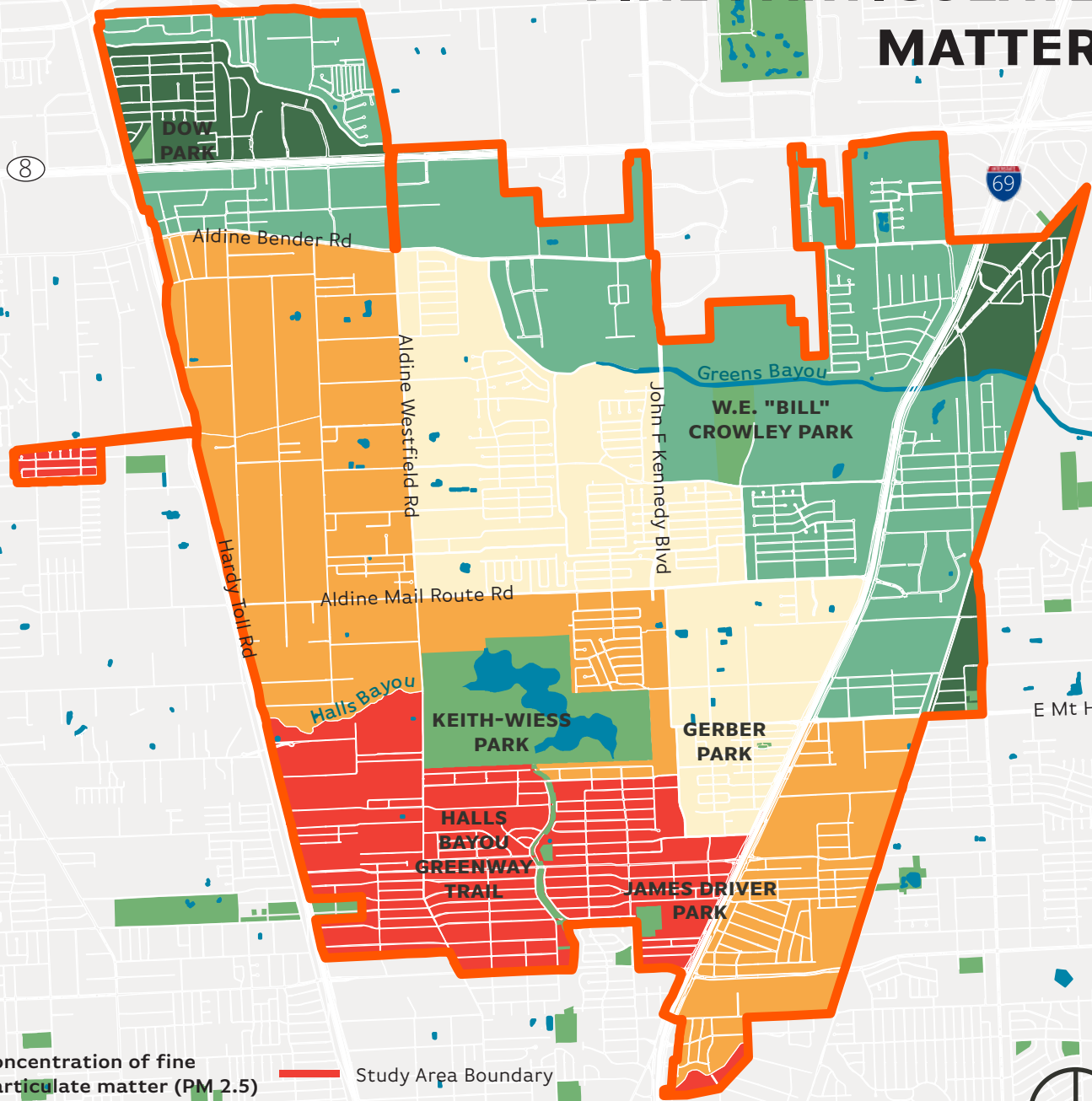
Urban Heat*



Floodplains*

George Bush
Intercontinental
Airport

AIR QUALITY: FINE PARTICULATE MATTER



Concentration of fine particulate matter (PM 2.5)

- 35.6-35.9 ppb
- 35.9-36.2 ppb
- 36.2-36.5 ppb
- 36.5-36.7 ppb
- 36.7-37.3 ppb

- Study Area Boundary
- Highway
- Road
- Water
- Park or Greenspace
- Airport

0 .5 1 2 miles

Sources:
Houston-Galveston Area Council, Texas
Department of Transportation, EPA EJ Screen,
U.S. Geological Survey Landsat 8 East Aldine
Management District, and FEMA National Flood
Hazard Layer.

***ALL DIAGRAM SOURCES ARE
INCLUDED IN MAP SOURCES**

toxic chemicals to the air than the top five US metropolitan economies combined.⁷ The smog, or ground-level ozone has exceeded federal limits six times since April 20, 2020.⁸ Over the past 10 years, the ground-level ozone is rated unhealthy for sensitive groups between 5 to 10 times a year. In East Aldine the Particulate Matter 2.5 quantities increase in areas along Halls Bayou in the southern portion of the district.

⁷ Air Alliance Houston, Executive Summary. "Local Policy Recommendations Addressing Environmental Hazards and Inequitable Health Risks in Houston's Complete Communities," accessed July 20, 2020, <https://airalliancehouston.org/wp-content/uploads/2019/12/AAH-Executive-Summary.pdf>

⁸ Kinder Institute, Urban Edge, "In Houston, the new normal should include more efforts to reduce air pollution," accessed July 20, 2020, <https://kinder.rice.edu/urbanedge/2020/05/19/Kinder-Houston-Survey-air-pollution-coronavirus-inequality>

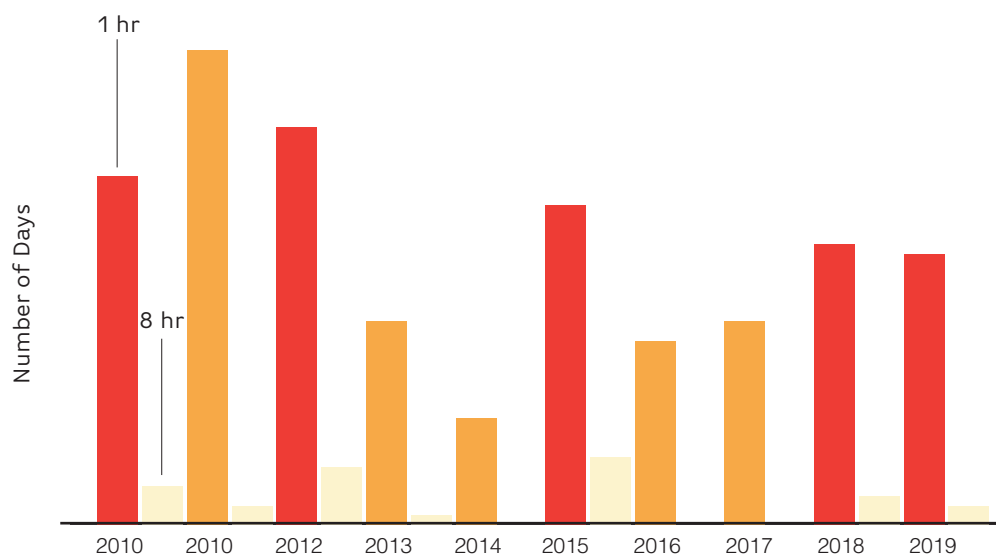
Another air quality challenge that East Aldine faces, is localized burning of trash and debris due to limited centralized services. The EPA lists the environmental effects of backyard burning to include various toxic compounds such as: nitrogen oxides, volatile organic compounds (VOCs), carbon monoxide, and particle pollution. These toxins can affect the immediate household as well as adjacent sites as wind and climate mobilize the pollution.

ENVIRONMENTAL QUALITY

In general, East Aldine like much of Houston experiences difficult environmental challenges as the metropolitan area balances booming industry, growth, and land development. There are 212 industrial facilities within the city limits of Houston alone emitting a total of 4 million pounds of EPA's Toxic Release Inventory chemicals in the city in 2017.⁹ In

⁹ Air Alliance Houston, Executive Summary. "Local Policy Recommendations Addressing Environmental Hazards and Inequitable Health Risks in Houston's Complete Communities," accessed July 20,

High Ozone Averages



AQI RANGE

1-HR OZONE (PPM)

8-HR OZONE (PPM)

| | | |
|--------------------------------|-------------|--------------|
| Unhealthy for Sensitive Groups | 0.125-0.164 | 0.071-0.085 |
| Unhealthy | 0.165-0.204 | 0.086-0.105 |
| Very Unhealthy | 0.205-0.404 | 0.0106-0.200 |



Ground-level ozone pollution, known as smog, is partially caused by automobiles. Smog in the Greater Houston area has exceeded federal limits six times since April 20, 2020. Source: Traffic Engineers Incorporated.



Impervious surfaces such as parking lots contribute to urban heat, as well as runoff that can cause pollution in local waterways. Source: Asakura Robinson.

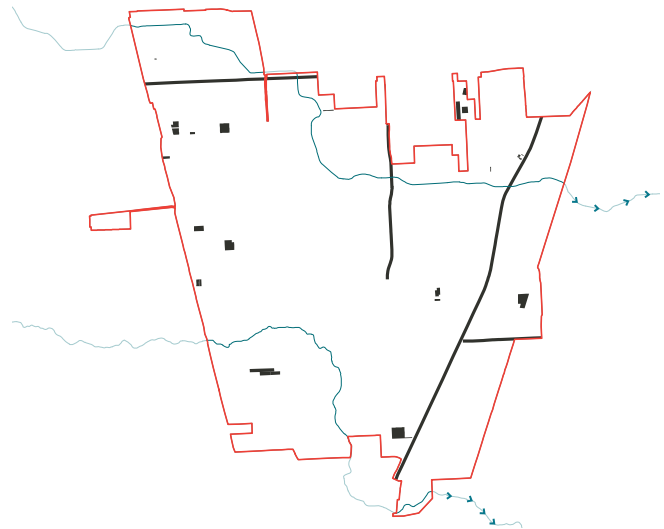
addition, like most of Houston East Aldine does not have land use zoning. The result is that there is a patchwork of land uses that may require buffering, such as industrial sites abutting residential areas. The Environmental Protection Agency identifies 13 Toxic Release Inventory sites in the East Aldine District. The potential environmental hazards of these sites can threaten the health of East Aldine residents. Many of the municipal solid waste and industrial sites are within the bayou floodplains, which put these facilities and the safety of the community at further risk as floodwaters can mobilize contaminants. It is crucial to understand the relationship between industrial uses and economic opportunity in the East Aldine area, and develop strategies that support both industrial and residential uses.

There is one EPA National Priority List Superfund Site within East Aldine, a former waste oil collection and transfer facility (the Waste Oil Tank Service Site). The waste oil collection and transfer facility operated at a 0.5 acre site in East Aldine along Hartwick Road from approximately 1974 to 1985. In addition, paint thinner, transformer oil, lubricating oil, diesel fuel, compressor oil, crude slop, mineral spirits, methyl ethyl ketone, trichloroethylene, xylene, naphtha, spent acid solution, antifreeze, hydraulic oil, solvents with organic residues, and miscellaneous other chemicals were handled at the site. In 1995 the site was cleaned up by removing the surface contaminants and in 1997 80 cubic yards of soil was removed. The site was officially taken off the Texas Superfund registry shortly after and no further remediation has been planned.

The East Aldine Management District has devoted extensive resources to connect property owners to municipal water and sewer services where possible. However, approximately half of the properties in East Aldine, including 27 percent of single family properties, remain dependent on shallow water wells and septic tank systems.¹⁰ Many of these septic areas

2020, <https://airalliancehouston.org/wp-content/uploads/2019/12/AAH-Executive-Summary.pdf>

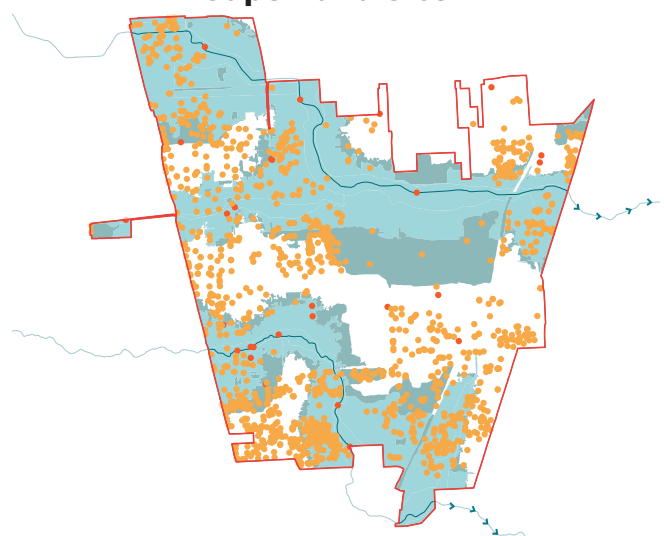
¹⁰ Greater Houston Flood Mitigation Consortium. "East Aldine Resiliency Plan: Greens Bayou Analysis and Resiliency Planning," accessed November 05, 2020



Highway and Industrial Sources*



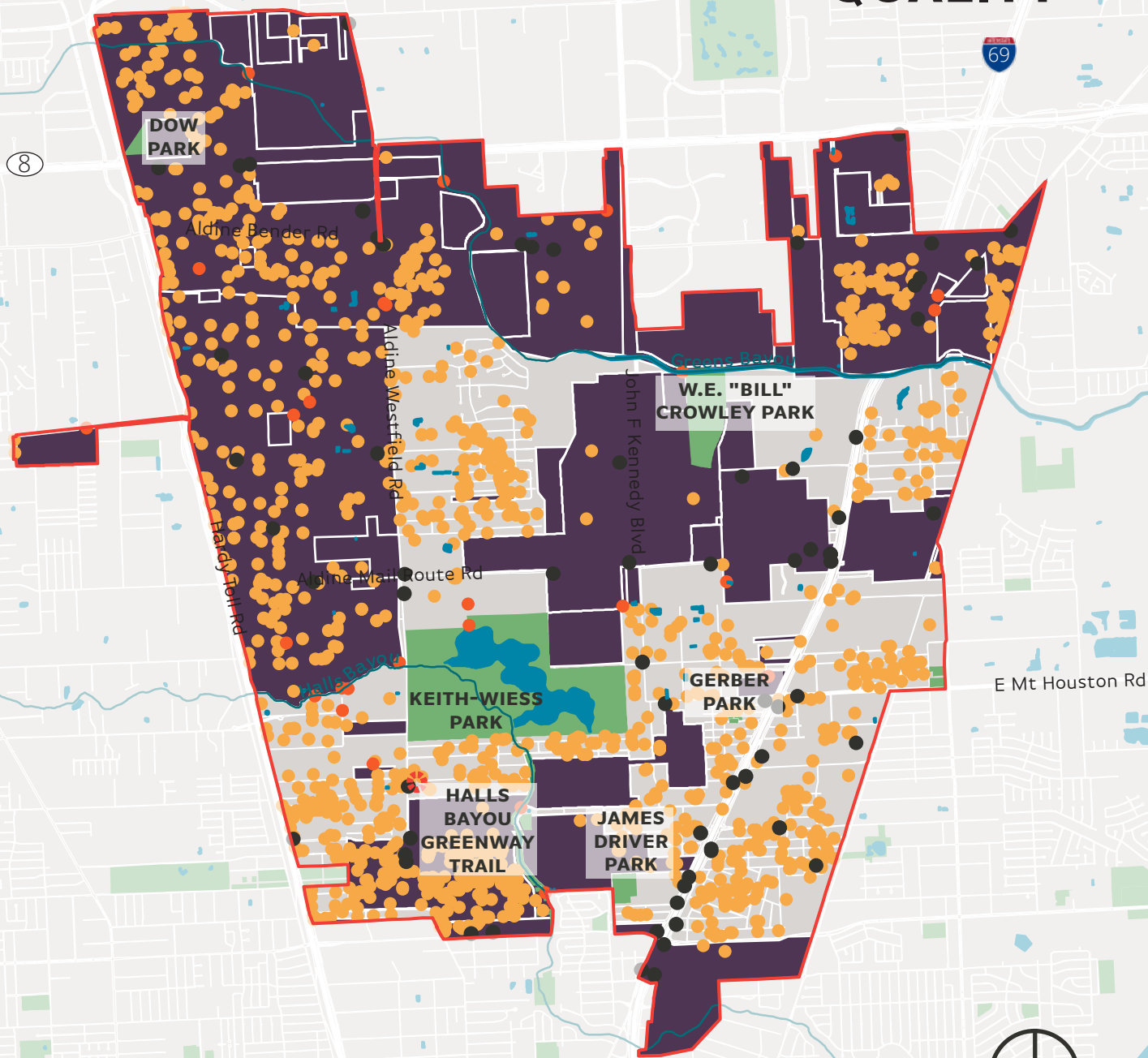
Municipal Solid Waste and Superfund Site*



Septic System*

George Bush
Intercontinental
Airport

ENVIRONMENTAL QUALITY



- Study Area Boundary
- Highway
- Road
- Water
- Park Or Greenspace
- Airport

- Wastewater Outfalls
- Septic Systems
- Municipal Waste Sites
- Waste Oil Tank Service Superfund Site
- Service Areas

0 .5 1 2 miles

Sources:
Houston-Galveston Area Council, Texas
Department of Transportation, Texas
Commission on Environmental Quality,
Harris County Appraisal District, East Aldine
Management District, and FEMA National Flood
Hazard Layer.

are within the floodplain of Upper Greens and Halls Bayou. The exposure to flooding and aged or failing septic systems put the community and adjacent areas at further risk from exposure to raw sewage and bacteria. The EPA showed all the local waterways in Harris County as polluted in 2010, including Little Vince Bayou, Vince Bayou, Buffalo Bayou, Berry Bayou, Hunting Bayou, Sims Bayou, Armand Bayou and Greens Bayou.

As mentioned earlier in this report, property buyouts have been occurring along Greens Bayou since Hurricane Allison in 2001. The East Aldine Resiliency Plan indicates that about 596 properties have been bought out by the Harris County Flood Control District (HCFCD) with an estimated 2,417 future buyouts projected. Buyout areas can create interim conditions that disrupt the neighborhood and can result in unsafe or illegal behavior such as dumping debris. Roads that dead end at buyout areas, vacant land, or green spaces are prone to dumping trash and debris. As more buyouts are added to East Aldine this challenge will persist and opportunities to light areas or create more visibility may be needed.

EAST ALDINE RESILIENCY PLAN

East Aldine Management District, 2019



Vision/Goals: The East Aldine Resiliency Plan was funded by a grant from the Greater Houston Flood Mitigation Consortium and was developed in response to Hurricane Harvey. The project included partnerships with four Houston neighborhoods that were impacted by flooding in the Greens and Halls Bayou watersheds and included East Aldine, Eastex/Jensen, East Houston, and Greenspoint. The goal of the plan is to provide resiliency strategies for the neighborhood, which are summarized into six categories: Water and Climate; Housing; Mobility; Health; Safety; Equity and Inclusion; Economy; and Infrastructure. The end result of this planning document is to provide a roadmap at how the East Aldine neighborhood can be more resilient to major shocks and stresses within the area.

Implementation: Flooding will always be an issue in the East Aldine neighborhood, however the resiliency plan outlines strategic buyout opportunities and advocates for relocation programs, funding for new mitigation project, planning at the watershed level, stricter building regulations for flood prone areas, and a deeper public communications effort discussing the risks for flooding to increase the future resilience of families and communities. Many strategies in the document require long term planning that relies on many different disciplines coming together to implement work in the neighborhood. Since the plan was completed recently, 2019 the funding is still being procured to move forward with specific strategies. The plan highlights opportunities to turn buyout areas into community assets or opportunities.



Many areas of East Aldine rely on septic systems which pose a water quality risk when located in the floodplain. Source: Asakura Robinson.



All local waterways in Harris County were polluted as of 2010, including Halls Bayou and Greens Bayou. Source: Asakura Robinson.



Buyouts can create conditions that encourage dumping, especially when municipal services are lacking. Source: Asakura Robinson.

RECOMMENDATIONS





**EAST
ALDINE
LIVABLE
CENTER**

OVERVIEW OF RECOMMENDATIONS

Recommendations are divided into three guiding Concepts: Healthy and Thriving, Resilient and Safe, and Connected and Complete. Each Concept contains several high-level Recommendations which are broken out into more specific Strategies. Strategies are then broken down into actionable Projects with specific action steps for implementation. This page summarizes the Concepts, Recommendations, and Strategies. The following chapter will discuss the specific Projects associated with each Strategy.

CONCEPT 1: HEALTHY AND THRIVING

RECOMMENDATION 1.1:

Expand small businesses support, entrepreneurship opportunities and youth employment pipelines to enhance east Aldine's local business environment.

Strategy 1.1.1: Develop walkable commercial area on Aldine Westfield from Keith-Wiess Park to Chamberlain called "Centro East Aldine."

Strategy 1.1.2: Utilize key opportunity sites to support local entrepreneurship.

Strategy 1.1.3: Develop a program to support businesses through disasters.

Strategy 1.1.4: Expand access to, and opportunities within, existing business development programs.

Strategy 1.1.5: Create a pipeline for students and youth to connect to small business opportunities.

RECOMMENDATION 1.2:

Support physical and mental health through access to, and options for, healthcare and health-promoting activities.

Strategy 1.2.1: Provide access to medical care that is safe for people of all ages and abilities with targeted multimodal improvements.

RECOMMENDATION 1.3:

Uplift East Aldine's cultural identity through expanded arts programming and opportunities

Strategy 1.3.1: Develop and expand arts programming.

CONCEPT 2: RESILIENT AND SAFE

RECOMMENDATION 2.1:

Ensure that East Aldine's multi-generational community has safe, affordable, and stable homes.

Strategy 2.1.1: Develop programs to support safe and secure homes for all residents.

Strategy 2.1.2: Develop new housing that meets community needs and desires, fits within community context, and is safe from flood impacts.

RECOMMENDATION 2.2:

Create physical and social infrastructure and systems that keep residents safe and minimize negative impacts during extreme weather events.

Strategy 2.2.1: Create systems to help residents during flooding events.

Strategy 2.2.2: Develop local resiliency from unknown and known future disaster events.

CONCEPT 3: CONNECTED AND COMPLETE

RECOMMENDATION 3.1:

Create a connected community core that allows for safe places to walk, bike, take transit, and drive that connect logically into the surrounding community.

Strategy 3.1.1: Ensure the community has navigable (easy/direct), safe, and comfortable access to the Town Center from surrounding neighborhoods and Keith-Wiess Park.

Strategy 3.1.2: Reconstruct Aldine Mail Route to allow for safe, multimodal access to better facilitate economic opportunity with a clear sense of place.

Strategy 3.1.3: Enhance transit opportunities that allow convenient access to destinations within East Aldine and connect the community to the Greater Aldine area and Houston region.

Strategy 3.1.4: Enhance intersection safety at key locations throughout the community.

RECOMMENDATION 3.2:

Increase access to and opportunities within healthy spaces by leveraging, connecting, and extending the reach of bayous, parks, and medical care.

Strategy 3.2.1: Leverage Greens Bayou, the Town Center, Keith-Wiess Park, and Halls Bayou by developing new trails.

Strategy 3.2.2: Provide enhanced access to trails, neighborhood parks and open spaces. This includes increasing access points and improving safety with proposed connections.

RECOMMENDATION 3.3:

Activate access to schools and learning centers with direct and safe connections from surrounding neighborhoods.

Strategy 3.3.1: Facilitate safe access to education by connecting neighborhoods to schools with key multimodal projects that help to “complete the grid.” This includes access for K-12 schools and Technology Centers.

RECOMMENDATION 3.4:

Strengthen economic opportunities through strategic regional connections supporting accessibility for local and regional businesses and workers.

Strategy 3.4.1: Expand airport transit access to better accommodate the needs of airport-related shift-workers and employees within the community.

Strategy 3.4.2: Improve access to and promote awareness of the Eastex Park and Ride.

CONCEPT 1: HEALTHY AND THRIVING

The goal of this concept is to improve the physical, mental, and economic wellbeing of East Aldine's resident by drawing on East Aldine's strong community ties and cultural identity, entrepreneurial spirit, and abundant green space. Projects in this section support this concept.



RECOMMENDATION 1.1:

Expand small business support, entrepreneurship opportunities, and youth employment pipelines to enhance East Aldine's local business environment.

STRATEGY 1.1.1: CENTRO EAST ALDINE

Develop a walkable commercial area on Aldine Westfield from Keith-Wiess Park to Chamberlain called "Centro East Aldine" or similar.

PROJECT 1.1.1.A: STREETSCAPE ENHANCEMENT

Construct a streetscape enhancement program, as a part of a full street reconstruction through the district as a City CIP project, along Aldine Westfield in Centro East Aldine including pedestrian facilities, wayfinding and branding.

Rationale

Provide a safe and easy way for visitors and business owners to navigate the district while showcasing East Aldine's unique food and commercial context and taking advantage of the national interest in foodie tourism.

Desired Outcome

Centro East Aldine will be known region-wide as a walkable, connected area where visitors can access unique and culturally-authentic foods, crafts, and culture. This area will be safe, walkable, and easy to understand for visitors and residents alike.

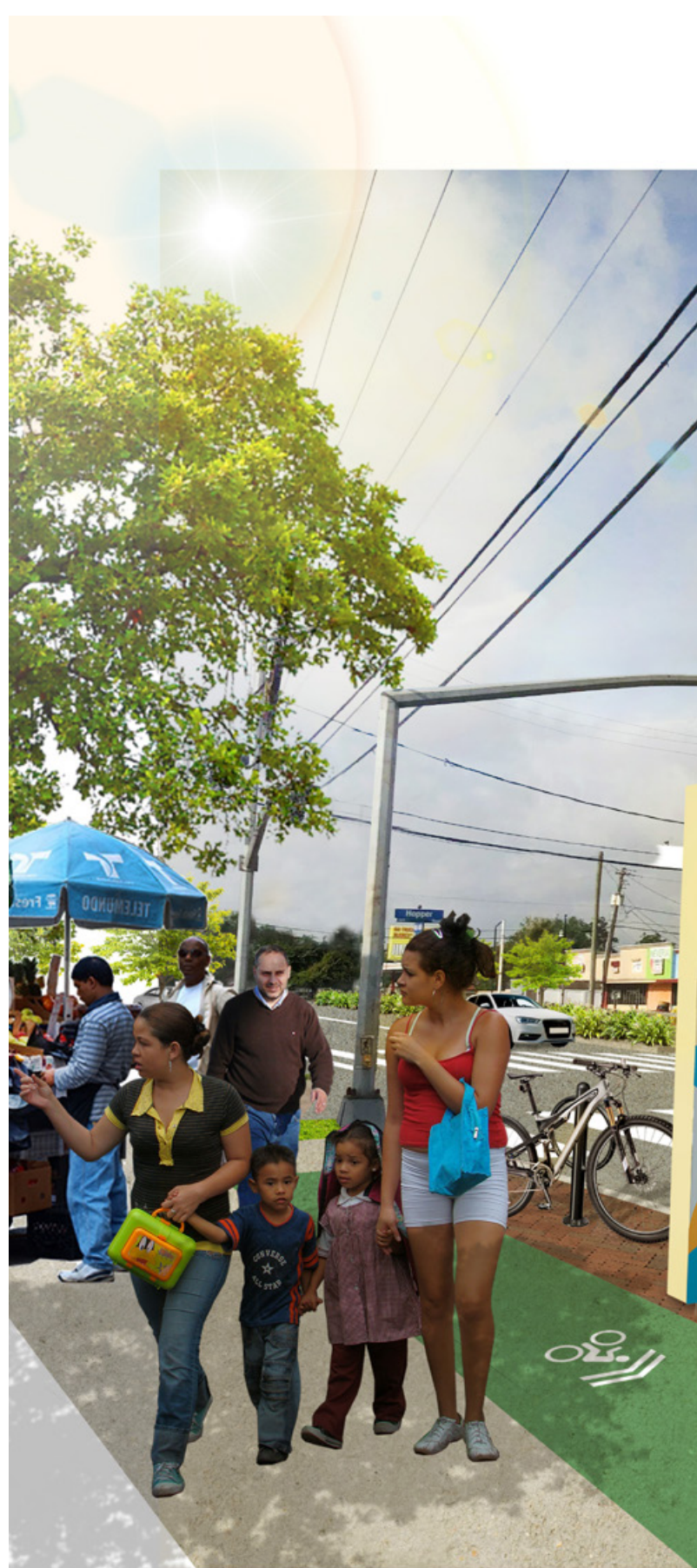
Action Steps

1. Design and fund a comprehensive redesign of Aldine Westfield Road, to include pedestrian facilities, bike facilities, and landscaping.
2. Develop signage and branding for the Centro East Aldine area that reflects the community's values and context.



Example signage for Centro East Aldine.

Rendering and Proposed Location of Centro East Aldine

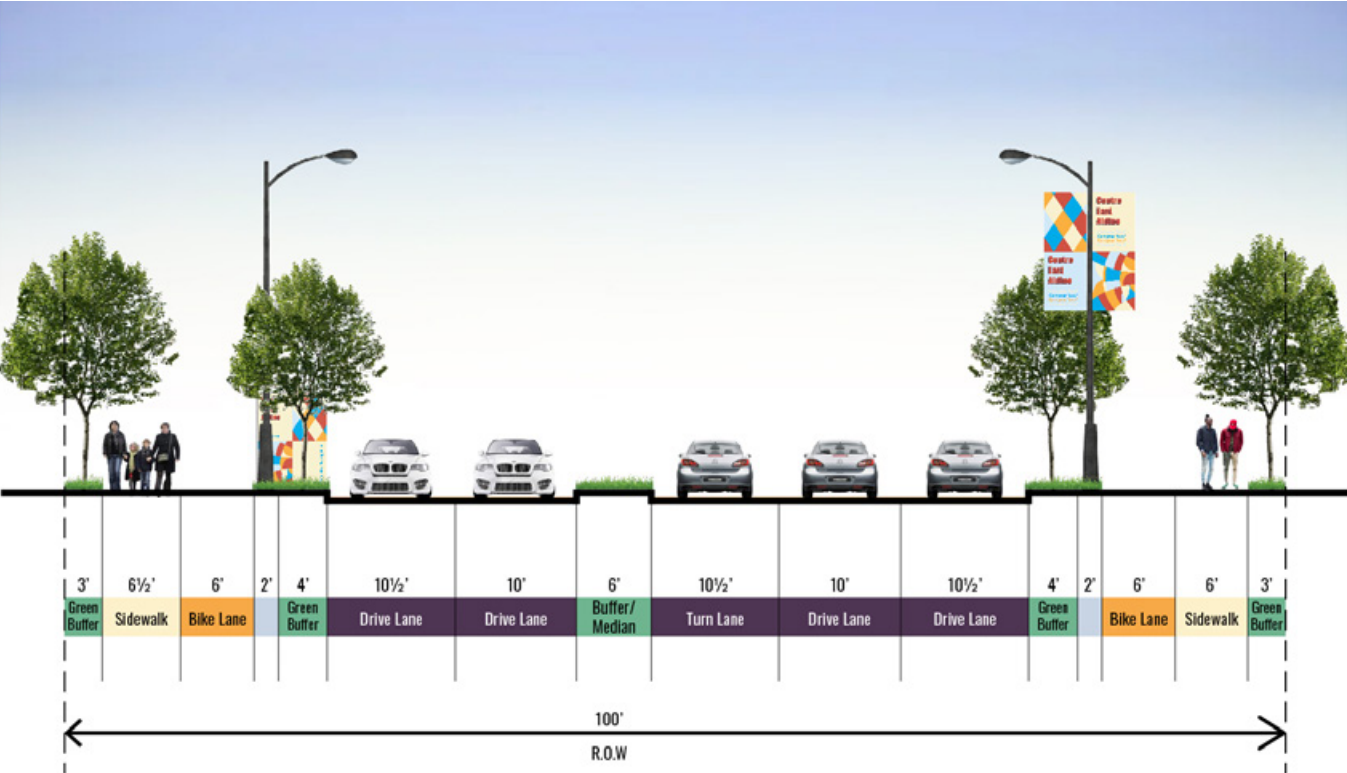




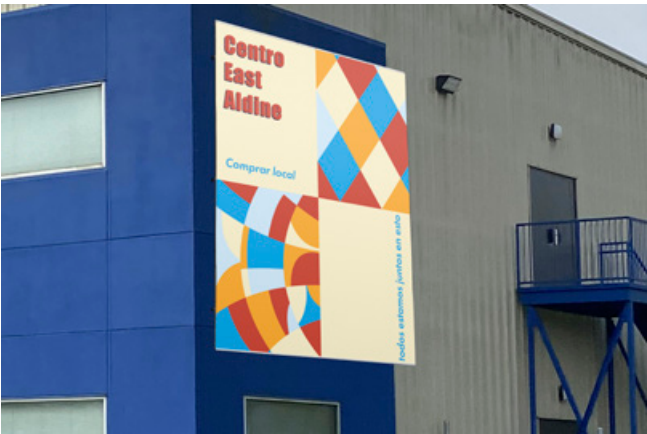
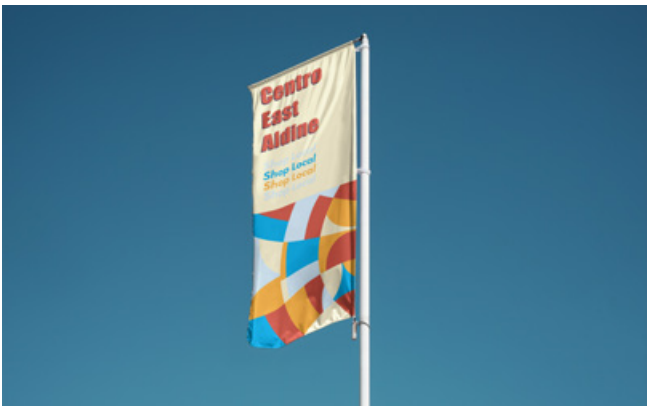
Plan view of Aldine Westfield streetscape enhancements



Section view of Aldine Westfield streetscape enhancements



"Centro East Aldine" branding and signage



PROJECT 1.1.1.B: MARKETING CAMPAIGN

Design and publish a marketing campaign to draw people to Centro East Aldine from across the region for food tourism.

Rationale

Utilize foodie culture and interest in Houston to support local businesses and entrepreneurs by developing a cohesive and representative marketing strategy to present to the region.

Desire Outcome

Centro East Aldine will be known region-wide as a must-visit on the Houston foodie circuit. It will be covered by all of the region's most popular food bloggers and influencers. This area will be a great place to spend an evening enjoying the best Houston has to offer.

Action Steps

1. Develop a marketing strategy in multiple languages based on the Houston regional food context to market and promote the offerings of Centro East Aldine through channels that include influencers and affiliate marketing, news programs, print materials, and signage.
2. Based on the signage and branding developed for Centro East Aldine, develop the materials detailed in the marketing plan, in addition to maps and other wayfinding materials for people visiting East Aldine.

Example social media post about "Centro East Aldine"



Example marketing for "Centro East Aldine"



STRATEGY 1.1.2: KEY OPPORTUNITY SITES

Utilize key opportunity sites to support local entrepreneurship.

PROJECT 1.1.2.A: MARKETPLACE

Purchase and develop a site along Aldine Westfield in Centro East Aldine to clear and develop as a marketplace. Construct permanent stalls, restrooms, and utility access for food and goods vendors.

Rationale

Draw on the Latino heritage of the area while supporting the spirit of entrepreneurship by providing permanent marketplace stalls for different users, from start-up stage to established business.

Desired Outcome

The Marketplace will be the central hub of Centro East Aldine, providing a permanent space for local vendors to operate, designated incubator spaces for new ventures including youth entrepreneurs, and facilities and amenities for vendors and customers alike to use the space comfortably. The Marketplace will highlight and celebrate East Aldine's unique culture while providing a draw for both local residents and outside visitors.



The Sunny Flea Market on Airline Drive, Houston.. Source: Houstonia Magazine.

Action Steps

1. Identify land available for lease or purchase in the desired area.
2. Design and construct the marketplace infrastructure including stalls, restrooms, utility access, seating, shade structures.
3. Develop a plan for filling the stalls: cost, what types of businesses are desired, process for applying for and renting a stall, which stalls will be designated for incubator businesses and youth ventures.
4. Conduct outreach and advertising to invite businesses to locate in the marketplace.
5. Plan a Grand Opening event and advertise widely.

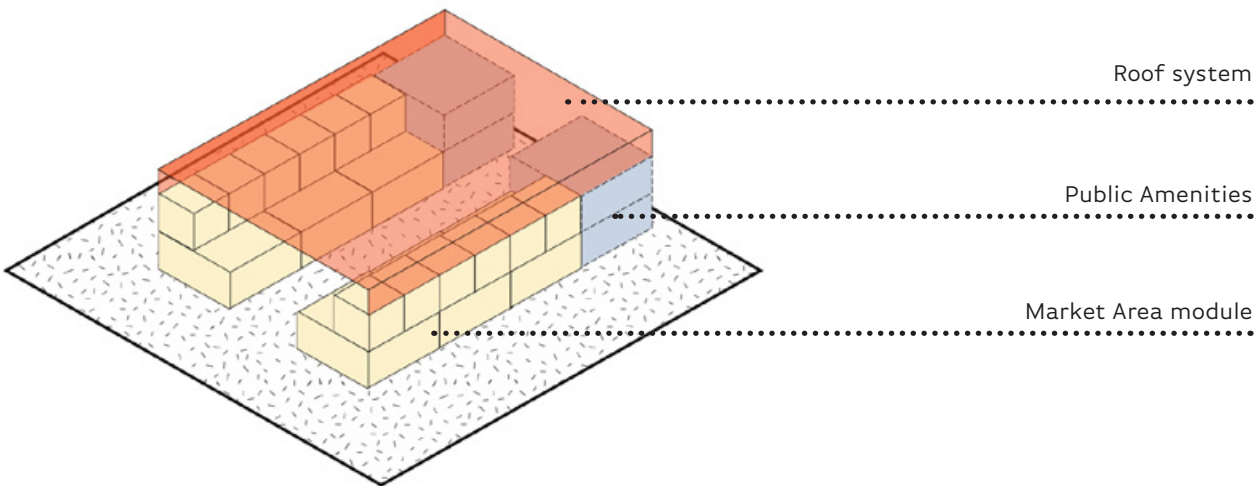
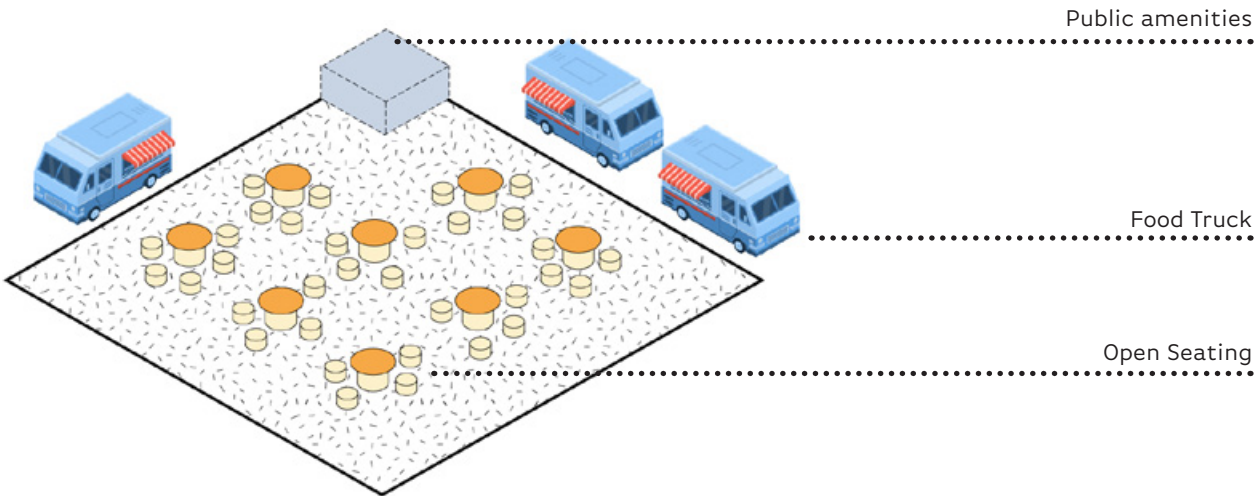
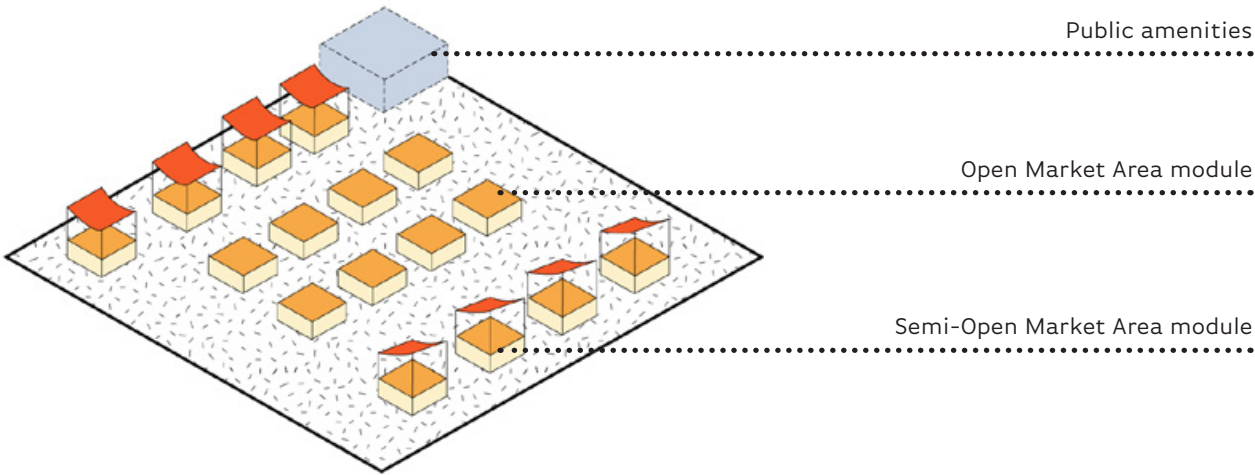
In advance of the development of a full market space, the following interim actions can be taken to support this recommendation and the goals of the project:

1. Identify a vacant or under utilized parcel in the Centro, work with the property owner to host pop up events with booths and food trucks. This will begin to solidify this space as a space for local commerce.
2. In this space, provide portable restrooms, water sources, and other market needs in advance of the full market build out.



Taqueria Los 4 Brothers in the Houston Airline District. Source: USA Restaurants.

Example market typologies



STRATEGY 1.1.3: BUSINESS DISASTER SUPPORT

Develop a program to support existing businesses through disasters.

PROJECT 1.1.3.A: DISASTER RESOURCES

Project Description

Create and regularly update a set of disaster resources for small businesses including:

1. A list of grants and loans available to small businesses
2. Assistance with grant application, and
3. A list of free or low-cost resources in the community including contractors, legal services, food providers, and other services.

Rationale

East Aldine is subject to a variety of natural and unnatural forces that may continue to cause disaster scenarios. Supporting businesses in disaster recovery is key to maintaining the unique commercial character in East Aldine.

Desired Outcome

Readily available information about grant and loan opportunities and community resources, as well as grant application assistance, will help business owners in East Aldine more easily access funds and services to aid in recovery in the event of a disaster that impacts their business.

Action Steps

1. Research and compile a list of available grants and loans for disaster relief, including U.S. Small Business Administration (SBA) Disaster Loans,¹¹ and make this list available on EAMD's website.
2. Identify a partner or partners to offer assistance with grant application.
3. Compile and periodically update a list of local contractors, legal services, food providers, and other service providers who are willing and able to provide pro-bono, discounted, or low-cost services to support business recovering from disasters; make this list available on EAMD's website.

¹¹ <https://sba-oda.force.com/ela/s/>

BUSINESS DISASTER RESOURCES

UP-TO-DATE LIST
OF GRANTS AND
LOANS

GRANT AND LOAN
APPLICATION
ASSISTANCE

UP-TO-DATE LIST
OF FREE AND LOW-
COST SERVICES

STRATEGY 1.1.4: BUSINESS DEVELOPMENT

Expand access to, and opportunities within, existing business development programs.

PROJECT 1.1.4.A: MARKETPLACE PILOT STALLS

Project Description

Partner with BakerRipley's Entrepreneur programs and commercial kitchen space to connect program participants and commercial kitchen users to marketplace space to pilot their business concepts and/or products.

Rationale

Connecting program participants with physical space for pop-up events would give new businesses a supportive environment in which to pilot their business concept. Locating in the marketplace gives all businesses there the advantage of a shared customer base and central location.

Desired Outcome

Participants in entrepreneur training programs and those operating out of the commercial kitchen will have a designated space in which to pilot their business, with the benefits of a centralized location near other vendors to draw customers to their business.

Action Steps

1. Coordinate with BakerRipley to determine which and how many stalls in the Marketplace will be designated for participants in their programs
2. Coordinate with BakerRipley to develop a process and schedule for pop-up businesses using the designated stalls.



Fort Wayne Farmers Market. Source Young Leaders of Northeast Indiana.



The SoCo Costa Mesa Farmers Market. Source: Orange County Register.

PROJECT 1.1.4.B: OUTREACH

Project Description

Partner with BakerRipley to conduct outreach for, and advertise, their entrepreneur programs and the newly developed partnership with the Marketplace.

Rationale

Current or aspiring business owners may not be aware of programs, trainings and resources available in the community.

Desired Outcome

Aspiring entrepreneurs will be aware of programs offered through BakerRipley and opportunities in connection with the Marketplace.

Action Steps

1. In partnership with BakerRipley, determine outreach and advertising goals (including who to target and how many participants to attract).
2. Develop or adapt existing advertising materials.
3. Develop and implement a plan for in-person outreach, social media and other online venues, and posting on the District website and Facebook page.



BakerRipley's East Aldine campus at the Town Center offers a variety of programs and services including career planning, job training, entrepreneur workshops, an industrial kitchen, and a Fab Lab. Source: BakerRipley.

STRATEGY 1.1.5: YOUTH EMPLOYMENT CONNECTIONS

Create a pipeline for students and youth to connect to small business opportunities.

PROJECT 1.1.5.A: OUTREACH

Project Description

Partner with Aldine ISD, Lone Star College and BakerRipley to conduct outreach to connect students to job training, entrepreneurial, and employment readiness programs including the Fab Lab, other BakerRipley resources, and other job training programs.

Rationale

Community members and stakeholders from Aldine ISD have expressed a desire and a need to connect youth in the community to job training and employment opportunities.

Desired Outcome

Information about job training and business development resources offered in East Aldine will be readily available to youth.

Action Steps

1. Coordinate with partners including BakerRipley, Aldine ISD, and Lone Star College, to identify relevant youth-focused job training, entrepreneurial, vocational, and employment readiness programs to promote, and goals for participation.
2. Develop a coordinated approach to outreach and advertising for these programs including materials, social media posts, information on the East Aldine District website, and outreach in schools.

PROJECT 1.1.5.B: MARKETPLACE STALLS FOR YOUTH

Project Description

Designate space in the marketplace for youth entrepreneurial ventures.

Rationale

Accessing a real-world venue in which to pilot business ideas can be challenging, especially for youth who may lack resources or connections.

Desired Outcome

Designated spaces in the Marketplace will ensure that youth participating in entrepreneurship programs will have a venue to pilot and refine their ideas and gain real-world business experience in a supportive environment that has a built-in customer base.

Action Steps

1. Partner with BakerRipley and Aldine ISD to determine which and how many stalls to designate for youth ventures.
2. Work with partners to determine program structure and develop procedures regarding use of the marketplace stalls.



The Fab Lab at BakerRipley's East Aldine campus offers educational opportunities, fabrication tools and facilities to youth and students. Source: BakerRipley.

PROJECT 1.1.5.C: BUSINESS MENTORSHIP

Project Description

Develop a mentorship program in which established businesses receive funds to "mentor" youth and newer endeavors interested in small business development. Funds should include wages for participating youth. Program would include financial literacy and job training workshops for youth in partnership with BakerRipley.

Rationale

Community members and stakeholders from Aldine ISD have expressed a desire and a need to connect youth in the community to job training and employment opportunities. This project will allow youth to learn first-hand from successful entrepreneurs in the community while gaining employment experience.

Desired Outcome

Through this mentorship program, youth will gain real-world experience with running a successful business in East Aldine, gain concrete skills and knowledge, and build connections to the business community all while earning a wage. Businesses mentors will benefit from the program by preparing youth to enter the workforce with the skills and knowledge to contribute successfully to the small business sector.

Action Steps

1. Develop a detailed plan for the program including how many mentor/mentee pairs to include, duration of the program, expectations for business mentors and youth mentees, and funding including wages for youth.
2. Work with BakerRipley to develop coordinated training in financial literacy and job skills.
3. Recruit business mentors and youth participants.
4. Pilot the program.
5. Refine based on the pilot.



Participants in a youth business mentorship program. Source: Anishinabek News.

RECOMMENDATION 1.2:

Support residents' physical and mental health through expanded access to, and options for, healthcare, healthy places, and health-promoting activities.

STRATEGY 1.2.1: ACCESS TO MEDICAL CARE

Provide access to medical care that is safe for people of all ages and abilities with targeted multimodal improvements.

PROJECT 1.2.1.A: BIKEWAYS

Build bikeways on Aldine Mail Route Rd to connect surrounding residential areas to the East Aldine Town Center, which also houses HOPE Clinic Aldine.

Rationale

Aldine Mail Route Rd currently has no bike infrastructure yet is lined by many community amenities, including grocery stores, schools, and a Federally Qualified Health Center which provides health care services regardless of the patient's ability to pay. Installing bikeways will be key to improving access to the area.

Desired Outcome

This project seeks to increase physical activity and enhance access to health-related amenities.

Action Steps

1. Advocate for the inclusion of Aldine Westfield and Aldine Mail Routes in the county's upcoming Capital Improvement Projects (CIP).
2. Engage with residents, business owners, and other stakeholder in the conceptual design process for the corridor.
3. Entice mixed-use/multi-family/dense development along the corridor to align with the impending capital investment.

PROJECT 1.2.1.B: BIKE PARKING

Construct bike parking on or adjacent to key community amenities, including HOPE Clinic Aldine, Supermercado La Mexicana, Food City, and the BakerRipley East Aldine Campus.

Rationale

Providing bike amenities in addition to bikeways will be important in supporting the use of active transportation in the area.

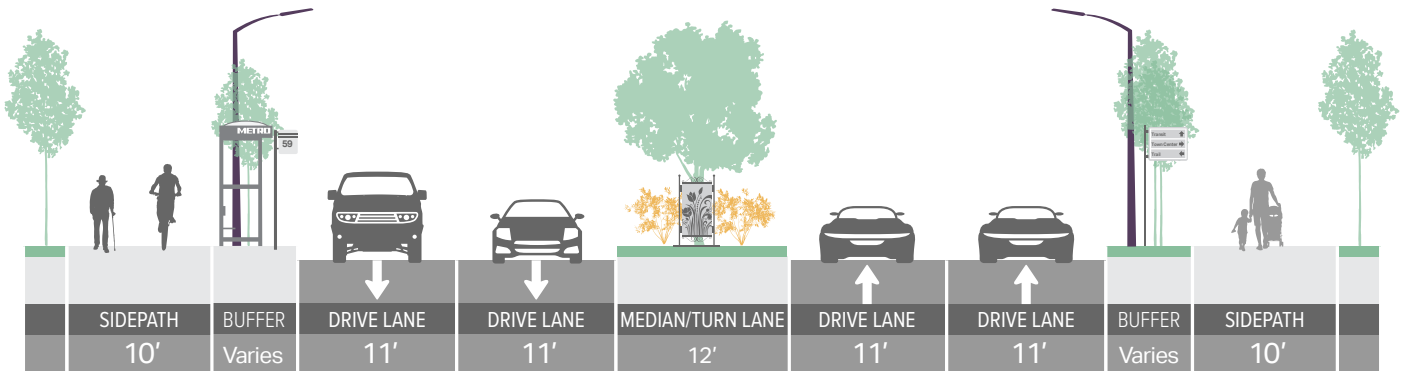
Desired Outcome

This project seeks to increase bike access and biking to amenities in the area by providing a crucial amenity, the lack of which can often be a barrier for bikers.

Action Steps

1. Reach out to organizations, businesses, and institutions providing health-related goods and services to install bike parking.
2. Establish an application process for businesses and organizations to apply for bike parking.
3. Track the use of bike parking and provide additional parking where there is high usage.

Aldine Mail Route Proposed Enhancements



Example bikeway. Source: Philadelphia Magazine.

BIKE PARKING LOCATIONS AND EXAMPLES



PROJECT 1.2.1.C

Partner with a bike advocacy nonprofit to provide education and training around active transportation at schools, community centers, and other hubs. Provide free bikes through the program.

Rationale

Community members may not have the information or skills needed to ride bikes comfortably and safely, and may also lack access to bikes

Desired Outcome

This program seeks to increase accessibility of information about active transportation and access to bikes.

Action Steps

1. Secure funding for the program, including for partners and free bikes.
2. Reach out to bike advocacy nonprofits, community hubs where the programs could be hosted, and other partners.
3. Implement the program and track impact through surveys.



Adaptive bikes through the Bublr bike share program in Milwaukee, WI. Source: Bublr via Grist.

PROJECT 1.2.1.D

Work to bring a bikeshare program such as BCycle to East Aldine and place stations in low-income communities. Provide subsidized bike share options and adaptive bikes.

Rationale

This program would increase access to and affordability of riding bikes.

Desired Outcome

This program seeks to increase access to and affordability of riding bikes for low-income residents.

Action Steps

1. Reach out to bikeshare programs.
2. Secure funding for construction and administrative costs and subsidized memberships.
3. Study best placement for stations and the potential impact of program.
4. Construct the stations and launch the program.



Artist-designed BCycle station in Midtown Houston. Source: Midtown Houston.

RECOMMENDATION 1.3:

Uplift East Aldine’s cultural identity through expanded arts programming and opportunities.

STRATEGY 1.3.1: ARTS PROGRAMMING

Develop and expand arts programming.

PROJECT 1.3.1.A: ARTS AND CULTURE WAREHOUSE

Build and fund an arts and culture warehouse, potentially within the scope of the Fab Lab, where community members can access art supplies, building materials, and studio space. Within this facility, create classroom space and develop programming to include topics like taxes, marketing, and business management.

Rationale

East Aldine has a rich cultural and artist history, providing access to both supplies and business support will help artists further their work and capacity.

Desired Outcome

Providing a warehouse for materials, programming, and support will help East Aldine's artists and creators weather business disruptions, have a place to store materials and work, and conduct capacity-raising events.

Action Steps

1. Complete a study to identify a location for an arts and culture warehouse, identify funding partners and potential lenders, and to locate an operator.
2. Construct and program the warehouse to include art supplies, building materials, community events, studio space, and classroom space.
3. Develop relationships with local arts, culture, and building organizations as well as large corporate stores to secure programming and donations for the warehouse.

The Arts and Culture Warehouse should contain:

Tax and Business Support

Supply Thrift and Share

Hand Craft Supplies

Tools and Safety Gear

CONCEPT 2: RESILIENT AND SAFE



The goal of this concept is to develop solutions to housing, flooding, and community safety that are in line with the community's values. Projects in this section support this concept.

RECOMMENDATION 2.1:

Ensure that East Aldine’s multi-generational community has safe, affordable, and stable homes.

STRATEGY 2.1.1: SAFE AND SECURE HOMES

Develop programs to support safe and secure homes for all residents.

PROJECT 2.1.1.A: HOME MAINTENANCE

Partner with Harris County Community Services to connect residents with their Home Repair Program. Identify a partner to assist residents with the application process. Note: this program requires proof of citizenship to apply, and requires that properties within the 100-year floodplain have flood insurance.

Rationale

Many homes in East Aldine are in need of maintenance due to age or damage from natural disasters. Homes with deferred maintenance or lacking weatherization can lead to increased utility expenses or deteriorate beyond repair. Residents may need assistance with the application process.

Desired Outcome

Performing maintenance on homes can allow residents to safely remain in their homes for longer. Weatherization can help occupants save on utility costs and window air conditioning units can reduce the burden of Houston's hot weather. Regular tree maintenance can protect homes from falling branches and ensure a healthy tree canopy to mitigate urban heat.

Action Steps

1. Conduct outreach to residents to promote awareness of the Home Repair Program.
2. Identify a partner organization or allocate district staff capacity to assist residents with the program application process.
3. Provide information on the program and application assistance on the EAMD website.



Many homes in East Aldine are in need of repairs due to age and/or the impacts of flooding. Many residents have made repairs to their own homes but others could use support.

PROJECT 2.1.1.B: FEMA FLOOD MITIGATION ASSISTANCE GRANT

Partner with Harris County Community Services to apply for the FEMA Flood Mitigation Assistance Grant. If awarded, partner with HCCS to administer the grant. This grant, if awarded, could be used to elevate or retrofit homes that experience flooding.¹²

Rationale

Much of East Aldine is within the 500- or 100-year floodplain and will continue to be impacted by flooding. While buyout programs are one option for homes in flood-prone areas, these programs are not available in all areas, and not all residents are willing or able to participate in these programs. Elevation or retrofitting measures can reduce damage to homes in flood zones from future flood events and allow residents to safely remain in these homes.

Desired Outcome

Eligible residents in the 100- or 500-year floodplain will have access to funds to raise or retrofit their homes, minimizing damage from future flooding events and allowing them to more safely remain in their homes.

Action Steps

1. Establish partnership with Harris County Community Services to apply for and administer the FEMA Flood Mitigation Assistance Grant Program.¹³
2. Identify eligible properties that will be included in the project application. Projects must fit within the overall goals of the current approved Hazard Mitigation Plan,¹⁴ and properties must be participants in the National Flood Insurance Program.
3. Conduct outreach to determine which homeowners are eligible and interested in participating in the application.
4. Collect necessary application information listed in Notice of Funding Opportunity (Notice of Funding Opportunity expected to be released in August or September; refer to last year's NOFO for reference).
5. Complete and submit application by the deadline.

¹² <https://www.twdb.texas.gov/flood/grant/fma.asp?web=1&wdLOR=c41C9886D-7552-44AB-AC45-C3B5AD07F7FF>

¹³ Ibid.

¹⁴ <https://www.readyharris.org/Contact/After-Action-Reports-And-Other-Resources/Mitigation-Planning>

PROJECT 2.1.2.A: NEW HOUSING

Incentivize housing for multigenerational families in non-flood areas using relevant green infrastructure and missing middle typologies, including courtyard apartment, bungalow court, townhouse, and live/work.

Rationale

Flooding is a major issue in the community and may continue to displace residents. Safe housing is needed in East Aldine for these families.

Desired Outcome

Multigenerational and flood-safe housing will be widely available in the community. Residents will have less fear of flooding issues and new development.

Action Steps

1. Conduct a study to understand the type, scope, and legality of creating an incentives program. This study should include community and developer outreach to understand the type of housing needed by the community and the issues with developing this type of housing.
2. After the study is completed, implement the proposed incentives structure. This implementation action should include outreach to local developers, builders, funders, and other implementers.

Example housing typologies



Single Family Home



Attached



Detached



Upper Interior



Garage Conversion



Above Garage

RECOMMENDATION 2.2:

Create physical and social infrastructure and systems that keep residents safe and minimize negative impacts during extreme weather events

STRATEGY 2.2.1: FLOOD PREPARATION AND RESPONSE

Create systems to help residents during flooding events.

PROJECT 2.2.1.A: PROGRAMMING AND PREPARATION

Help the community prepare for flooding events by hosting annual programming to inform the community in late winter/early spring before the hurricane season, and coordinating with local businesses to give out Preparedness Kits for free with instructions in English & Spanish. Help the community during flooding events by creating a communications chain to reach out to the community, establishing disaster meet-up locations to provide provision after the event.

Rationale

Flooding is a major issue in the community and will continue to be an issue into the future. Community leadership and community members can take steps to build resilience around these events by being consistent with communication and providing outreach on preparation.

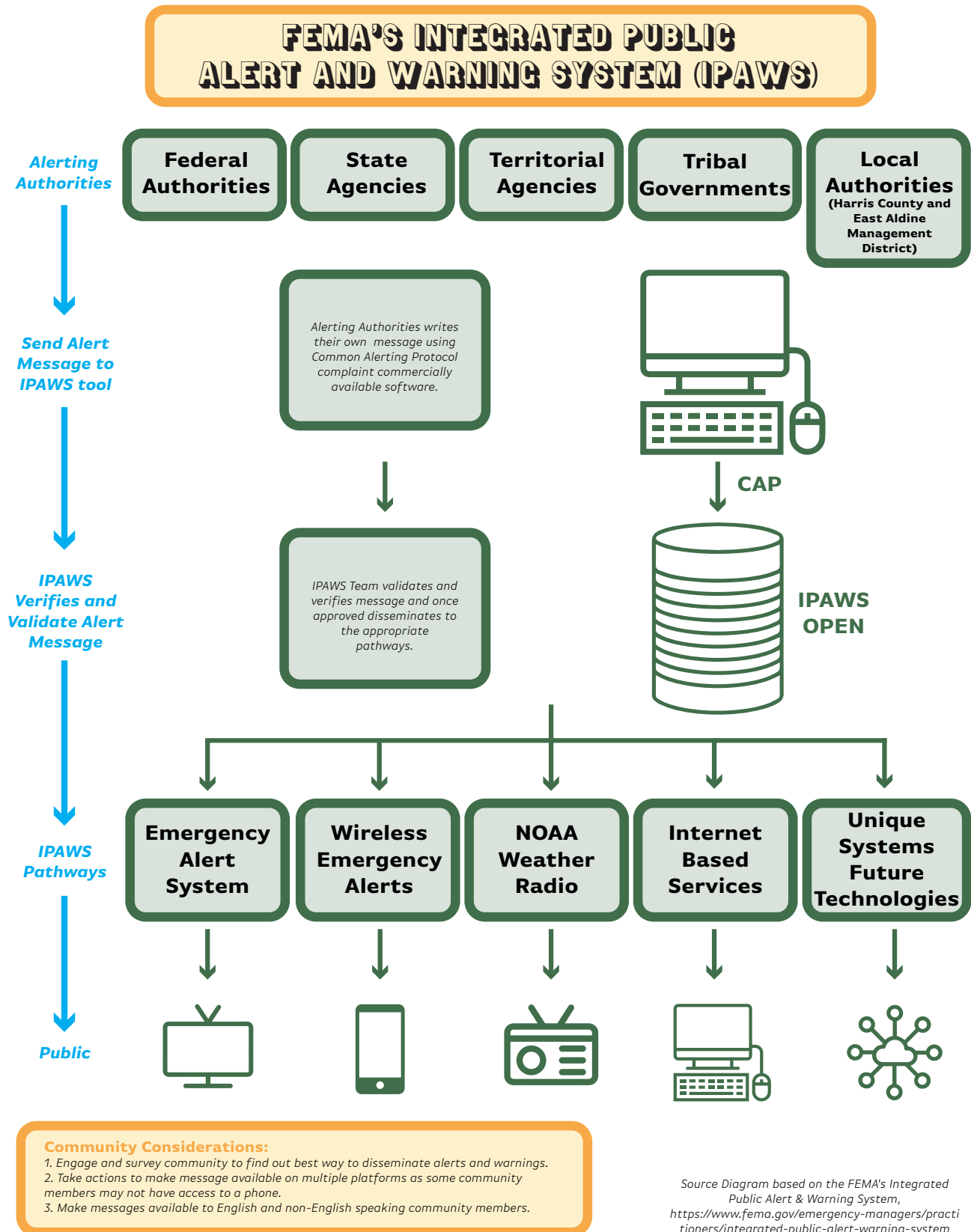
Desired Outcomes

There is now way to fully predict extreme weather events. However, communities can build resilience by being informed, preparing and knowing where to get resources when needed.

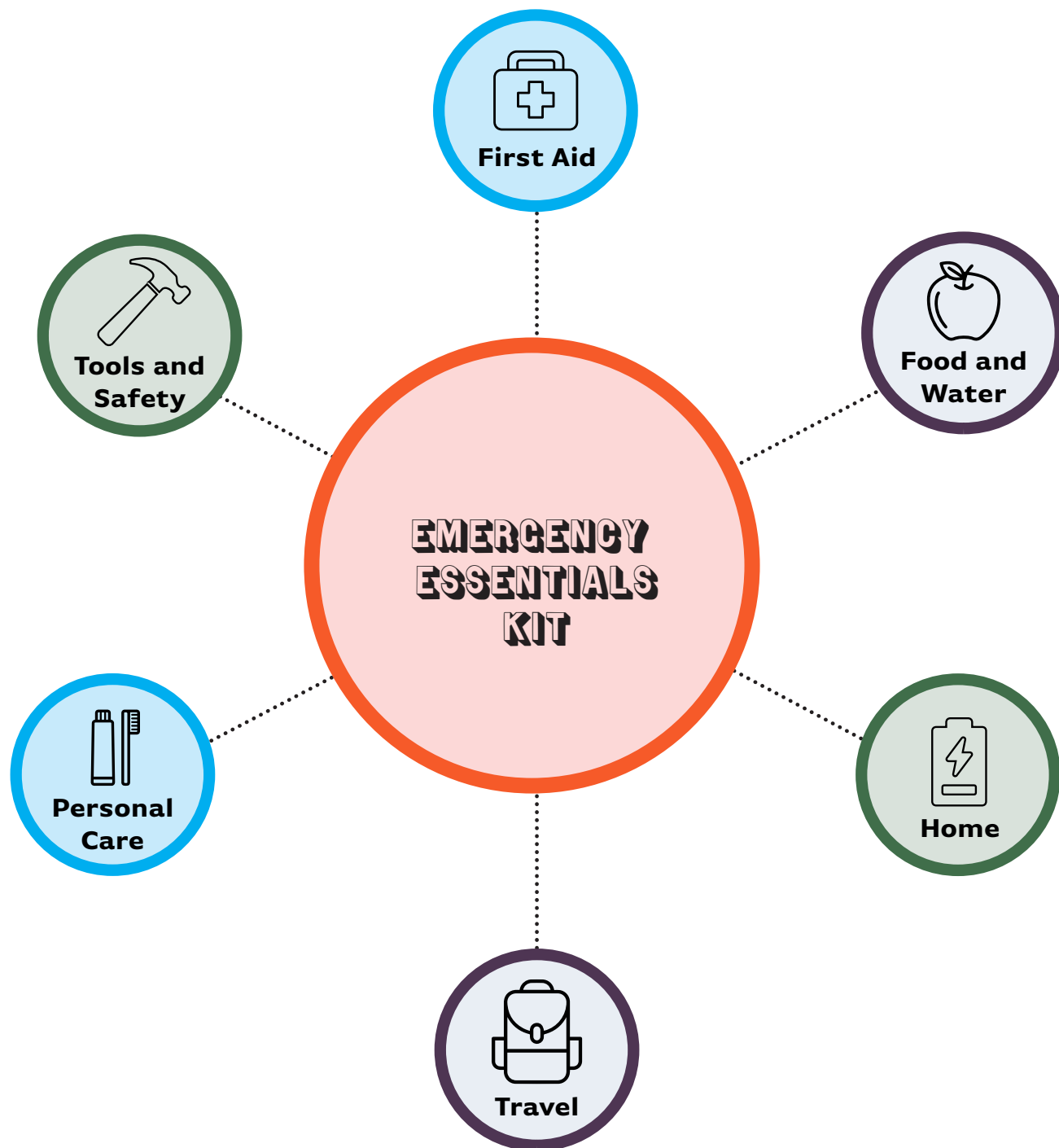
Action Steps

1. Update East Aldine Disaster Preparedness and related web pages to include resources from the Harris County Multi-Hazard Mitigation Action Plan, Volume 2, Planning Partner Annexes. Updated web pages annually at a minimum to keep information current.
2. Include the mass public warning and alert system (iPAWS) within the Harris County Joint Information Center on the webpage, if applicable.
3. Host Disaster Preparedness programming throughout the year to get information out to the community. Partner with local disaster recovery organizations to co-host events.
4. Work with local vendors and fund the creation of free Preparedness Kits.
5. Work with district leadership to dedicate areas to convene during or after major events to get supplies and contact the community to critical resources.

Emergency communication chain



Emergency essentials kit components



KEEP IN MIND

Households with pets and babies will require additional items including formula, diapers, baby wipes, diaper rash ointment, pet carrier, pet medications, pet bed and toys, pet first aid kit, current photo of pet, and a litter box.

STRATEGY 2.2.2: DISASTER RESILIENCY

Develop local resiliency from unknown and known future disaster events.

PROJECT 2.2.2.A: HAZARD MITIGATION PLAN

Use an adaptive approach to updating the Hazard Mitigation Plan to respond to community needs, annually if possible. Know the nuance that makes community members and communities vulnerable. Host programming to get information out to the community regarding disasters.

EMERGENCY KIT CONTENTS

First Aid

- American Red Cross approved first aid kit
- Backup prescriptions for essential medications

Food and Water

- 7 day supply of non-perishable food that doesn't need cooking
- Hand-operated can opener
- Plastic plates, cups and utensils
- 1 gallon of drinking water per person per day enough for 7 days

Home

- Flashlights for each family member with extra batteries
- Fluorescent lanterns for each common area
- Waterproof matches or a utility lighter
- Nose and mouth protection masks (N-95 rating)
- Plastic sheeting
- Duct tape

Travel

- Portable, battery-powered radio
- Landline phone with long cord
- Extra batteries for flashlights, lanterns and radio
- Extra cell phone battery or car charger
- Whistle
- State and regional road maps
- Basic repair items (tools, tire patch kit, engine oil)
- Games, books and puzzles

Rationale

As we have learned with the COVID-19 pandemic it can be difficult to predict future disaster events. Stay connected to the community and their needs, and look to other municipalities that have developed creative ways to prepare for known and unknown events.

Desired Outcome

There is no way to fully predict extreme weather events. However, communities can build resilience by being informed, preparing and knowing where to get resources when needed.

Action Steps

1. Review Volume 2, Planning Partner Annexes of the Hazard Mitigation Plan to determine partnering opportunities, district resources and/or opportunities to increase district involvement.
2. Connect with Harris County about opportunities to participate in Hazard Mitigation Planning efforts for planning partner annexes, such as Steering Committee roles.
3. Stay connected to the community about preparedness and mitigation planning based on critical community needs and values.

Personal Care

- Hand sanitizer or disinfectant wipes
- Toilet paper, paper towels and garbage bags
- Dental care and vision products
- Travel-size soaps and other beauty supplies
- Change of clothes, pair of shoes and blanket per person

Tools and Safety












- Smoke detector with battery for each floor
- Carbon monoxide detector with battery backup
- Fire extinguisher
- Non-scented bleach for sanitization
- Sunscreen
- Insect repellent
- Shovel and basic tools









CONCEPT 3: CONNECTED AND COMPLETE

The goal of this concept is to implement and build upon recommendations from previous planning efforts to improve connections within the district, to surrounding areas, and to key destinations and opportunities for people of all ages and abilities. Projects in this section support this concept.



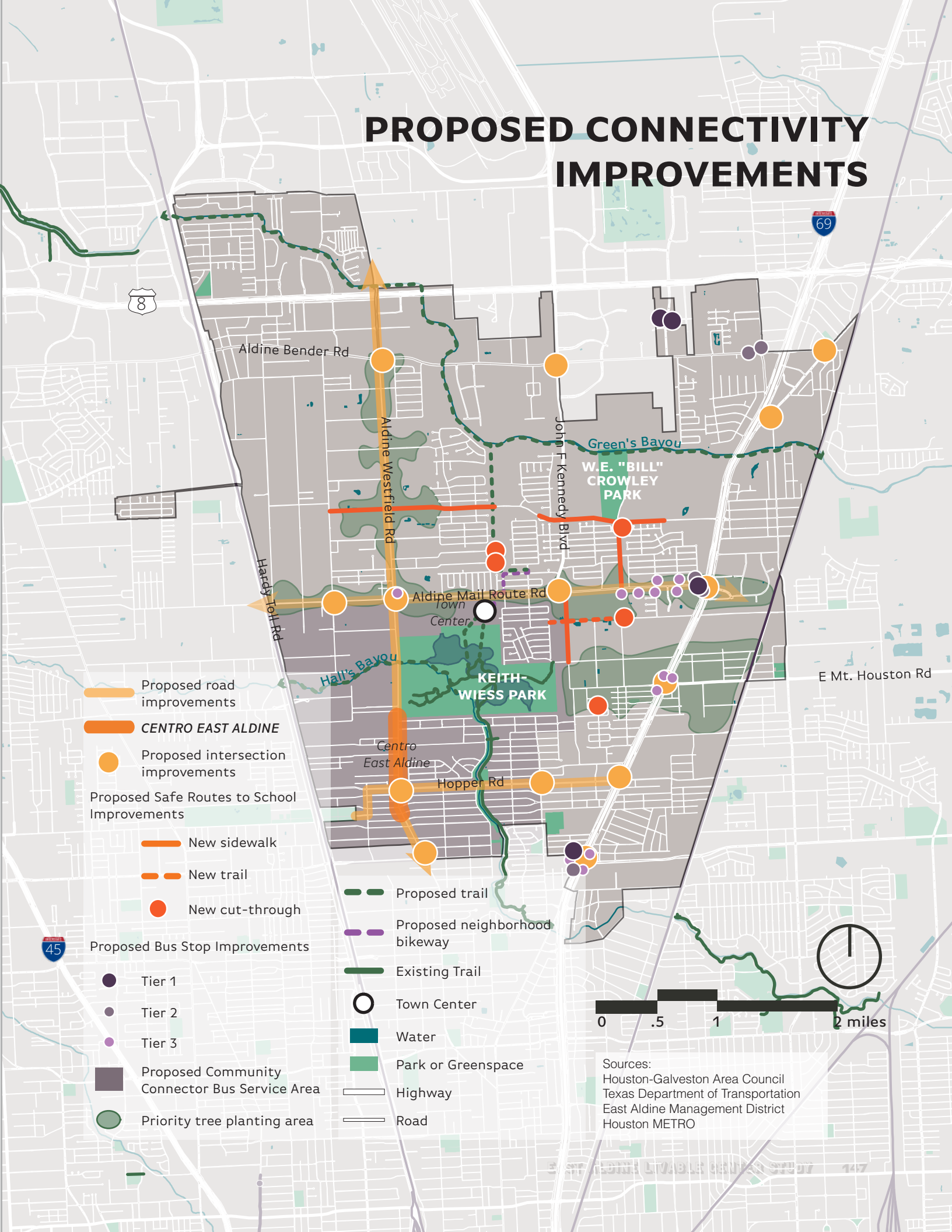
PROPOSED CONNECTIVITY IMPROVEMENTS

-  Proposed road improvements
-  **CENTRO EAST ALDINE**
-  Proposed intersection improvements
- Proposed Safe Routes to School Improvements
 -  New sidewalk
 -  New trail
 -  New cut-through
- Proposed Bus Stop Improvements
 -  Tier 1
 -  Tier 2
 -  Tier 3
-  Proposed Community Connector Bus Service Area
-  Priority tree planting area

-  Proposed trail
-  Proposed neighborhood bikeway
-  Existing Trail
-  Town Center
-  Water
-  Park or Greenspace
-  Highway
-  Road

0 .5 1 2 miles

Sources:
Houston-Galveston Area Council
Texas Department of Transportation
East Aldine Management District
Houston METRO



RECOMMENDATION 3.1:

Create a connected community core that allows for safe places to walk, bike, take transit, and drive that connect logically into the surrounding community.

STRATEGY 3.1.1: CONNECT THE TOWN CENTER

The Town Center is the emerging vibrant hub of the District. It is necessary to ensure that the community has navigable (easy/direct), safe, and comfortable access to the Town Center from surrounding neighborhoods and Keith-Wiess Park.

PROJECT 3.1.1.A

This project aims to connect the Town Center to the surrounding businesses, neighborhoods, and Keith-Wiess Park with a new greenway, sidewalk improvements and safe crossings.

The Town Center currently has sidewalks leading to it on both the north and south sides of Aldine Mail Route Road. It is proposed to improve access to this important community destination through the following:

- Increase access from the north through a trail along the drainage channel adjacent to Mead MS and Vardeman Elementary School. The trail can connect to Fern Meadow Lane and travel through the neighborhood via Charriton Drive and Fall Meadow Lane.
- Trail Connection Option: The trail could alternatively connect to Charriton Drive on the east side of the drainage channel to Deergrove Street and cross Aldine Mail Route at the existing signal and entrance to the Town Center.
- Create a shared on-street bikeway with wayfinding signage and striping on Fern Meadow Lane, Charriton Drive, and Fall Meadow Lane.
- Ensure high quality pedestrian and bicycle crossing at E Aldine Amphitheater Drive (future signal, focus pedestrian crossing on

west side of intersection with pedestrian refuge). Improve the sidewalk to be a sidepath between Fall Meadow Lane and E Aldine Amphitheater Dr.

- Create a direct trail link from the Town Center trails to Keith-Wiess Park Trails and Halls Bayou.

The map to the right highlights the locations of these proposed linkages to the Town Center.

Rationale

The Town Center is an important destination for many people in East Aldine. As it continues to get built out it will become the heart of the community. As such, it is essential to provide high-quality access that people of all ages, abilities, and incomes feel comfortable using.

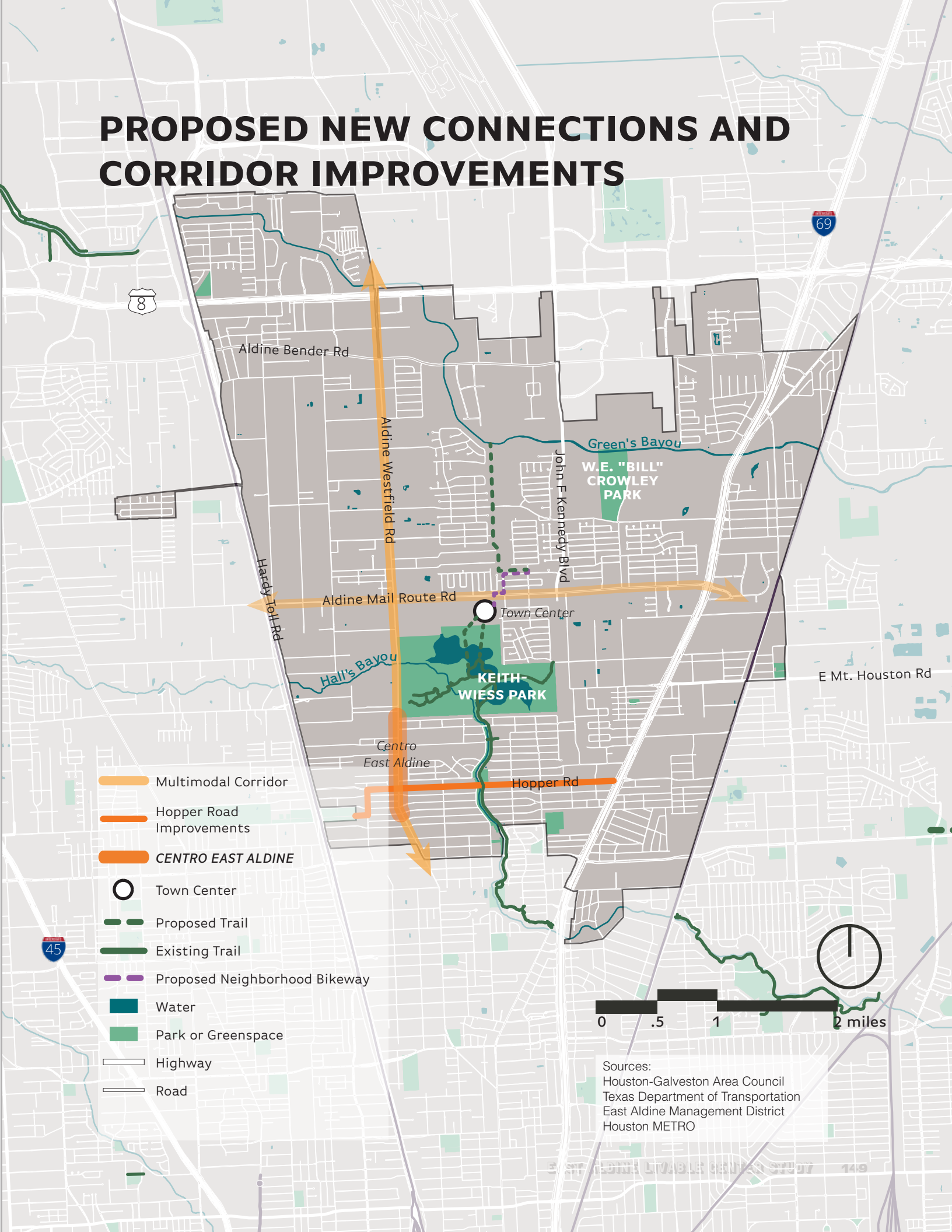
Desired Outcome

This project will create high-comfort access for those walking and biking between Keith-Wiess Park and the Town Center, and improved walkability and bikeability to the park and Town Center from surrounding locations.

Action Steps

1. Advocate for the inclusion of Aldine Westfield and Aldine Mail Routes in the county's upcoming Capital Improvement Projects (CIP).
2. Engage with residents, business owners, and other stakeholder in the conceptual design process for the corridor.
3. Entice mixed-use/multi-family/dense development along the corridor to align with the impending capital investment.

PROPOSED NEW CONNECTIONS AND CORRIDOR IMPROVEMENTS



STRATEGY 3.1.2: REBUILD ALDINE WESTFIELD AND ALDINE MAIL ROUTE

Aldine Westfield and Aldine Mail Route are the social and economic heart of the District. Reconstruction of these routes is recommended to allow for safe, multimodal access to better facilitate economic opportunity with a clear sense of place.

PROJECT 3.1.2.A:

Aldine Westfield is the primary north-south corridor through the East Aldine community. As such, it has many roles to fill in providing access to a variety of destinations. Improvements are proposed to be a reconstruction project that includes the following:

- Additional vehicle capacity with 2 driving lanes in each direction and a center median. The median should be landscaped to provide access management improved safety, and placemaking along the corridor.
- Safe space for people walking and biking with a 6' wide sidewalk and a 6' wide raised bike lane on both sides of the corridor.
- Buffer space between space for walking/ biking and the roadway. The buffer should include trees, lighting, and other placemaking elements as appropriate.
- The center median can function as space for pedestrian refuges and turn lane as appropriate throughout the corridor to allow for turning movements and safe crossings.

See Page 151 for a proposed typical cross-section of Aldine Westfield Road. The proposed cross-section correlates with a future project to widen and enhance the corridor in the City of Houston. East Aldine Management District should coordinate with Harris County and the City of Houston to develop a specific design that provides multimodal access and prioritizes the corridor as the primary north-south corridor in the District.

Aldine Mail Route Road is the core of the community and provides access to many essential and desirable destinations. The corridor has recently been improved by Harris County to have two travel lanes in each direction and a center turn lane through much of the study area. West of Aldine Westfield Road for approximately half a mile is an exception to this with one travel lane in each direction. There are existing 5' wide sidewalks along most of the corridor, many of which are in good or fair condition. Some areas are in need of spot repair and a section west of Chrisman Road is missing a sidewalks entirely.

It is recommended to build upon the Aldine Mail Route Road improvements to facilitate safe and comfortable pedestrian and bicycle travel options. The following improvements are recommended as part of a retrofit and enhancement project:

- A 10' wide sidepath on each side of the corridor. Due to the open ditches along the corridor, flexible design in constrained areas may be required, such as providing a high-comfort sidepath on one side of the corridor with 6' sidewalks on the other side to maintain pedestrian access and provide a safe bicycling option.
- In locations where a center turn lane exists, creating medians with landscaping where turning movements are not needed for access could provide added placemaking along the corridor. These could be constructed as early opportunity projects to test out the impacts and gather community input with tactical urbanism-style features.

Page 151 shows the proposed typical cross-section of Aldine Mail Route at the Town Center with enhancements included as described above. This should be refined further in the design process and could be further detailed in an Access Management Study.

Rationale

Aldine Westfield and Aldine Mail Route currently lack safe, comfortable access for all users, contributing to decreased access to transit and businesses.

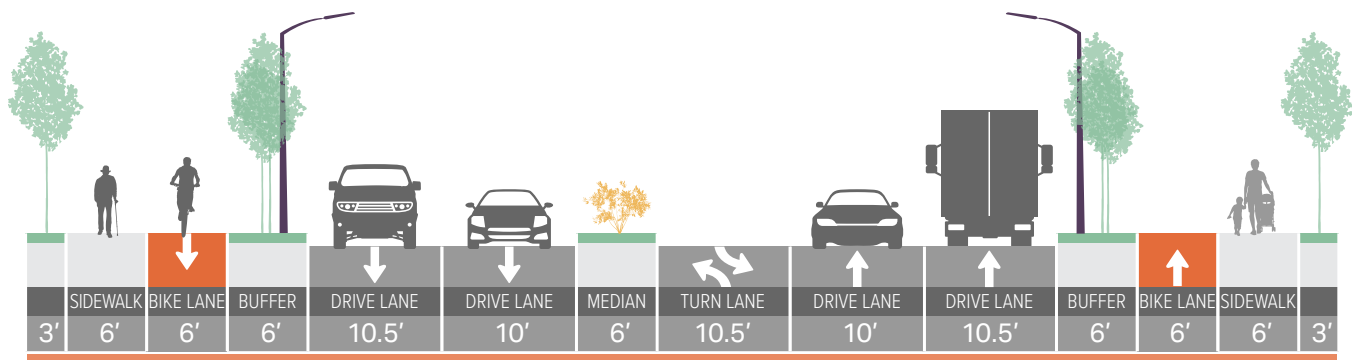
Desired Outcome

The improvement of Aldine Westfield and Aldine Mail Route will transform the corridor into a key destination within the district, greatly increasing the safety of vulnerable road users while also spurring new development along the corridor.

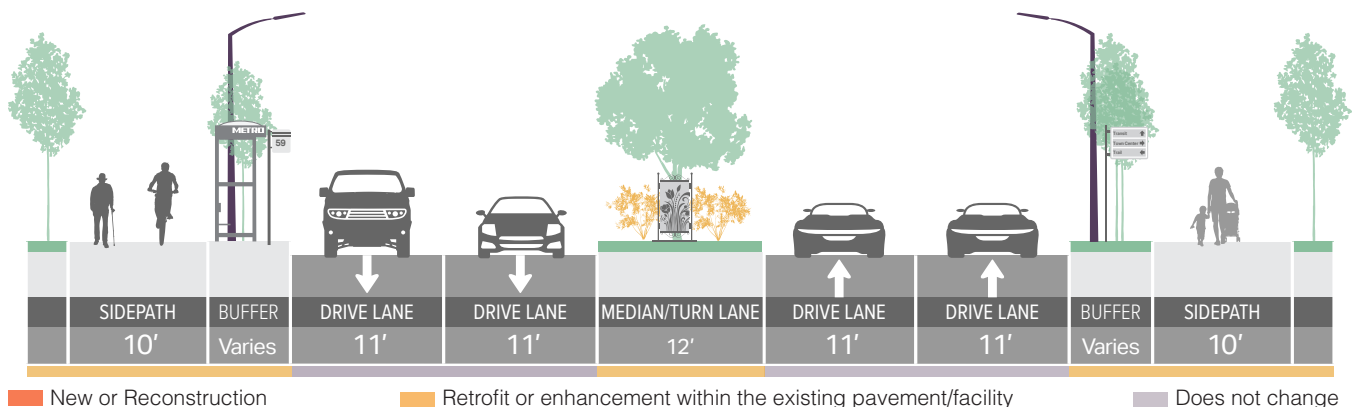
Action Steps

1. Advocate for the inclusion of Aldine Westfield and Aldine Mail Routes in the county's upcoming Capital Improvement Program (CIP).
2. Engage with residents, business owners, and other stakeholder in the conceptual design process for the corridor.
3. Entice mixed-use/multi-family/dense development along the corridor to align with the impending capital investment.
4. Coordinate with Harris County to identify locations and add medians along Aldine Mail Route. (Early Opportunity)
5. Enhance intersections with "Community Crosswalks" that are high visibility and pull in placemaking. See project 3.1.4 for more information. (Early Opportunity)
6. Repair existing sidewalk segments that have been degraded and do not meet ADA standards. (Early Opportunity)

Aldine Westfield Proposed Typical Cross-Section



Aldine Mail Route Proposed Enhancements



STRATEGY 3.1.3: ENHANCE TRANSIT OPPORTUNITIES

Enhance transit opportunities that allow convenient access to destinations within East Aldine and connect the community to the Greater Aldine area and the Houston region.

PROJECT 3.1.3.A

Increase transit options and amenities to encourage transit use and facilitate connections within East Aldine and beyond to the Greater Aldine community and Houston region.

Traveling to a bus stop and waiting for the bus are significant parts of nearly every transit trip. Bus stops with sidewalk access are more likely to be used as many people will not walk if there is not safe and comfortable access, in particular those who are older or have mobility limitations. Bus stops that provide comfortable amenities can enhance the transit experience, decrease perceived wait times, and contribute to increased transit ridership. It is recommended that the East Aldine Management District coordinate with METRO on, and where possible fund, improvements to bus stop accessibility and amenities within the community. Bus stop amenities are elements that can improve comfort and safety and are customizable, which can further enhance the East Aldine community through art and placemaking features.

The table on page 153 identifies the locations of proposed bus stop improvements and the map on page 154 shows their geographic distribution within the community. The proposed bus stop improvements are delineated into priority tiers based on community use, need, and the surrounding context. The tier criteria and proposed improvements by tier are identified on page 153.

It is also recommended for the East Aldine Management District to work with METRO to implement a Community Connector service in the southwest portion of the study area. The METRONext long-range plan proposes a Community Connector in a draft zone that is bounded by Aldine Mail Route to the north, Hardy Toll Road to the west, Little York Road to the South, and to the east by Gloger and Bently Streets. The zone is shown on the map on page 154.

This demand-response service would offer curb-to-curb trips anywhere within the defined zone. Riders may either reserve trips by using their smartphone or by calling METRO's reservation line directly. Riders may also convey their destination to the drivers directly, offering more flexibility. This concept is intended to provide service where a fixed-route may not be as viable due to low passenger demand or small street conditions.

The service is most effective when its service area remains geographically small, facilitating a high level of service reliability. The District may propose expanding the zone to include more areas of the study area; however, this expansion would likely need to be funded through the District and its partners and not solely by the transit authority.

The District should assist METRO in engaging the public upon the launch of this service and provide METRO with any recommendations to edit the operating zone of service as land-use changes, such as new developments or destinations, occur.

This new service could utilize Tidwell Transit Center as its 'hub', assisting the effort to connect the study area to METRORapid (Bus Rapid Transit) and Regional Express service.

Rationale

Improving transit amenities improves access to jobs and other destinations without using a vehicle. The challenge will be identifying an operable route and acquiring funding. Coordination with METRO will be key, and could result in improvements to existing transit service.

Desired Outcome

This project will increased transit usage by expanding mobility, both by connecting existing areas without transit access to the local network and by connecting East Aldine with the future Regional Express network.

Action Steps

1. Coordinate with METRO for the implementation of a demand-response 'Community Connector' by identifying community destinations and defining the operation zone.
2. Closely monitor usage to ensure that the service remains a viable use of resources; if the service becomes overcrowded to the point of service deterioration, advocate for the installation of a higher-capacity fixed bus route.
3. Provided enhance bus stop amenities (shelters, seating, lighting, artwork) where the Connector places a 'hub' in the service area or at other locations with a higher-than-average ridership. (Early Opportunity)
4. Coordinate with METRO and Harris County to improve or provide sidewalks to transit stops. Bus stops identified here as Tier 1 or 2, or that already have a shelter, are areas to prioritize for improving sidewalk access. See the Transit Coverage Walkshed map on page 72 for additional information. (Early Opportunity)

Bus stop improvement locations

| STOP NAME | STOP ID | TIER |
|---|---------|------|
| Vickery Dr @ Aero Park Dr | 12713 | 1 |
| Little York Rd @ Eastex Freeway | 4501 | 1 |
| Vickery Dr @ Aero Park Dr | 12712 | 1 |
| Aldine Mail Route Rd @ Eastex Fwy | 10617 | 1 |
| Eastex Freeway @ Aldine Mail Route | 4869 | 2 |
| Lee Rd @ Aldine Bender Rd | 3166 | 2 |
| Aldine Mail Route Rd @ Us 59 | 4855 | 2 |
| Eastex Freeway @ Rothermel Rd | 4882 | 2 |
| Aldine Bender Rd @ Lee Rd | 3167 | 2 |
| Eastex Freeway @ Little York Rd | 2686 | 3 |
| Aldine Mail Route Rd @ Fantasy Dr | 4856 | 3 |
| Aldine Mail Route Rd @ Fantasy Dr | 10616 | 3 |
| Aldine Mail Route Rd @ Boreas Dr | 10614 | 3 |
| Little York Rd @ Eastex Freeway | 4500 | 3 |
| Aldine Mail Route Rd @ Vickery Dr | 10613 | 3 |
| Eastex Freeway @ Littlecrest Rd | 2687 | 3 |
| Aldine Mail Route Rd @ Mac Naughton | 4857 | 3 |
| Eastex Freeway @ Justin St | 4872 | 3 |
| Eastex Freeway @ Mount Houston Rd | 10046 | 3 |
| Eastex Freeway @ Mount Houston Rd | 10093 | 3 |
| Aldine Mail Route Rd @ Mac Naughton | 10615 | 3 |
| Aldine Mail Route Rd @ Aldine Westfield | 11284 | 3 |

Bus stop improvement criteria

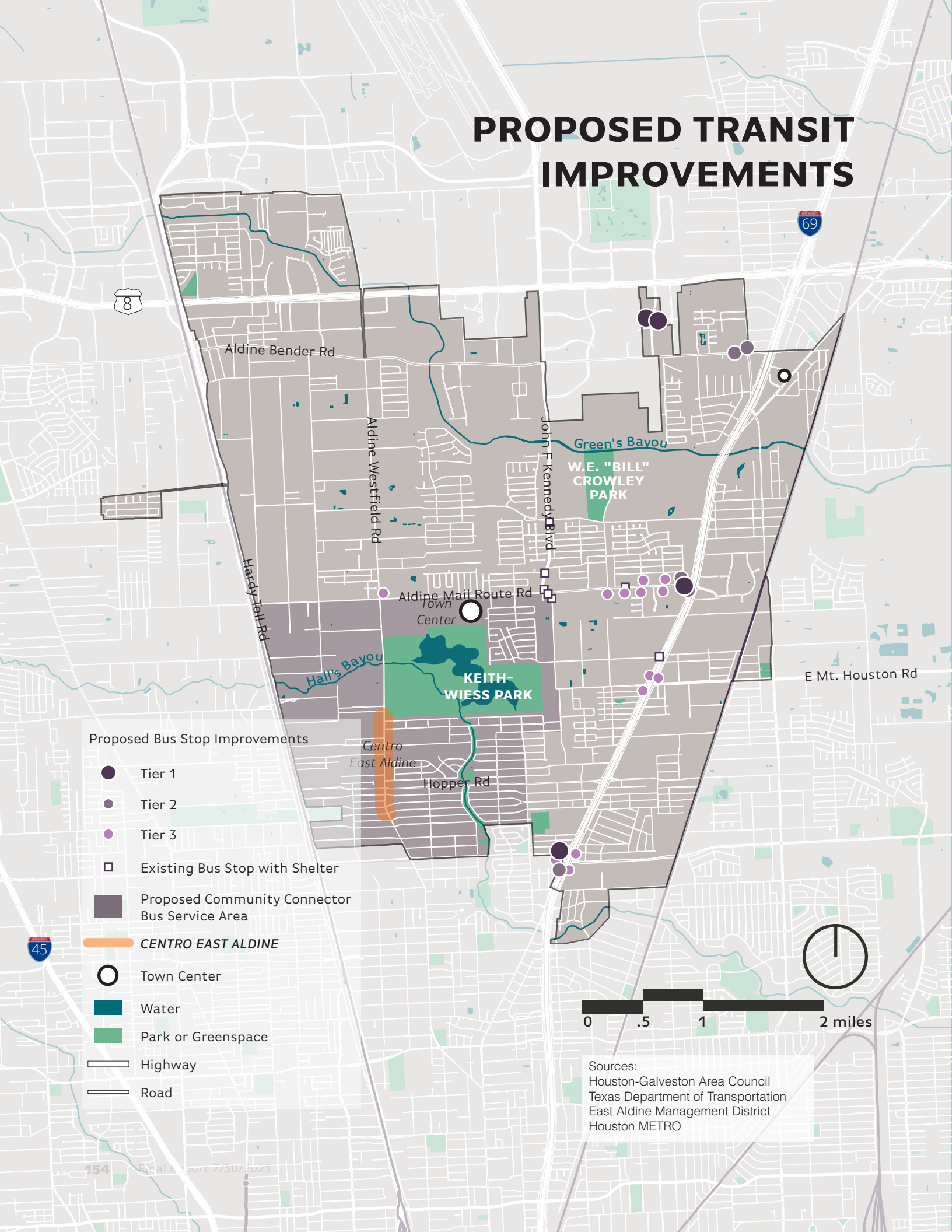
| TIER | TIER CRITERIA | PROPOSED IMPROVEMENTS |
|------|--|---|
| 1 | High-Ridership Stops without existing shelter | District-Branded Shelter, Seating/Lean Rail, Real-Time Arrival Signage, Artwork/Beautification |
| 2 | High-Ridership Stops with existing shelter | Additional/Branded Shelter, Expanded Seating/Lean Rail, Real-Time Arrival Signage, Artwork/Beautification |
| 3 | Stops with 10 or more boardings that should be considered for future improvement | District-Branded Shelter and/or Bench |

PROPOSED TRANSIT IMPROVEMENTS

- Proposed Bus Stop Improvements
- Tier 1
 - Tier 2
 - Tier 3
 - Existing Bus Stop with Shelter
 - Proposed Community Connector Bus Service Area
 - CENTRO EAST ALDINE**
 - Town Center
 - Water
 - Park or Greenspace
 - Highway
 - Road



Sources:
Houston-Galveston Area Council
Texas Department of Transportation
East Aldine Management District
Houston METRO



STRATEGY 3.1.4: INTERSECTION SAFETY

Enhance intersection safety at key locations throughout the community.

PROJECT 3.1.4.A

Improve intersections and crossings along key corridors for multimodal safety and operations.

Intersections provide specific safety concerns as many crashes occur at intersections, both large and small, throughout the study area. These locations are opportunities to make smaller-scale, localized improvements that have significant benefits for the community. Within the larger corridor recommendations all intersections should include safe crossing features, such as visible cross walks, appropriate pedestrian signal timing as applicable, tighter turning radii where possible, pedestrian refuges where appropriate, and ADA compliant curb ramps.

The table on page 156 identifies the proposed priority intersection improvement locations while the map on page 157 shows the geographic distribution of the recommendations. These locations were selected based on their capacity to improve safety within the study area based on field observations and crash data. The proposed projects represent lower-cost opportunities that can function as a standalone project, as part of a larger corridor project, or a routine city roadway resurfacing.

The proposed improvements have been delineated into three priority tiers to assist with implementation efforts. Tier 1 improvements represent the highest priority efforts as they represent high crash locations and are within prioritized areas for improved access. Tier 2 improvements represent projects along key corridors and at high crash locations. Tier 3 improvements are within TxDOT right-of-way and will require additional coordination with TxDOT regarding construction and maintenance of any improvements. These projects are also larger scale.

Many intersections present an opportunity to incorporate the community and add placemaking through "Community Crosswalks." This tactical urbanism method creates safety improvements at a lower cost and is a great way to engage the community. Using tactical urbanism can be beneficial where feedback is desired before long-term solutions are constructed or where safety enhancements are needed more immediately while a larger improvement project will take time to develop and construct. Intersections along Aldine Westfield are an example of this.

All signalized intersections should aim to provide, at a minimum, visibility of signals, ADA compliant curb ramps, crosswalks for pedestrians, pedestrian crossing signals and phasing for pedestrians. Controlled intersections that are unsignalized should provide, at a minimum, crosswalks and appropriate signage, ADA accessible curb ramps.

Rationale

Intersections are locations for safety concerns from crashes. Many of these corridors show up on or adjacent to Harris County's High Injury Network maps.

Desired Outcome

This project will improve access and safety for vulnerable road users and work to eliminate injuries and fatalities.

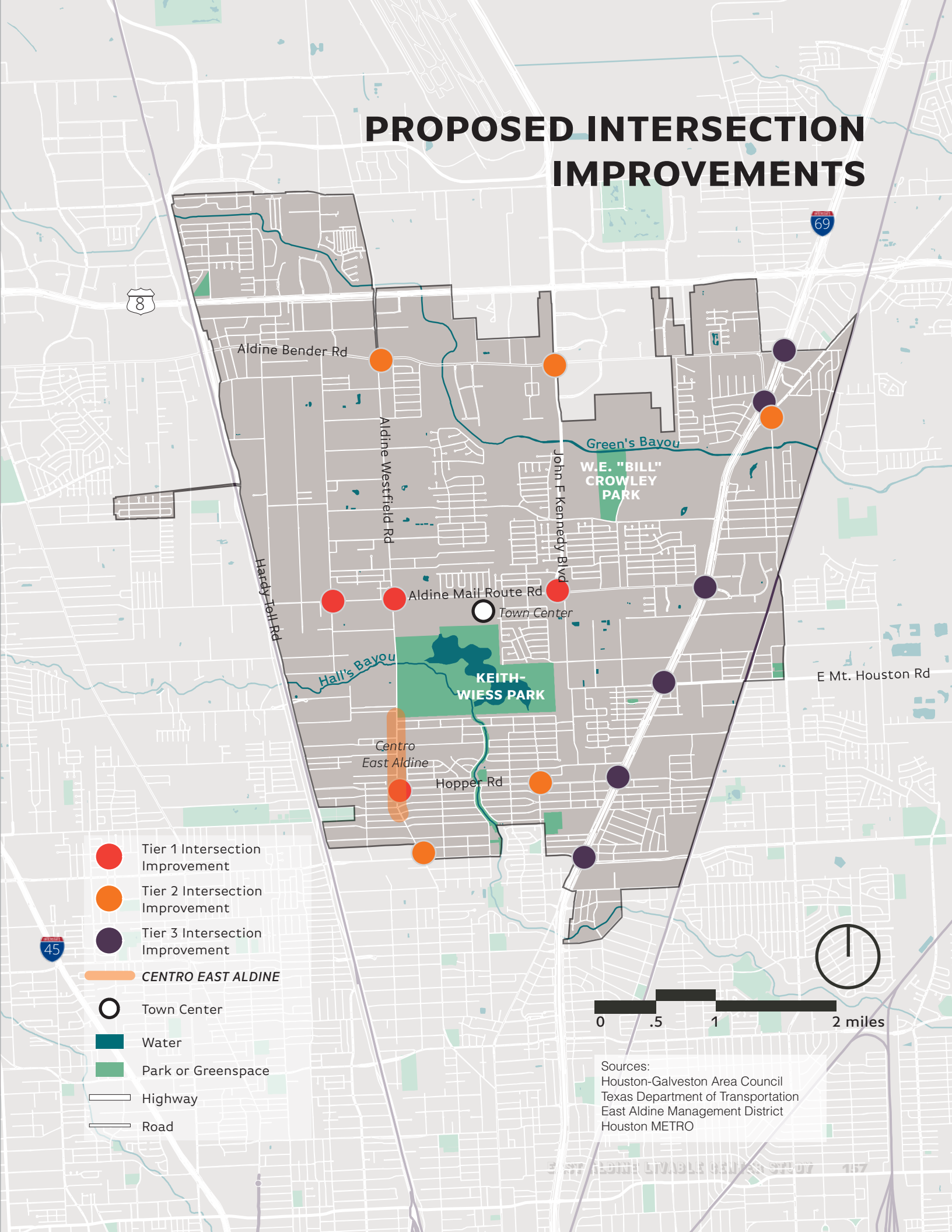
Action Steps

1. Implement targeted safety improvements, prioritized by hot spots identified in the crash analysis, from a toolbox of short-term retrofit solutions, such as curb extensions, repainted and visible crosswalks, curb ramp enhancement, rectangular rapid flashing beacons.
2. Identify larger needs (roadway geometric improvements; and coordinate improvements (such as during CIP projects or utility relocations) with the appropriate agency (Harris County, City of Houston, TxDOT)

Proposed intersection improvements

| LOCATION | PRIORITY | PROPOSED IMPROVEMENT |
|--|----------|--|
| Aldine Mail Route Rd @ Aldine Westfield Rd | Tier 1 | Add ADA compliant ramps; reduce turn radii, add pedestrian crossing signals, add high-visibility crosswalks |
| Aldine Mail Route Rd @ Chrisman Rd | Tier 1 | Add ADA accessible ramps, high-visibility crosswalks, reduce turn radii, add pedestrian crossing signals |
| Hopper Rd @ Aldine Westfield Rd | Tier 1 | Add pedestrian crossing signals, high-visibility crosswalks, and ADA accessible ramps |
| Aldine Mail Route Rd @ John F Kennedy Blvd | Tier 1 | Reduce crossing distance by providing pedestrian refuges at existing medians, rebuild ramps and push button access to ensure ADA compliance, ensure pedestrian signal phasing is appropriately timed |
| Little York Rd @ Aldine Westfield Rd | Tier 2 | Repaint crosswalks for higher visibility, ensure all ramps and signal push buttons are ADA compliant, reconstruct existing medians to provide ADA accessible pedestrian refuges |
| Aldine Bender Rd @ Aldine Westfield Rd | Tier 2 | Repaint crosswalks for higher visibility, ensure pedestrian signal phasing is appropriate, repair crosswalks that do not meet current ADA compliance |
| Aldine Bender Rd @ John F Kennedy Blvd | Tier 2 | Repaint Crosswalks for Higher Visibility, ensure pedestrian signal phasing is appropriate |
| Hopper Rd @ Bentley St | Tier 2 | Construct ADA accessible ramps, add pedestrian signals and crosswalks |
| Old Humble Rd @ Homestead Rd | Tier 2 | Repair inaccessible ramps; examine closure of the narrow right-turn slip lane, repaint high-visibility crosswalks, extend existing medians to include pedestrian refuges |
| Aldine Mail Route Rd @ Eastex Freeway | Tier 3 | Update ramps to current ADA specifications, repaint crosswalks for higher visibility, ensure signal phasing is appropriate for pedestrians, enhance pedestrian pathway under freeway with lighting and signage or striping |
| E Mount Houston Rd @ Eastex Freeway | Tier 3 | Update ramps to current ADA specifications, repaint crosswalks for higher visibility, ensure signal phasing is appropriate for pedestrians, enhance pedestrian pathway under freeway with lighting and signage or striping |
| Aldine Bender Rd @ Eastex Freeway | Tier 3 | Repair inaccessible ramps, repaint crosswalks for higher visibility, ensure appropriate signal phasing for pedestrians, enhance pedestrian pathway under freeway with lighting and signage or striping |
| Hopper Rd @ Eastex Freeway | Tier 3 | Repair inaccessible ramps, repaint crosswalks for higher visibility, ensure appropriate signal phasing for pedestrians, enhance pedestrian pathway under freeway with lighting and signage or striping |
| Little York @ Eastex Freeway | Tier 3 | Repaint crosswalks for higher visibility, ensure pedestrian signal phasing is appropriate, enhance pedestrian path under freeway with lighting and signage/striping |
| Old Humble Rd @ Eastex Freeway | Tier 3 | Add crosswalk/signage where northbound US 59 sidewalk crosses frontage road; repaint crosswalks for higher visibility, reconstruct ADA ramps to current specifications, enhance pedestrian path under freeway with lighting and signage/striping |

PROPOSED INTERSECTION IMPROVEMENTS



RECOMMENDATION 3.2:

Increase access and opportunities to healthy spaces by leveraging, connecting, and extending the reach of bayous, parks, and medical care.

STRATEGY 3.2.1:

Leverage Greens Bayou, the Town Center, Keith-Wiess Park, and Halls Bayou by developing new trails.

PROJECT 3.2.1.A:

Develop the Greens Bayou Greenway Trail from the Hardy Toll Road to BW 8 to US 59/Homestead with neighborhood connections and links to the regional Bayou Greenway system in North Houston/Greenspoint.

Rationale

Bayou greenway trails have been expanded across Houston to connect communities to recreation opportunities, nature, and provide another mode of transportation. Trails have been designed and built on some bayous, but not all in East Aldine. There are opportunities to connect to other neighborhoods and provide nature-based recreation opportunities to the community.

Desired Outcome

This project will expand the greenway trail system to make the area more connected and provide outdoor recreation opportunities to support community health.

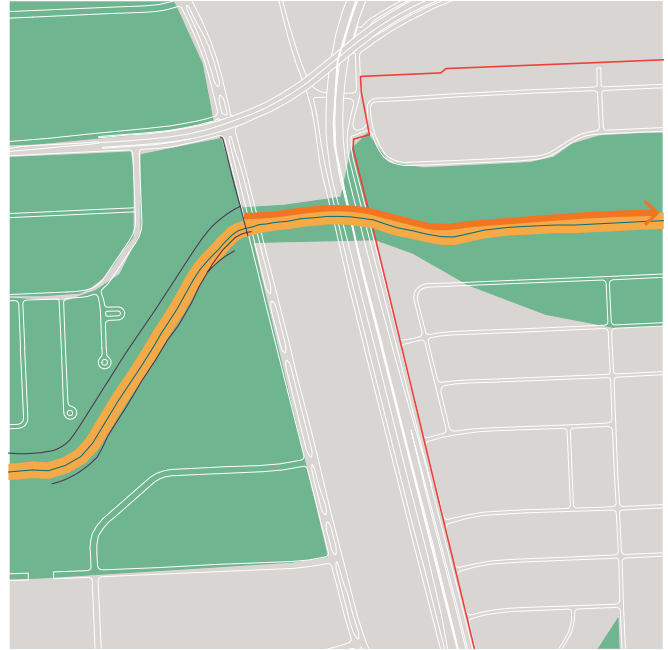
Action Steps

The Houston Parks Board's Bayou Greenways 2020 is a project to create 150 miles of trails along the main bayous traversing the City of Houston. Within the city limits, the trail planning for the greenways has mainly been completed. Now the Houston Parks Board is looking into sections outside the Houston City Limits to investigate greenways development further.

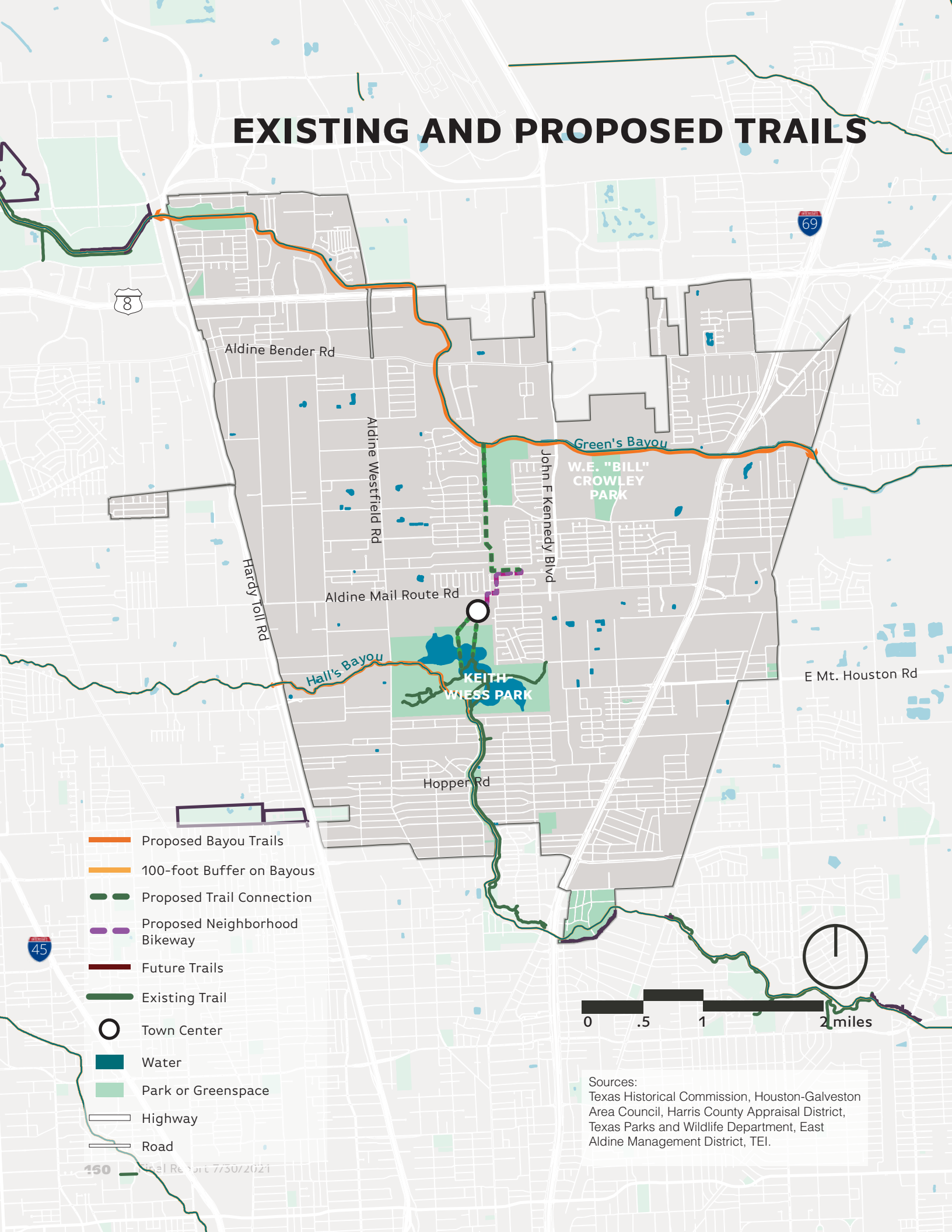
1. Reach out to Precinct 2 leadership, Houston Parks Board, and the Harris County Flood Control District to discuss opportunities to partner and coalesce goals for expanding the Greens Bayou Greenway Trail.
2. Work with Precinct 2 leadership, Houston Parks Board, and the Harris County Flood Control District to advance goals for expanding the Greens Bayou Greenway Trail.
3. Conduct a parcel analysis to identify publicly owned land/land available for purchase along or adjacent to the bayou.

4. Based on the previous steps, prioritize trail sections to start implementing based on land availability and coordinated goals with Precinct 2, Houston Parks Board, and Harris County Flood Control District. Develop a phased approach for implementing the trail section(s) starting with the options that are easier and that align with other projects.
5. Launch community outreach around the development and expansion of the Greens Bayou Greenway Trail, informed by the prioritized trail sections explored earlier. Understand and incorporate community needs, visions, and goals for the greenway project(s).
6. Understand jurisdictional responsibilities of trail maintenance and explore opportunities to encourage community volunteer opportunities and programs around the trail development.

Greens Bayou connection to Jack Drake Park



EXISTING AND PROPOSED TRAILS



- Proposed Bayou Trails
- 100-foot Buffer on Bayous
- Proposed Trail Connection
- Proposed Neighborhood Bikeway
- Future Trails
- Existing Trail
- Town Center
- Water
- Park or Greenspace
- Highway
- Road

0 .5 1 2 miles

Sources:
Texas Historical Commission, Houston-Galveston Area Council, Harris County Appraisal District, Texas Parks and Wildlife Department, East Aldine Management District, TEI.

PROJECT 3.2.1.B:

Create a community trail between Greens Bayou and the Town Center greenway supporting neighborhood access to greenspace, schools, and the Town Center.

Rationale

Bayou greenway trails have been expanded across Houston to connect communities to recreation opportunities, nature, and provide another mode of transportation. In addition, the Houston Parks Board is work on a Beyond Bayous program that integrates more connectivity between communities and parks, sometimes utilizing secondary drainageways. There is currently a lack of connectivity between bayou trails and parks and no existing north-south trail connector in East Aldine.

Desired Outcome

Expand the greenway trail system to make the area more connected and provide outdoor recreation opportunities to support community health.

Action Steps

1. Reach out to Precinct 2 leadership, Houston Parks Board, and the Harris County Flood Control District to discuss opportunities to partner and coalesce goals for extending the trail system north/south from Greens Bayou to the East Aldine Town Center.
2. Work with Precinct 2 leadership, Houston Parks Board, and the Harris County Flood Control District to advance goals for extending the trail system north/south from Greens Bayou to the East Aldine Town Center.
3. Conduct a parcel analysis to identify publicly owned land/land available for purchase along the route between Greens Bayou and East Aldine Town Center. Utilizing existing drainage easements and other public lands should be considered.
4. Based on the previous steps, prioritize trail section(s) to start implementing based on land availability and coordinated goals with Precinct 2, Houston Parks Board, and Harris County Flood Control District. Develop a phased approach for implementing the trail section starting with the options that are easier and that align with other projects.
5. Launch community outreach around the development and extension of the trail system north/south from Greens Bayou to the East Aldine Town Center, informed by the prioritized trail sections explored earlier. Understand and incorporate community needs, visions, and goals for the greenway project(s).
6. Understand jurisdictional responsibilities of trail maintenance and explore opportunities to encourage community volunteer opportunities and programs around the trail development.

STRATEGY 3.2.2: ENHANCE PARK AND TRAIL ACCESS

Provide enhanced access to trails, neighborhood parks and open spaces. This includes increasing access points and improving safety with proposed connections.

PROJECT 3.2.2.A:

Assure that trailheads have wayfinding, directions to the nearest ROW, lighting, and are visible with no major plant material in the way of the entrance.

Rationale

Trailheads are important areas that, if designed universally, can offer access to multiple user groups, be welcoming, and provide a meeting space for the community. They can also aid in wayfinding and mobility as people move around the neighborhood or to other important destinations.

Desired Outcome

Expand the greenway trail system to make the area more connected and standardize trailheads to provide important wayfinding and access opportunities.



Clear signage with trail rules and regulations create a shared understanding of how to use the trail and respect the space. Translating signage ensures greater accessibility. Source: Asakura Robinson.

Action Steps

1. Work with greenway partners to develop trailhead and access point design standards to promote safety and easy wayfinding.
2. Launch community outreach around trailhead designs. Understand community needs, visions, and goals for the trailhead access.
3. Prioritize universal design strategies for the trailheads to accommodate multiple user types.
4. Identify a trailhead area to pilot the design standards and modify based on community feedback for the final standards.
5. Understand jurisdictional responsibilities of trailhead maintenance and explore opportunities to encourage community volunteer opportunities and programs around the access points.



The lack of wayfinding and signage about trails or greenways make it difficult for visitors to know what to expect or where they are. Source: Asakura Robinson.



Clear signage and map of the trail system with bike racks and lighting. Translating the map ensures greater accessibility. Source: Asakura Robinson.

PROJECT 3.2.2.B

Enhance Halls Bayou Trail with key improvements, including a trail on both sides of the Bayou. Enhancements should include additional neighborhood access points, safe street crossings (at grade and underpasses), amenities, trail surface improvements, and a new connection to Aldine Westfield.

Rationale

Bayou greenway trails have been expanded across Houston to connect communities to recreation opportunities and nature, and to provide another mode of transportation. Trails have been designed and built on some bayous, but not all in East Aldine. There are opportunities to connect to other neighborhoods and provide nature based recreation opportunities to the community.

Desired Outcome

Expand the greenway trail system to make the area more connected and provide outdoor recreation opportunities to support community health.

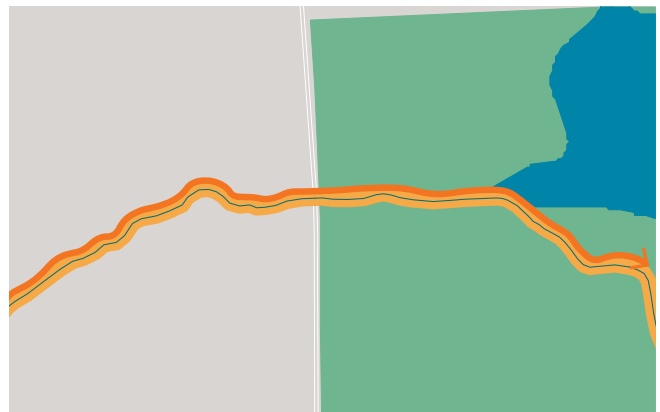
Action Steps

The Houston Parks Board's Bayou Greenways 2020 is a project to create 150 miles of trails along the main bayous traversing the City of Houston. Within the city limits, the trail planning for the greenways has mainly been completed. Now the Houston Parks Board is looking into sections outside the Houston City Limits to investigate greenways development further.

1. Reach out to Precinct 2 leadership, Houston Parks Board, and the Harris County Flood Control District to discuss opportunities to partner and coalesce goals for expanding the Halls Bayou Greenway Trail.
2. Work with Precinct 2 leadership, Houston Parks Board, and the Harris County Flood Control District to advance goals for expanding the Halls Bayou Greenway Trail.
3. Conduct a parcel analysis to identify publicly owned land/land available for purchase along or adjacent to Halls Bayou North of Keith-Wiess Park.

4. Based on the previous steps, prioritize trail sections to start implementing based on land availability and coordinated goals with Precinct 2, Houston Parks Board, and Harris County Flood Control District. Develop a phased approach for implementing the trail section(s) starting with the options that are easier and that align with other projects.
5. Launch community outreach around the development and expansion of the Halls Bayou Greenway Trail, informed by the prioritized trail sections explored earlier. Understand and incorporate community needs, visions, and goals for the greenway project(s).
6. Understand jurisdictional responsibilities of trail maintenance and explore opportunities to encourage community volunteer opportunities and programs around the trail development.

Halls Bayou (West) connection at Keith-Wiess Park



This underpass has a clear path under bridge without blind corners. The bright mural under bridge supports a sense of place and community pride. Source: Asakura Robinson.

PROJECT 3.2.2.C

Create a Complete Street on Hopper Street with enhanced connections for all modes to Halls Bayou Trail, Aldine Westfield Eat Street, surrounding neighborhoods, and Melrose Park/ Squatty Lyons Parks.

Hopper Street provides an important connection to Aldine Westfield, Halls Bayou, and Squatty Lyons Park. It is recommended for Hopper Street to be redesigned as a multimodal corridor with one lane in each direction and a center turn lane. This could be accomplished through a retrofit within the existing pavement space.

The additional space gained from removing one travel lane in each direction allows for an on-street bike lane and improved sidewalks, as well as a center turn lane that can function as a median with plantings where appropriate and pedestrian refuges at crossings. In order to link to Squatty Lyons Park, striping a shared, on-street bikeway with clear signage and pavement markings on Exeter Street and Chamberlain Street. Sidewalks along the corridor are missing in many locations or are in poor condition. Sidewalks should be rebuilt to be a minimum 5' wide where feasible. Wayfinding and placemaking to highlight connections to nearby destinations is also important to include.

There are multiple ways to create a multimodal connection along Hopper Street. The cross sections on page 164 and 165 highlight the design described here as well as additional options for a two-lane street if through coordination and traffic count data it is determined that three lanes are not required. It is recommended to construct new sidewalks along Hopper Road in the back of curb area leaving room for mailboxes (option 1). If that is not a feasible solution, a protected, on-street facility for walking and biking may be explored as a potential solution (option 2). Option 2 could also be explored as a pilot project to collect data and feedback prior to making any long-term changes to the corridor.

This recommendation should be used as a starting point for conversation with Harris County and the community to inform future design.

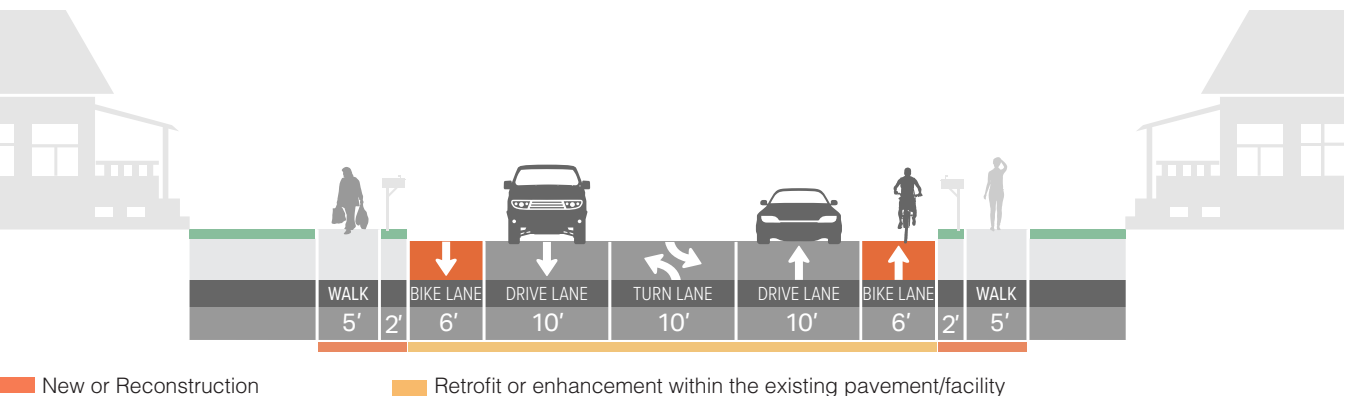
Rationale

There is currently a lack of multimodal transportation options east-west between Halls Bayou and Squatty Lyons Park. A more complete street along Hopper Street would allow for pedestrians and cyclists to safely get to parks and trail systems.

Desired Outcome

Creating more connected communities means sharing roadways with other means of transportation such as bikes and scooters.

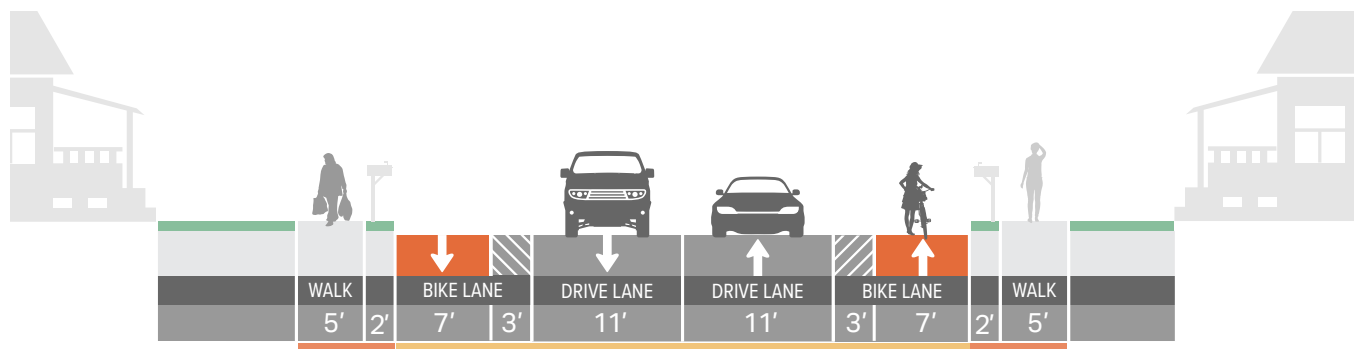
Hopper Road Proposed Improvements



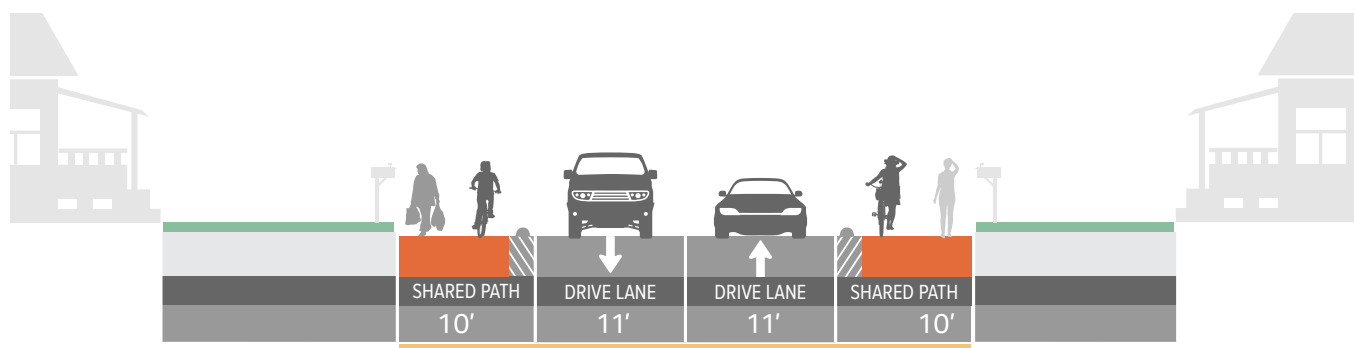
Action Steps

1. Coordinate with Harris County to identify the best design option that can accommodate people driving, walking, and biking safely and comfortably within the current right-of-way and curb .
2. Launch a comprehensive redesign of Hopper Road to reflect complete streets guidelines to link Halls Bayou and Melrose Park/Squatty Lyons Parks.
3. Fund the project and work with the design team to create a multimodal route east/west along Hopper Road.
4. Launch community outreach about the roadway design to gather information about community's values and context for the improved roadway.
5. Understand jurisdictional responsibilities of roadway maintenance and work with partners to provide the needed care for the asset.

Hopper Road Improvement Option 1



Hopper Road Improvement Option 2



■ New or Reconstruction

■ Retrofit or enhancement within the existing pavement/facility

PROJECT 3.2.2.D:

Support tree planting where possible along ROW and on public land to reduce the burden of urban heat and heat related illnesses.

Rationale

Heat in Houston is a major environmental and health issue, and current research has found that there is not an equal distribution of urban tree canopy across the region. Taking steps to plant trees especially where people spend time outside will help to mitigate the temperatures through shade and evapotranspiration.

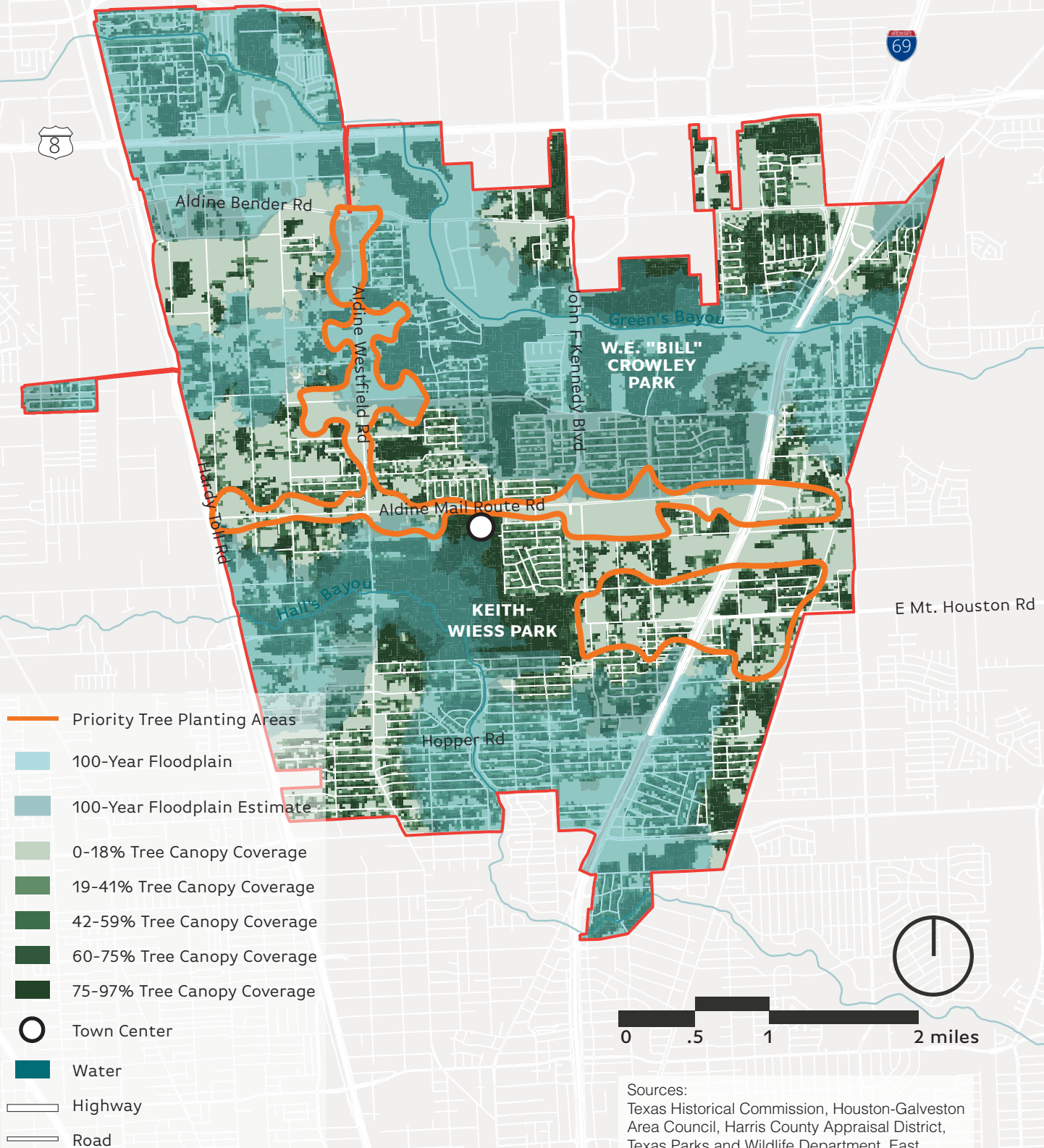
Desired Outcome

Urban tree canopy can reduce urban heat and provide more comfortable places to be outside during extreme heat.

Action Steps

1. Use the City of Houston's Parks and Recreation Department Tree Planting Species lists as standard for any future tree planting. Ensure a variety of species are being planted throughout the neighborhood
2. Coordinate with Trees for Houston to partner on planting and stewardship.
3. Launch community outreach about urban tree canopy and the benefits to the urban heat within the district. Encourage tree planting on private property.
4. Understand responsibilities associated with tree maintenance and explore opportunities to encourage community volunteer opportunities and programs around tree planting.

PRIORITY TREE PLANTING AREAS



RECOMMENDATION 3.3:

Activate access to schools and learning centers with direct and safe connections from surrounding neighborhoods.

STRATEGY 3.3.1: EDUCATIONAL ACCESS

Facilitate safe access to education by connecting neighborhoods to schools with key multimodal projects that help to “complete the grid.” This includes access for K-12 and Technology Centers.

PROJECT 3.3.1.A: SAFE ROUTES TO SCHOOL

Facilitate Safe Routes to Schools improvements, including sidewalks, spot improvements for intersections, and new connections that increase access from neighborhoods.

East Aldine has an abundance of schools in the study area ranging from early childhood and elementary to high school and community college. Focusing on access to schools for children and families to walk or bike builds healthy and active habits for the future, provides value for the surrounding neighborhood, and can encourage local investment. Comfortable, accessible routes to and from the area schools for people walking and biking link schools to the community and provide access between schools and beyond to places where students may want to go.

“Safe Routes to Schools” is a national movement designed provide safe, accessible means for children to walk or bike to schools in their communities. There are many treatments and countermeasures recommended for Safe Routes to Schools projects. Details about this program and recommended countermeasures can be found at www.saferoutespartnership.org.

Within East Aldine, there are many neighborhoods where dead-end roads and culs-de-sac do not connect to schools and create significant barriers and longer walking distances. The table on page 169 and map on

page 170 show priority Safe Routes to School improvements. These improvements do not reflect the full needs in the community but provide a starting point for lower cost, feasible improvements.

The recommendations here are focused on breaking down those barriers and providing sidewalks along key corridor segments near schools. Many areas within the study area lack sidewalks to schools, but are also open ditch, which increases the cost and feasibility of those improvements. All corridors that provide access to schools should include sidewalks and may be possible as a part of larger projects improving roadways and drainage.

Key types of infrastructure that support Safe Routes to Schools include:

- Sidewalk improvements: replace dilapidated sidewalks, create new sidewalks where none exist, and enhance existing sidewalks.
- Curb ramp improvements to allow for ADA accessibility and update out of date design.
- Lighting to provide safety and security along major school access routes for people walking and biking.
- Signage improvements that provide wayfinding and notification of pedestrians or cyclists that may be within the corridors.
- Safe crossings that may include new crosswalks; raised medians; high visibility paint on crosswalks; HAWK signals, RRFB (rectangular rapid flash beacon) signals; pedestrian bulb-outs at intersections; and other considerations.

Rationale

Children and people walking or biking are more vulnerable to conflicts with vehicles and are more likely to have negative safety outcomes from those crashes. Using Safe Routes to Schools principles can ensure that students can easily access schools as well as encourage healthy, active habits for the future.

Desired Outcome

Safe, walkable corridors and pathways connecting neighborhoods and schools for people of all ages and abilities.

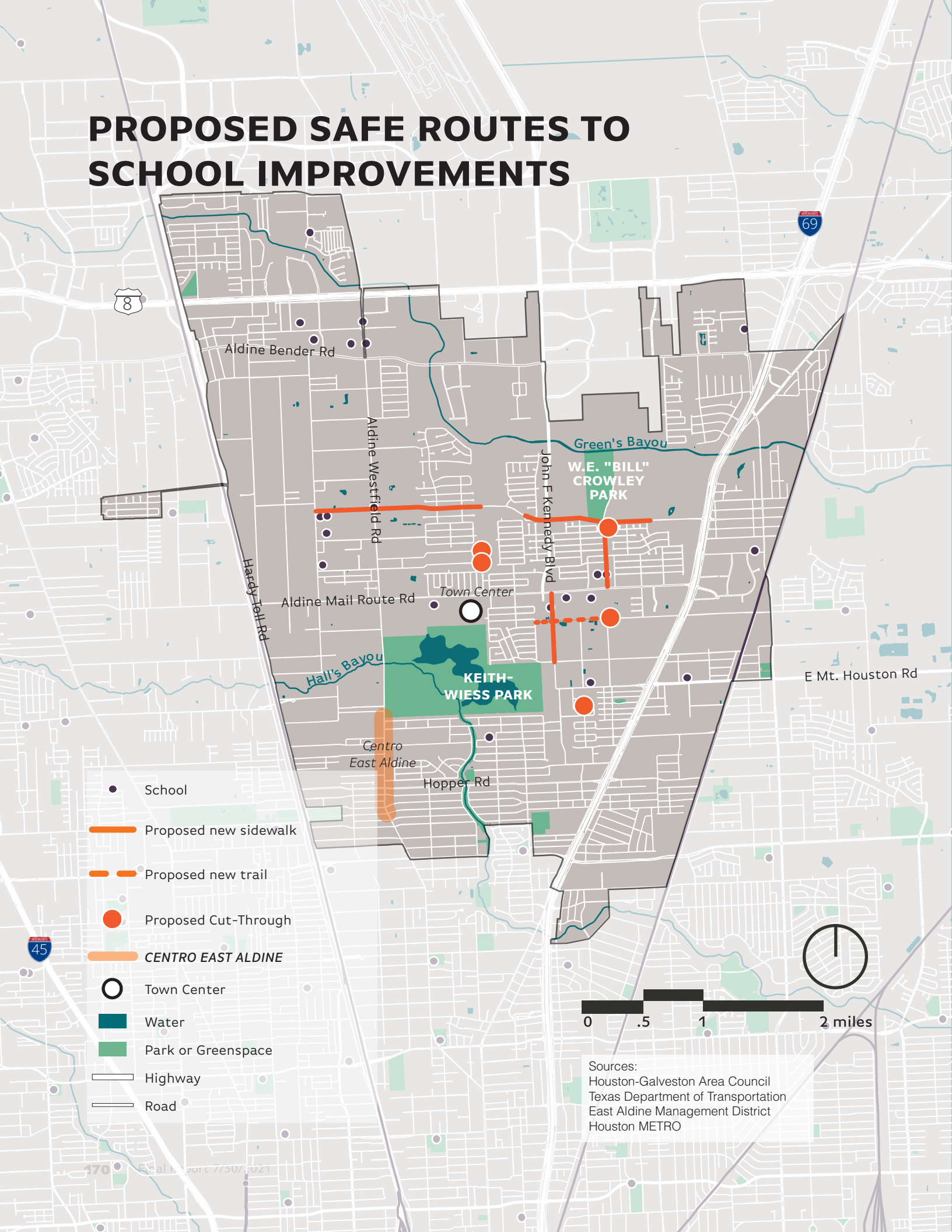
Action Steps

1. Work with Aldine ISD and Harris County to identify and construct improvements for safety and walkability around schools and between schools and neighborhoods.
2. Identify funding opportunities to implement targeted improvements.
3. Partner with Aldine Independent School District to develop an education program in concert with capital improvements.

Proposed Safe Routes to School Improvements

| ID | LOCATION | DESCRIPTION |
|----|---|--|
| 1 | Foxhill St at Harrow St | Improve access easement to school property with formalized path |
| 2 | Plum Meadow Ln south of Bethany Ln | Create a trail along the drainage channel from Plum Meadow to Gloger. Could potentially go to Vickery as well. |
| 3 | Gloger St. south of Aldine Mail Route Rd. | Provide sidewalks on one side of the corridor (at a minimum) between Aldine Mail Route Road and Orange Grove Drive |
| 4 | North end of Connor St | Create a cut-through to school site |
| 5 | West end of Winfield Rd | Create a cut-through to school site |
| 6 | Vickery St | Construct sidewalks on the west side of Vickery St from Aldine Mail Route Rd to Lauder Rd |
| 7 | Sandydale Ln | Create a cut through on Sandydale Ln to the school site just west of Patel Ln |
| 8 | Ladin Dr | Create a cut through at east end of Ladin Drive over the drainage channel to school site |
| 9 | Lauder Rd complete sidewalks (south side) | Construct a sidewalk on the south side of Lauder Road extending east and west from the existing sidewalks at Mead Middle School |
| 10 | Chrisman Rd | Construct a sidewalk on the east side of Chrisman Rd between Aldine Mail Route Rd and Lauder Rd |
| 11 | Sandydale Ln | Create a connection along the drainage channel from the eastern end of Sandydale Ln to the Ladin Dr cut through to the school site |

PROPOSED SAFE ROUTES TO SCHOOL IMPROVEMENTS



● School

— Proposed new sidewalk

- - - Proposed new trail

● Proposed Cut-Through

CENTRO EAST ALDINE

○ Town Center

■ Water

■ Park or Greenspace

— Highway

— Road

0 .5 1 2 miles

Sources:
Houston-Galveston Area Council
Texas Department of Transportation
East Aldine Management District
Houston METRO

RECOMMENDATION 3.4:

Strengthen economic opportunities through strategic regional connections supporting accessibility for local and regional businesses and workers.

STRATEGY 3.4.1: 6 JENSEN LINE

Expand airport transit access to better accommodate the needs of airport-related shift-workers and employees within the community.

PROJECT 3.4.1.A:

Coordinate with METRO to improve the 6 Jensen line, increasing job access and connectivity to IAH.

East Aldine's close proximity to Bush Intercontinental Airport facilitates its ability to provide ample quality housing for the airport's many employees, many of which are shift-employees with hours outside of a traditional nine-to-five work schedule.

METRONext's planned service enhancements call for the realignment of the existing 6 Jensen route to serve the airport. In addition, the service plan calls for upgrading the frequency of the line through East Aldine from every hour to every 30 minutes. Although the realignment is a strong positive change for airport employment access, it comes at the expense of a direct connection between the District and the North Houston District (Greenspoint). The District should engage its residents and employers to gauge the size of this impact and explore options for mitigation.

The District should recognize the link that the 6 Jensen/Greens provides and should factor its all-day ridership into decision-making regarding its other recommendations regarding housing, land-use, and the location of community services and amenities. The District should also lobby for increasing the span of service on this line to accommodate early-morning and graveyard shifts at the airport. Alternatively, the District could advocate for the creation of a dedicated late-night network with the 6 Jensen as an included line.

The District should coordinate with METRO to accelerate planned improvements for frequency and span-of-service on connecting local lines to provide better, more reliable service. The District should monitor new development patterns and provide input to the transit agency when land-use changes begin to increase the viability for more frequent transit service.

Rationale

It is recommended to reroute and increase frequency of the 6 Jensen route to provide direct service between the community and the airport. This project builds on METRONext and would improve access to jobs for many in the community. East Aldine Management District should advocate for this improvement and coordinate with METRO to provide direct service between the community and the airport at 30 minute frequency.

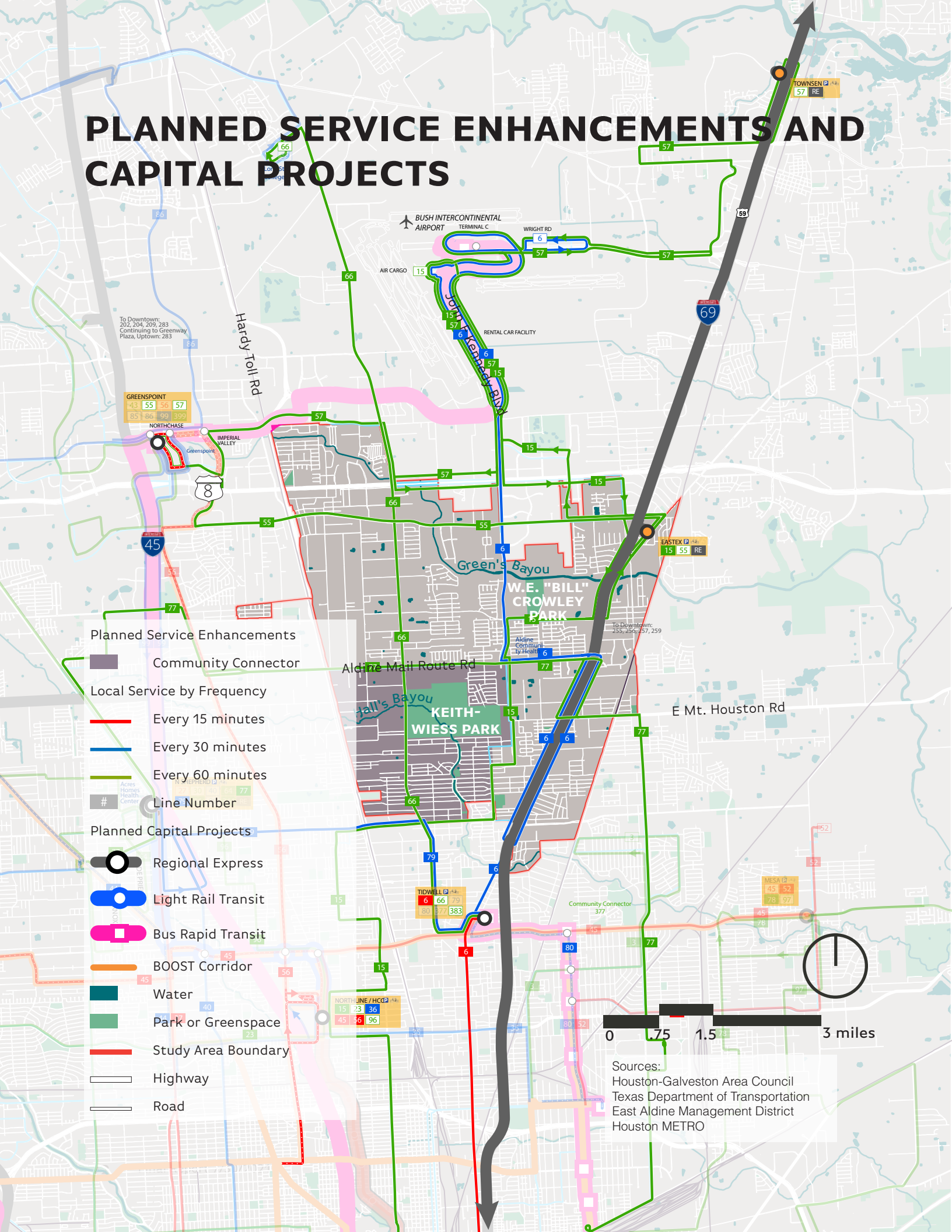
Desired Outcome

This project will make transit a viable, reliable, and attractive option to strengthen access to employment at IAH and create opportunity to develop housing for airport workers along this corridor.

Action Steps

1. Coordinate with METRO for the short-term realignment of the 6 Jensen to IAH and the associated frequency improvements within METRONext.
2. Advocate for span-of-service improvements to Line 6 in order to provide access to all shift times at the airport, including overnight.
3. Actively monitor trends in airport employees residence locations with the Houston Airport System to adjust service as needed.

PLANNED SERVICE ENHANCEMENTS AND CAPITAL PROJECTS



STRATEGY 3.4.2:

Improve access to and promote awareness of the Eastex Park and Ride and the Tidwell Transit Center.

PROJECT 3.4.1.A:

Improve community access to Eastex Park & Ride and Tidwell Transit Center as future hub of Regional Express Transit service with two-way, 7 day a week connection to Downtown/TMC and Kingwood as well as Tidwell TC, the terminus of the University Corridor BRT.

As a part of METRONext, existing weekday-only peak-oriented Park & Ride trips will be transformed into a bidirectional, seven-day-a-week service that will dramatically improve travel times for trips across the region. East Aldine will most directly see improvements along the Eastex Corridor at Eastex Park & Ride and Tidwell Transit Center, the latter of which will also connect to the METRORapid (Bus Rapid Transit) University Corridor.

The district should advocate for the rapid implementation of Regional Express service along the IH-69 corridor (Eastex) and coordinate with METRO in the planning and stakeholder processes to ensure that these capital facilities are thoughtfully designed to facilitate easy and reliable connections for passengers traveling to and from East Aldine.

The District should advocate for and partner with METRO and other agencies to increase safe, multimodal access that is more viable for the community and designed to complement any potential future site planning or nearby redevelopment.

There is a potential opportunity to work with METRO in the long term to increase the uses at Eastex PR to support both METRO and East Aldine's goals. Transit-oriented development that includes the addition of multifamily housing could support housing needs in the area, access to jobs, and supporting transit service.

The District should advocate for transit enhancements that improve access between the study area and Tidwell TC. Enhanced service to

Tidwell Transit Center provides stronger access to the Regional Express network for riders in East Aldine.

Rationale

The Eastex Park and Ride can be difficult to access and is not fully leveraged currently. With future service improvements, such as regional express, the opportunities to link the East Aldine community to the region significantly increase. Additionally, components such as pedestrian and bicycle access linked to safe bikeways, trails, and sidewalks will provide better accessibility for many who need transit to access jobs across the region. In the future there is opportunity to think about how the park and ride facility could further support other community needs that can also reinforce transit, such as potential housing.

Desired Outcome

Leverage METRO's impending investment in high-quality two-way, seven-day-a-week Regional Express service by implementing targeted improvements in access to improve access to jobs and education opportunities.

Action Steps

1. Work with METRO to improve frequency and span-of-service on the 59 Aldine Mail to facilitate fast, reliable, timed-connections with the Regional Express network.
2. Identify funding to implement new local service along Aldine Bender between Greenspoint TC and Eastex PR.
3. Identify funding to implement new local service along Aldine Westfield between Spring PR and Tidwell TC.
4. Implement features of METRO's Bike & Ride Plan at Eastex PR to increase non-automotive access.
5. Prioritize bikeway improvements that serve these facilities once Regional Express service is implemented.

IMPLEMENTATION PLAN





**EAST
ALDINE
LIVABLE
CENTER**

PREVIOUS PLANNING

A number of previous planning efforts have been brought forth by community stakeholder and partners. The concepts and goals in these plans are carried forward by this planning effort. Opportunities and barriers to these efforts have been identified below.

| PLAN | ENTITY | YEAR | PLAN VISION AND GOALS |
|--|--------|------|---|
| Aldine Community Development Plan (2000) | | 2000 | The Aldine Community Development Plan was the first true planning study of Aldine, which through an extensive public engagement process and data analysis, covered a wide range of topics and issues that showed the need for the creation of the East Aldine Management District. Topics cover flooding, crime, and redevelopment. |
| East Aldine Management District Service and Action Plan, (2002) | EAMD | 2002 | In 2001, the Texas Legislature created the Aldine Improvement District and voters in the community approved a one-cent sales tax. The Service and Action Plan established the "vision, goals, and services to be rendered, and improvements to be made" by the District. The Plan categorizes action items into categories such as Water/Sewer Infrastructure, Transportation and Mobility, Security and Public Safety, Environmental and Urban Design, Neighborhood Clean-Up, Economic Development and Public Relations, and more. The plan was broad to allow flexibility in adapting to needs and opportunities in the community. Actions proposed in the plan were based on recommendations of the Aldine Community Development Plan. |
| Aldine Improvement District Water & Wastewater Planning Study (2004) | | 2004 | The existing water and wastewater infrastructure at the time of this report was insufficient to handle the capacity of residents in the area with nearly one quarter of individual septic systems in failing condition and thousands more were on lots too small for onsite septic systems. This planning study identified solutions to address the insufficient water and wastewater conditions of the East Aldine District area. |
| Mobility, Signage, and Landscaping Master Plan (2007) | | 2007 | The purpose of the Mobility, Signage, and Landscaping Master Plan from 2007 was to identify mobility, landscaping, and signage improvements to address the District's lack of recognizable identity, mobility and safety concerns, and aesthetics. A committee was formed to help provide community-wide perspectives and to provide input on needs, priorities, and hopes for the future. Through this effort, priority roadways for improvements were defined, as well as landscaping and signage recommendations including signage placement. |

| BARRIERS TO IMPLEMENTATION | WHAT HAS BEEN IMPLEMENTED? |
|--|--|
| There are opportunities in this planning effort to further many of the items in this plan, including continuing mobility improvements. There are also opportunities to develop partnerships and seek additional funding for many items proposed. | The major outcome from this plan was the creation of the Aldine Improvement District, now the East Aldine Management District. Subsequent studies and projects by the District and its partners including the District's street light program, substantial water and sewer improvements, stormwater management improvements, education and community services, gateways and landscaping along major entryways into the city, the mosquito spray program, and heavy trash pickup. |
| There are opportunities in this planning effort to further many of the items in this plan, looking for partnerships and funding for these items will be key to this effort. | Major outcomes of this effort include the successful application to the Texas Water Development Board and subsequent increase in the number of residents with water and sewer service, the development of a website with information available to brokers and business/property owners, and the installation of 307 new street lights in East Aldine, with an additional 51 recently approved. Other implemented programs include a graffiti abatement program, a mosquito spray program, regular heavy trash service, the study and implementation of gateway and landscaping improvements, and financial support and partnership with the Harris County Sheriff's Office to address criminal activity. |
| There are still some improvements to be made, and the barriers to completing improvements are time and money/resources. | The Aldine Water & Sewer Authority was established as the Local Government Corporation that allows for CDBG funds to support infrastructure improvements such as water and wastewater. The majority of the projects identified in this 2004 study have been implemented over time with partnerships with Harris County or the Texas Water Development Board. |
| The biggest barriers to implementing the projects identified in this plan are due to the focus of water and wastewater needs of the area as a priority. Most grants and funds received are specific to water and wastewater improvements, and not mobility or signage improvements. Other barriers in general are lack of funding and lack of partnerships to focus on these issues. | Monument signage indicating East Aldine District with landscaping has been placed at a few key locations throughout the district to reflect branding and acknowledgement of entering the district. There are East Aldine street signs at most major intersection lights also, that were defined in this plan. Additionally, there were crosswalks implemented along East Aldine Mail Route near MacArthur High School to help three locations for safer crossing, but no rumble strips were added per the plan recommendation. There are a few "Keep Aldine Clean" signs that were also implemented along Aldine Mail Route. The JFK Boulevard softscape/landscape elements were implemented. |

| PLAN | ENTITY | YEAR | PLAN VISION AND GOALS |
|---|---|------|---|
| Market Analysis and Economic Development Strategy (2009) | EAMD | 2009 | The goal of the 2009 Market Analysis and Economic Development Strategy report, successor to a similar report completed in 2005, is to direct EAMD in planning, targeting and implementing programs for marketing and recruiting businesses to the District. The proposed strategies included: attracting development along JFK Boulevard and US 59 between Little York and west Mount Houston; attracting light industrial and service businesses to match East Aldine's local workforce and skill sets and provide additional retail and restaurant demand; supporting small businesses with access to information and direct assistance; and implementing several marketing activities. |
| East Aldine District Town Center Park Master Plan (2013) | EAMD | 2013 | The focus of the East Aldine District Town Center Master Plan is to finalize the envisioned program requirements of the 61 acre site in the center of East Aldine and create the best plan to incorporate those elements into an overall Planned Unit Development (PUD) that engages the community, meets its needs and blends, and enhances neighboring Keith Wiess Park. The elements of the town center include the Lone Star College - East Aldine Center campus, a retail district, emergency services district, Harris County Sheriff's Office, public park features including a detention pond, and associated infrastructure. The vision for the site character is to transform an otherwise featureless area into a beautiful civic space within a larger park environment by expanding the existing woods north from Keith-Wiess Park through extensive reforestation and developing a required site detention basin into a central feature. |
| East Aldine District's Town Center Development: A Health Impact Assessment in Harris County, Texas (2015) | Harris County Public Health (in partnership with East Aldine Management District) | 2016 | East Aldine District (EAD) proposed a town center with the aim to provide greater access to services and amenities such as a grocery store and health clinic for EAD residents. The HIA's main goal was to assess the potential health impacts and other health costs associated with the proposed town center. The HIA provided findings around community health and associated economic impacts, and also made recommendations to mitigate negative health impacts such as traffic accidents and to enhance predicted health benefits. The HIA recommended that EAD implement crash reduction strategies to reduce pedestrian injuries associated with increased traffic; enhance pedestrian and bicyclist comfort to increase physical activity levels; strengthen EAD's relationship with local law enforcement to implement crime reduction measures; increase or create funding and incentives for a quality and affordable grocery store in town center; and engage community health workers to enhance access to health care. |
| East Aldine Management District Board Retreat Results (2017) | EAMD | 2017 | The EAMD Board of Directors and staff attended a retreat for purposes of refining the direction of the organization, and this document summarizes those results. The team ranked priorities of the organization, in the following order: water and sewer projects, economic development and marketing, mobility including street and intersection improvements and sidewalks, public safety patrols including graffiti abatement and security cameras, beautification, public health and welfare, and community development support activities. |

1 PEW, "East Aldine District's Town Center Development," Nov 1, 2016, <https://bit.ly/3fjm7h6>

2 Harris County Public Health, "Safe Crossings Project," 2019, <https://bit.ly/2UHIh38>

| BARRIERS TO IMPLEMENTATION | WHAT HAS BEEN IMPLEMENTED? |
|---|--|
| <p>In the time since the report's writing, there has been substantial market activity along the major corridors and in the industrial areas where the plan's recommendations are focused, making implementation of the development strategies less crucial. These market dynamics leave room for a renewed focus on small business development in the District.</p> | <p>Warehouse and light industrial activity has been robust along JFK Boulevard and Beltway 8; however less redevelopment has taken place along US 59. A maker space to support local small businesses and potential entrepreneurs was created as part of the BakerRipley facility in the East Aldine Town Center.</p> |
| <p>Barriers to implementation include funding, development limitations, and stakeholder capacity.</p> | <p>The East Aldine District Town Center Master Plan is a multi phase project unfolding over years dependent on funding. Most of the improvements associated with Phase One of the project have been implemented. Phase 1A-Site, the overall site grading and regional wet-bottom detention pond has been completed. This includes a trail and trail amenities, reforestation areas, and landscape improvements blending into Keith-Wiess Park. Phase 1A-Building included the construction of the east access road, E. Aldine Amphitheater Drive, site utilities, and an East Aldine District Building. The access road and utilities have been constructed but the district building has not been constructed. Phase 1B including the main access road, Deergrove Street, associated utilities, and utility connections to Lone Star College have been completed. However, not all the landscape improvements have been constructed that were proposed for Phase 1B. One "town green" has been created associated with the East Aldine Town Center shopping mall. Approximately 75% of the parcel has been developed.</p> |
| <p>Barriers to implementation include funding, flooding, and connectivity.</p> | <p>Since the report was published in 2016, according to the Pew Trusts, one of the funders of the HIA effort, the Town Center's plan was revised to incorporate the HIA's recommendations, including "sidewalks, lighting, and trail connections to nearby Keith-Weiss Park."¹ The HIA also led to the EAD's application to the Houston-Galveston Area Council for the East Aldine livable center planning study. EAD has used the HIA report to advocate for more pedestrian infrastructure near schools, and in 2019, Harris County Public Health published the Safe Crossings Project for East Aldine with the aim to improve pedestrian and bicyclist safety by "identifying improvements to streets and intersections that pose a risk for increased injury in East Aldine, with a special focus on the physical environment within a 1 mile radius of the East Aldine Town Center and Keith-Wiess Park."²</p> |
| <p>There are opportunities in this planning effort to further many of the items in this plan, looking for partnerships and funding for these items will be key to this effort.</p> | <p>Major Outcomes include a series of single family and multifamily projects in East Aldine in response to the Board's desire for new housing options and the creation of the East Aldine Economic Development Strategic Plan.</p> |

| PLAN | ENTITY | YEAR | PLAN VISION AND GOALS |
|--|--------|------|--|
| East Aldine Resiliency Plan (2019) | EAMD | 2019 | The East Aldine Resiliency Plan was funded by a grant from the Greater Houston Flood Mitigation Consortium and was developed in response to Hurricane Harvey. The project included partnerships with four Houston neighborhoods that were impacted by flooding in the Greens and Halls Bayou watersheds and included East Aldine, Eastex/Jensen, East Houston, and Greenspoint. The goal of the plan is to provide resiliency strategies for the neighborhood, which are summarized into six categories: Water and Climate; Housing; Mobility; Health; Safety; Equity and Inclusion; Economy; and Infrastructure. The end result of this planning document is to provide a roadmap at how the East Aldine neighborhood can be more resilient to major shocks and stresses within the area. |
| East Aldine Economic Development Strategic Plan (2020) | EAMD | 2020 | The East Aldine Management District completed the East Aldine Economic Development Strategic Plan in 2021 and outlines strategies for maintaining identity through growth, collaborating with investors, and avoiding gentrification. The plan addresses various types of economic development including entrepreneurship and small business, business recruitment and attraction, and community marketing. |

| BARRIERS TO IMPLEMENTATION | WHAT HAS BEEN IMPLEMENTED? |
|--|---|
| <p>Good job at recognizing buy outs can have a good ending, such as agri-tourism. Food/food industry.</p> | <p>Flooding will always be an issue in the East Aldine neighborhood, however the resiliency plan outlines strategic buyout opportunities and advocates for relocation programs, funding for new mitigation project, planning at the watershed level, stricter building regulations for flood prone areas, and a deeper public communications effort discussing the risks for flooding to increase the future resilience of families and communities. Many strategies in the document require long term planning that relies on many different disciplines coming together to implement work in the neighborhood. Since the plan was completed recently, 2019 the funding is still being procured to move forward with specific strategies. The plan highlights opportunities to turn buyout areas into community assets or opportunities.</p> |
| <p>Challenges to implementing this plan are the same challenges facing East Aldine as a whole: flooding, supporting locally owned businesses, crime, and gentrification.</p> | <p>A variety of recommendations in this plan are concurrent to and being carried forward by the East Aldine Livable Center.</p> |

IMPLEMENTATION MATRIX

Project implementers have been identified for all of the projects in this report. Timeline, funding source, project leads, and other information has been detailed in this section.

PARTNER ENTITY OVERVIEW

| ENTITY | PURPOSE | ASSETS | ABILITIES |
|---|--|--|--|
| CITY OF HOUSTON PLANNING AND DEVELOPMENT | Manage land-development regulations, enhance and protect neighborhood character and stability, and provide reliable data, mapping and analysis to decision makers | City general fund, City special revenue fund | Historic preservation, Implement land development regulations, Improve transportation planning efforts, Pursue grant funding, Review projects for compliance with development codes |
| HARRIS COUNTY PRECINCT 2 | Deliver responsive public services to improve the quality of life, advance equality of opportunity, and promote the fair treatment for all | Tax revenue, government grants | Bikeway/Street/Sidewalk/Trail improvements, Park & community center programming, flood mitigation projects |
| METRO | Develop, operate, and maintain a mass transit system to serve the residents within and visitors to its service area | Sales tax, grants, fares | Expansion and enhancement of transit infrastructure, design and plan expansions and enhancements |
| CITY OF HOUSTON OFFICE OF SUSTAINABILITY | Encourage green development and lifestyles across the city by carrying out green projects, educating on pressing environmental issues, and promoting sustainable projects and services | City general fund | Support greenhouse gas mitigation initiatives, Serve as a liaison between the City and other entities on matters pertaining to greenhouse gas mitigation, Provide support on utility regulation and its cost saving efficiencies |
| CITY OF HOUSTON PARKS | Enhance the quality of urban life by providing safe, well-maintained parks, and offering affordable programming for our community | City general fund, City special revenue fund, Parks and Open Spaces Ordinance fees | Park maintenance and construction, Programming, Land acquisition for park purposes |
| HARRIS COUNTY HOUSING | Provide housing and assistance programs designed to create desirable, livable, and sustainable communities | Government grants, tenant revenue | Own and manage affordable housing properties |

| ENTITY | PURPOSE | ASSETS | ABILITIES |
|---|--|--|---|
| BAKERRIPLEY | Builds vibrant communities to keep Houston a place of opportunity for all who are working for a better life, through a variety of programs and services. | East Aldine Campus facilities, existing programs, community connections | Provide community-focused programming, services and education |
| HARRIS COUNTY ENGINEERING | Deliver infrastructure and public services to Harris County | Engineering understanding, Harris County resources | Engineering, architecture, project management, real property assessment/ acquisition, and construction |
| HARRIS COUNTY HEALTH | Promote community health and safety, prevent illness and injury | Public Health initiatives and connections, Harris County resources | Provide resources, information, and services; connect communities to funding based on demonstrated community needs |
| HARRIS COUNTY FLOOD CONTROL DISTRICT | Provide flood damage reduction projects that work, with appropriate regard for community and natural values | A dedicated ad valorem property tax; Federal and state grants; Project cost sharing agreements with other local, state and federal governments; Funding allocated each year by Harris County Commissioners Court | Implement flood damage reduction projects |
| TXDOT | Plan, design, build, operate and maintain Texas highways. | Transportation understanding, funding | Support community mobility goals |
| HOPE CLINIC | Provide quality community healthcare in the East Aldine District, and throughout the Houston area | Central location within the Town Center | Provide medical care regardless of income, insurance coverage, native language, immigration status or English proficiency |
| EAST ALDINE ARTS COUNCIL | Promote and advocate for the visual arts throughout the East Aldine community. | Community connections | Advocate for the inclusion of art in projects, facilitate implementation of arts-related projects |
| LOCAL DEVELOPERS | Build housing to support community desires | Private capital | Implementing housing needs, increasing housing diversity |
| HARRIS COUNTY COMMUNITY SERVICES | Support Harris County residents through supportive programs, financial assistance, and encouraging investment in communities | Grants | Grants management, housing services and support, social services |

| ENTITY | PURPOSE | ASSETS | ABILITIES |
|---|--|---|---|
| ALDINE ISD | Provide public education to the Aldine area | Connection to students and parents | Advocate for and gather input on Safe Routes to School improvements |
| LONE STAR COLLEGE | A public community college offering Associate Degrees, Workforce Certificates and Transfer Credits, serving the northern portions of the Greater Houston, Texas. | Campus resources, Central location within the Town Center, connection to students | Offer degrees, workforce certificates and transfer credits |
| UH WOLFF ENTREPRENEURSHIP CENTER | Offer degrees and certificates in business and entrepreneurship, including open-enrollment programs | Educational resources | Offer degrees and certificates in entrepreneurship and related topics |
| HOUSTON PARKS BOARD | Create, improve, protect, and advocate for parks in the Houston area | Partnerships, donor funds, volunteer network | Implement projects including Bayou Greenways 2020, community programs, park studies, and park care and maintenance. |

LIVABLE CENTER PLAN RECOMMENDED PROJECTS

CONCEPT 1: HEALTHY AND THRIVING

Improve physical, mental, and economic wellbeing, drawing on East Aldine's strong community ties and cultural identity, entrepreneurial spirit, and abundant green space.

| STRATEGY | PROJECT | PHASE | PARTNERS | POTENTIAL FUNDING | EAMD ROLE |
|---|---|-------|---|--|-----------|
| Recommendation 1.1: Expand small business support, entrepreneurship opportunities, and youth employment pipelines to enhance East Aldine's local business environment. | | | | | |
| 1.1.1 Develop walkable commercial area on Aldine Westfield from Keith-Wiess Park to Chamberlain called "Centro East Aldine" | 1.1.1.A Construct a streetscape enhancement program, as a part of a full street reconstruction through the district as a City CIP project, along Aldine Westfield in Centro East Aldine including pedestrian facilities, lighting, activation, wayfinding and branding. | Mid | City of Houston | City of Houston EAMD Regional funding | Support |
| | 1.1.1.B Design and publish a marketing campaign to draw people in to Centro East Aldine from across the regional for food tourism | Mid | Local businesses | EAMD Local businesses | Lead |
| 1.1.2 Utilize key opportunity sites to support local entrepreneurship | 1.1.2.A: Purchase and develop a site along Aldine Westfield in Centro East Aldine to clear and develop as a marketplace. Construct permanent stalls, restrooms, and utility access for food and goods vendors. | Long | Carlos Silva or other landowner Local businesses | EAMD Private property owners | Lead |
| 1.1.3 Develop a loan or grant program to support existing businesses through disasters | 1.1.3.A: Create and regularly update a set of disaster resources for small businesses including 1) a list of grants and loans available to small businesses, 2) Assistance with grant application, and 3) a list of free or low-cost resources in the community including contractors, legal services, food providers, and other services. | Short | Local businesses | EAMD Grants and loans Regional funding | Lead |

| STRATEGY | PROJECT | PHASE | PARTNERS | POTENTIAL FUNDING | EAMD ROLE |
|--|--|-------|--|--|-----------|
| 1.1.4 Expand access to, and opportunities within, existing business development programs | 1.1.4.A: Partner with BakerRipley's Entrepreneur programs and commercial kitchen space to connect program participants and commercial kitchen users to marketplace space to pilot their business concepts and/or products. | Long | BakerRipley | EAMD BakerRipley Regional funding | Support |
| | 1.1.4.B: Partner with BakerRipley to conduct outreach and advertise their Entrepreneur programs and the newly developed partnership with the Marketplace. | Mid | BakerRipley | EAMD BakerRipley Regional funding | Support |
| 1.1.5 Create a pipeline for students/youth to connect to small business opportunities | 1.1.5.A: Partner with Aldine ISD, Lone Star College and BakerRipley to conduct outreach to connect students to job training, entrepreneurial, and employment readiness programs including the Fab Lab, other BakerRipley resources, and other job training programs. | Mid | BakerRipley, Aldine ISD, Lone Star College | EAMD Aldine ISD Lone Star College BakerRipley Regional funding | Support |
| | 1.1.5.B: Designate space(s) in the marketplace for youth entrepreneurial ventures. | Long | BakerRipley, Aldine ISD, Lone Star College, UH Wolff Entrepreneurship Center | EAMD BakerRipley | Lead |
| | 1.1.5.C: Develop a mentorship program in which established businesses receive funds to "mentor" youth and newer endeavors interested in small business development. Funds should include wages for participating youth. Program would include financial literacy and job training workshops for youth in partnership with BakerRipley. | Short | Local business owners, BakerRipley, Aldine ISD, Lone Star College | EAMD Regional funding | Lead |

| STRATEGY | PROJECT | PHASE | PARTNERS | POTENTIAL FUNDING | EAMD ROLE |
|--|---|-------|---|---------------------------------------|-----------|
| Recommendation 1.2. Support residents' physical and mental health through expanded access to, and options for, healthcare, healthy places, and health-promoting activities. | | | | | |
| 1.2.1. Provide access to medical care that is safe for people of all ages and abilities with targeted multimodal improvements. | 1.2.1.A: Build bikeways on Aldine Mail Route Rd to connect surrounding residential areas to East Aldine Town Center, which also houses HOPE Clinic Aldine. | Short | METRO | METRO Regional funding | Support |
| | 1.2.1.B: Construct bike parking on or adjacent to key community amenities, including HOPE Clinic Aldine, Supermercado La Mexicana, Food City, and the BakerRipley East Aldine Campus. | Mid | Organizations, businesses, and institutions providing health-related goods and services | Harris County Regional funding | Lead |
| | 1.2.1.C: Partner with a bike advocacy nonprofit to provide education and training around active transportation at schools, community centers, and other hubs. Provide free bikes through the program. | Short | Bike advocacy nonprofit, schools, community centers | EAMD Regional funding | Lead |
| | 1.2.1.D: Work to bring a bikeshare program such as BCycle to East Aldine and place stations in low-income communities. Provide subsidized bike share options and adaptive bikes. | Mid | Employers, schools, institutions, and bike and transit advocacy groups | BCycle | Support |
| Recommendation 1.3. Uplift East Aldine's cultural identity through expanded arts programming and opportunities. | | | | | |
| 1.3.1 Develop and expand arts programming | 1.3.1.A: Build and fund an arts and culture warehouse, potentially within the scope of the Fab Lab, where community members can access art supplies, building materials, and studio space. Within this facility, create classroom space and develop programming to include topics like taxes, marketing, and business management. | Long | Local landowners | BakerRipley | Support |

CONCEPT 2: RESILIENT AND SAFE

Develop solutions to housing, flooding, and community safety.

| STRATEGY | PROJECT | PHASE | PARTNERS | FUNDING | EAMD ROLE |
|---|--|-------|----------------------------------|---|-----------|
| Recommendation 2.1. Ensure that East Aldine's multi-generational community has safe, affordable, and stable homes. | | | | | |
| 2.1.1 Develop programs to support safe and secure homes for all residents | 2.1.1.A: Partner with Harris County Community Services to connect residents with their Home Repair Program. Identify a partner to assist residents with the application process. Note: this program requires proof of citizenship to apply, and requires that properties within the 100-year floodplain have flood insurance. | Short | Harris County Community Services | EAMD | Lead |
| | 2.1.1.B: Partner with Harris County Community Services to apply for the FEMA Flood Mitigation Assistance Grant. If awarded, partner with HCCS to administer the grant. This grant, if awarded, could be used to elevate or retrofit homes that experience flooding. | Short | Harris County Community Services | Harris County FEMA Flood Mitigation Assistance Grant | Support |
| 2.1.2 Develop new housing that meets community needs and desires, fits within community context, and is safe from flood impacts | 2.1.2.A: Incentivize housing for multigenerational families in non-flood areas using relevant green infrastructure and missing middle typologies, including courtyard apartment, bungalow court, townhouse, and live/work. | Short | Local developers, funders | EAMD Local developers | Lead |
| Recommendation 2.2. Create physical and social infrastructure and systems that keep residents safe and minimize negative impacts during extreme weather events | | | | | |
| 2.2.1 Create systems to help residents during flooding events | 2.2.1.A: Help the community prepare for flooding events by hosting annual programming to inform the community in late winter/early spring before the hurricane season, coordinating with local businesses to give out Preparedness Kits for free with instructions in English & Spanish. Help the community during flooding events by creating a communications chain to reach out to the community, establishing disaster meet-up locations to provide provision after the event. | Short | Harris County Flood Control | Harris County Regional funding | Support |
| 2.2.2 Develop local resiliency from unknown and known future disaster events | 2.2.2.A: Use an adaptive approach to updating the Hazard Mitigation Plan to respond to community needs, annually if possible. Know the nuance that makes community members and communities vulnerable. Host programming to get information out to the community regarding disasters | Mid | Harris County Flood Control | Harris County Regional funding | Support |

CONCEPT 3: CONNECTED AND COMPLETE

Implement and build upon recommendations from previous planning efforts to improve connections within the district, to surrounding areas, and to key destinations and opportunities for people of all ages and abilities.

| STRATEGY | PROJECT | PHASE | PARTNERS | FUNDING | EAMD ROLE |
|--|---|----------------------|--------------------------------|----------------------------------|-----------|
| Recommendation 3.1. Create a connected community core that allows for safe places to walk, bike, take transit, and drive that connect logically into the surrounding community. | | | | | |
| 3.1.1 The Town Center is the emerging vibrant hub of the District. It is necessary to ensure the community has navigable (easy/direct), safe, and comfortable access to the Town Center from surrounding neighborhoods and Keith Weiss Park. | 3.1.1.A: Connect the Town Center to the surrounding businesses, neighborhoods, and Keith Weiss Park with a new greenway, sidewalk improvements and safe crossings | Mid | Harris County | Harris County | Support |
| 3.1.2 Aldine Westfield and Aldine Mail Routes are the social and economic heart of the District. Reconstruction of these routes to allow for safe, multimodal access to better facilitate economic opportunity with a clear sense of place is recommended. | 3.1.2.A: Rebuild the Aldine Westfield and Aldine Mail Route corridors with multimodal enhancements and placemaking to support economic opportunity and increased access to transit, businesses, and community destinations. | Mid (AMR), Long (AW) | City of Houston, Harris County | City of Houston Harris County | Support |

| STRATEGY | PROJECT | PHASE | PARTNERS | FUNDING | EAMD ROLE |
|--|---|-------|------------------------------------|--|-----------|
| 3.1.3 Enhance transit opportunities that allow convenient access to destinations within East Aldine and connect the community to the Greater Aldine area and Houston region. | 3.1.3.A: Increase transit options and amenities to encourage transit use and facilitate connections within East Aldine and beyond to the Greater Aldine community and Houston region. | Short | METRO | METRO | Lead |
| 3.1.4 Enhance intersection safety at key locations throughout the community | 3.1.4.A: Improve intersections and crossings along key corridors for safety and operations, including the Eastex Freeway, Little York, Hopper, W Mt Houston, and Aldine Mail Route. | Short | City of Houston, Harris County | City of Houston Harris County | Lead |
| Recommendation 3.2. Increase access and opportunities to healthy spaces by leveraging, connecting, and extending the reach of bayous, parks, and medical care. | | | | | |
| 3.2.1 Community Connector Trail - Leverage Greens Bayou, the Town Center, Keith Weiss Park, and Halls Bayou by developing new trails | 3.2.1.A: Develop the Greens Bayou Greenway Trail from the Hardy Toll Road to BW 8 to US 59/Homestead with neighborhood connections and links to the regional Bayou Greenway system in North Houston/ Greenspoint. | Mid | Harris County, Houston Parks Board | Harris County Houston Parks Board Regional Funding | Support |
| | 3.1.2.B: Create a community trail between Greens Bayou to the Town Center greenway supporting neighborhood access to greenspace, schools, and the Town Center. | Mid | Harris County, Houston Parks Board | Harris County Houston Parks Board Regional Funding | Support |

| STRATEGY | PROJECT | PHASE | PARTNERS | FUNDING | EAMD ROLE |
|---|---|-------|------------------------------------|--|-----------|
| 3.2.2 Provide enhanced access to trails, neighborhood parks and open spaces. This includes increasing access points and improving safety with proposed connections. | 3.2.2.A: Assure that trailheads have wayfinding, directions to the nearest ROW, lighting, and is visible with no major plant material in the way of the entrance. | Mid | Harris County | | Support |
| | 3.2.2.B: Enhance Halls Bayou Trail with key improvements, including a trail on both sides of the Bayou. Additional neighborhood access points, safe street crossings (at grade and underpasses), amenities, trail surface improvements, and a new connection to Aldine Westfield. | Mid | Harris County, Houston Parks Board | Harris County Houston Parks Board Regional Funding | Support |
| | 3.2.2.C: Create a Complete Street on Hopper Street with enhanced connections for all modes to Halls Bayou Trail, Aldine Westfield Eat Street, surrounding neighborhoods, and Melrose Park/Squatty Lyons Parks. | Short | Harris County | Harris County Regional funding | Support |
| | 3.2.2.D: Support tree planting where possible along ROW and on public land to reduce the burden of urban heat and heat related illnesses. | Long | Harris County, City of Houston | Harris County City of Houston | Support |

| STRATEGY | PROJECT | PHASE | PARTNERS | FUNDING | EAMD ROLE |
|---|---|-------|---------------------------|---|-----------|
| Recommendation 3.3 Activate access to schools and learning centers with direct and safe connections from surrounding neighborhoods. | | | | | |
| 3.3.1 Facilitate safe access to education by connecting neighborhoods to schools with key multimodal projects that help to "complete the grid." This includes access for K-12 and Technology Centers. | 3.3.1.A: Facilitate Safe Routes to Schools improvements, including sidewalks, spot improvements for intersections, and new connections that increase access from neighborhoods. | Short | Harris County, Aldine ISD | Harris County Aldine ISD Regional funding | Lead |
| Recommendation 3.4. Strengthen economic opportunities through strategic regional connections supporting accessibility for local and regional businesses and workers. | | | | | |
| 3.4.1 Expand airport transit access to better accommodate the needs of airport-related shift-workers and employees within the community | 3.4.1.A: Coordinate with METRO to improve the 6 Jensen line, increasing job access and connectivity to IAH. | Short | METRO | METRO | Support |
| 3.4.2 improve access to and promote awareness of the Eastex P&R | 3.4.2.A: Improve community access to Eastex Park & Ride as future hub of Regional Express Transit service with two-way 7 day a week connection to Downtown/TMC and Kingwood as well as Tidwell TC, the terminus of the University Corridor BRT. | Mid | METRO | METRO | Support |

RESILIENCE IMPACTS

The following section outlines key ways to further resilience goals within East Aldine. Many of the strategies are complementary to the existing efforts and plans outlined in both Resilient Houston, the Houston Climate Action Plan, as well as the East Aldine Resilience Plan.

WHAT IS RESILIENCE?

Resilient Houston (2020) defines resilience as the capacity of individuals, communities, institutions, businesses, and systems within an urban area to survive, adapt, and thrive no matter what kinds of chronic stresses and acute shocks they experience. It's important to note, the kind of resilience we are working toward regionally certainly includes climate resilience - how we are going to respond to urban heat, more frequent and more severe flooding, etc., but the holistic lens of this work means we are also looking equally at the ways we can support economic and social resilience in the face of economic downturns, industry shifts, chronic social issues, and many other factors. Without looking holistically at economic, social, and environmental resilience, we miss opportunities to most effectively act to improve upon our resilience in our most urban places. Resilient Houston (2020) also looks to ensure we work across many scales - everything from the way individuals and families can experience the need for increased resilience and adaptation, to understanding its influence on the neighborhood scale, bayous, and the region as a whole.

Working toward resilience is central to this East Aldine Livable Center Study. In the next section, we break resilience outcomes into key themes to better highlight how concepts identified will impact the ability of all within East Aldine and beyond to adapt and thrive.

KEY THEMES

Upon implementation, the concepts outlined in this plan will impact across eight key themes: Safe and Active, Urban Heat, Water, Connection to Community and Nature, Sustainability, Access to Housing, Access to Opportunity, and Honoring Culture and Trauma. Every recommendation touches at least one resilience impact key theme.

SAFE AND ACTIVE

Existing studies and plans for East Aldine have focused on safety related to Mobility, Lighting, Public Safety, Security. Promoting safe and active living amongst residents and visitors requires an understanding of the nuances of community health, and understanding safety using comprehensive data and robust engagement towards an East Aldine that is a more interconnected, welcoming, walkable and bikeable place. A key opportunity to promote a Safe and Active East Aldine is a focus on strengthening connectivity between Halls Bayou and Greens Bayou through major street corridors from E. Hardy Road adjacent to Hardy Toll Road, Aldine Westfield Rd, and along streets adjacent to Highway 69. Increasing the connection between these two regional recreational amenities promotes access to key jobs throughout East Aldine, and the different schools found at the Center of East Aldine. A focus on these major vehicular arterials and exploring multi-modal transportation can help connect key destinations to promote Safe and Active living. Indirectly, if people have cohesive connections between key destinations such as schools and jobs, and can feel safe they are more likely to engage in walking and biking with reduced anxiety, resulting in positive physical and mental health benefits for all users.

Another key goal to promoting safety, community health, and increased mobility is expanding parkland and green space access, especially toward the improvement of air quality in East Aldine. Increased parkland access can come in the form of new parkland development in key areas made available by upcoming floodplain buyout programs, which can make an impact at many scales from small pocket parks, parklets, and Urban Forests along high-traffic corridors, to park expansions of signature parks within East Aldine, enhancing amenities offered by Keith Weiss Park, James Driver Park, and W.E. Bill Crowley Park.

Increasing safety and activity also requires a focus on strategic programming and park activation. This programming can range from fitness focused events that can increase community and social cohesion as well as promoting physical activity, to community gathering programs such as community gardens and/or local farmer's markets, which have measurable health impacts and increase access to healthy and local food. These recommendations address the top three community health issues which are Adult Asthma, High Blood Pressure, and Diabetes, leading to a safer and more active East Aldine.

URBAN HEAT + AIR QUALITY

With an increase in hotter days across urban areas throughout the United States, and especially Houston, efforts to expand tree canopy and vegetation in order to reduce the Urban Heat Island Effect are especially important to improve the comfort of pedestrians and bicyclists throughout the district. It is expected that spring and summer days will continue to grow hotter. There are key areas throughout East Aldine which will require attention to address this reality and focus on improving Air Quality and reducing Urban Heat. Considering the limited access to sidewalks in East Aldine (79.9%) compared to Harris County (46%), sidewalks present a risk to increase Urban Heat. Looking to strategic tree planting goals, integrating green infrastructure, and seeing the potential for vacant land to become community assets such as pocket parks, parklets, and other green interventions will help combat urban heat and offer relief, especially for those who are most vulnerable. Specific attention should be given to the southern part of East Aldine for both increasing vegetation and tree canopy to address air quality, since it is over 36.5 ppb. In addition, increasing vegetation and tree canopy coverage in areas with high rates of impervious surfaces such as MacArthur Senior High School will help



Keith-Weiss Park. Source: East Aldine Management District

address concerns for both Urban Heat and Air Quality, leading to a healthier and more resilient East Aldine.

Tree planting efforts regionally call for 2 trees to be planted for every Houstonian by 2030, which equates to 4.6 million trees. If East Aldine can surpass City of Houston goals, which admittedly is more difficult in low-density areas, this would mean planting almost 60,000 trees within the next 10 years. A mature tree can absorb almost 48 pounds of carbon per year; thus, planting 60,000 trees would equate to the absorption of over 1,306 metric tons of carbon per year, not including any trees that already exist in the neighborhood. The impact would be equivalent to offsetting greenhouse gas emissions of:

- 217 homes' electricity use for one year (Each home emits about 5.05 metric tons of CO₂/year¹⁵); or,
- 3,265,00 miles driven by an average passenger vehicle (assuming annual mileage of about 11,500 miles driven)

15 <https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-referen>



Earth Day in East Aldine. Source: East Aldine Management District

WATER

The study area has close to 50% coverage within the 100 year FEMA Floodplain. Therefore, paying close attention to existing wastewater outfalls and other gray infrastructure that can impact groundwater and wells in the area is important. Improvements to drainage systems on their own do not further resilience goals. However, hybrid gray/green interventions in key flood-prone areas and identifying opportunities to reduce the impact of untreated water going into local streams and bayous will be important towards environmental resilience and ecosystem health. Integrating green infrastructure (GI) throughout this plan will better prepare the District to weather storm events, help clean and treat stormwater runoff, and create opportunities to retain, infiltrate and detain water to reduce water flows where possible. This function of GI cannot be understated in urban systems where runoff is often heavily polluted by chemicals picked up on highly trafficked roadways throughout the neighborhood. Poor water quality of runoff translates to poor water quality of our surface waters regionally, including our degraded bayous. This can become a substantial health risk, impacting the ability of the East Aldine community to interact with and enjoy our waterways, and can have drastic impacts on the health of our local ecosystem.

The adaptation of existing homes and future homes should consider the reality of flooding, and understand the high cost burden of housing and transportation on residents within East Aldine. Major flooding events have strong economic impacts on working families, and therefore neighborhood streets should be seen as places to divert water, and not only have open drainage ditches, but celebrate and infiltrate water where Aquifer Recharge Zones exists, especially since there are several domestic groundwater wells throughout East Aldine¹⁶. The relationship to water of East Aldine residents should be clear and capacity building efforts should help strengthen:

16 <https://www3.twdb.texas.gov/apps/WaterDataInteractive/GroundwaterDataViewer/?map=gwdb>

- Understanding the interactions between the stream and your well water
- Monitoring the quality and conditions of both
- Taking action when needed, and knowing who to contact during emergency events.

Additionally, capacity building should outline that Surface water is publicly owned, and its use generally requires a permit from the state. Groundwater in Texas is private property, therefore landowners may put groundwater to beneficial uses within the rules of a local groundwater conservation district, if one has been established. Texas landowners are responsible for managing the water from their private wells¹⁷. Increasing connections to

detention and retention basins throughout East Aldine is essential to promote healthy flood risk reduction, for example, creating infrastructure to not only infiltrate into ground wells with minimal absorption of contaminated water containing petrochemicals, but providing low-impact infrastructure that diverts water towards major infrastructure detention basins found at Keith-Wiess Park. Decentralizing detention and retention basins at key green and open spaces helps address the flooding throughout East Aldine.

17 <https://agrilifeextension.tamu.edu/library/water/water-wells-in-floodplains-what-you-need-to-know>



Housing near a drainage ditch. Source: Asakura Robinson.



Flooded street. Source: Wikimedia user Shootthedevgu

CONNECTION TO COMMUNITY AND NATURE

As we continue recovering from the COVID-19 pandemic, there has been a strong desire to strengthen connections to community spaces and natural spaces that can provide ample space for social distancing and spending time away from large groups of people. This was a difficult year for many, and the desire to connect to parks and open spaces is compounded for highly dense communities, communities with limited access to park and green spaces, and population with health concerns. Collectively, across the world it has been so important to find new ways to connect digitally, while at the same time, parks and natural areas have been heavily trafficked and highly valued.

We should look to create more public spaces for people to connect with each other and nature, including recommendations for reallocating public right-of-way, integration of green streets and more tree canopy into the urban fabric, and the development of more parks and park programming in pursuit of increased social cohesion and improved wildlife corridors throughout East Aldine. East Aldine currently has a rate of 22.6% of residents that have no relationship with neighbors, compared to 25.2% throughout Harris County. In addition, East

Aldine has higher than average agitation from neighborhood noise (16.7%) and a higher rate of not having anyone to confide in (12.9%). Increasing vegetation and tree canopy not only provides ecological benefits but can also reduce noises from the local airport, and day-to-day activities throughout the neighborhood.

Continuing to support the green space assets such as W.E Bill Crowley Park, Keith-Wiess Park, Dow Park, Greens Bayou, James Driver Park, Greens Bayou and Halls Bayou Greenway Path and the habitats they support is highly important. Increasing tree canopy, looking to restoration and preservation of bayou trails, and improving water quality will positively impact the health of this community and its visitors. Interaction with nature in the form of plants, urban wildlife, and waterways can reduce anxiety, improve mood, and even reduce recovery times of patients after certain medical procedures. Taking every opportunity at any scale to improve wildlife corridors, increase connections to nature and community while also increasing ecological habitats has a myriad of benefits across species.



Halloween Caravan. Source: East Aldine Management District.



Parks and green spaces are home to a variety of natural life. Source: USFWS

SUSTAINABILITY

East Aldine, and the Houston region as a whole, have felt the widespread impacts of a changing climate including having more frequent and more intense weather events. Sustainability-focused recommendations and strategies outlined in this plan should include public transit throughout East Aldine, regional transit, as well as assess the role of both Energy and Water Harvesting toward a more sustainable and resilient district.

Transportation

Existing transportation networks currently serve the eastern portion of East Aldine, with no service along Aldine Westfield Rd, or along Aldine Bender Rd. Many of these bus stops are inaccessible and do not meet existing ADA guidelines, and less than half of total bus stops in East Aldine are considered accessible. In order to promote sustainability, ensuring that public transit is accessible to all populations is an important first step. Options to increase transit ridership include programs for free or reduced fares for low-income riders.

Regional Transportation and Connectivity

While trails and bicycle lanes were discussed in previous sections to encourage regional transportation and connectivity, understanding the barriers to this connectivity is also important. For example, understanding the reality of crash data, especially along Aldine Mail Rte Rd, and adjacent to Highway 69, is key to providing targeted interventions to encourage connectivity and efficient regional transportation for multiple modes of transit.

Energy Harvesting

Encouraging the use of electric vehicles in East Aldine, as well as encouraging dense non-car-dependent development, can not only impact the local air quality and the associated impacts on residents' respiratory health, but can also complement the City of Houston's decarbonization goals outlined in Houston's Climate Action Plan (2020), with downstream impacts

on climate in the years to come. Looking to energy harvesting programs that are promoted within county infrastructure and parks, alongside residential energy usage, is paramount to promoting region-wide Sustainability.

Water Harvesting

Lastly, as outlined in previous sections, Green Infrastructure that looks to restore bayous, promote cleaner stormwater runoff, and encourage retention and detention of water for longer periods of time can not only contribute to goals of cooling, but can also reduce reliance on water through strategic municipal led water-harvesting in high-water usage areas. For example, if rainwater catchment infrastructure can be installed at parks alongside drought tolerant planting, a reduced water-usage irrigation system can help with achieving resilience and overall sustainability. Understanding the reality of droughts and their impacts on ecosystems can help provide strategies for reduced water-usage, and mindful water harvesting infrastructure.



Boarding the 6 bus. Source: TEI

ACCESS TO HOUSING

Access to stable, safe, and high-quality housing is one of the biggest factors influencing mental health outcomes. In a region where many are at risk of displacement from their home due to both environmental and economic factors, this plan seeks to ensure there continues to be opportunities for affordable housing. Exploring the feasibility of “right-to-return” to a neighborhood and/or supporting neighborhoods in relocation through flooding buyout programs is important, especially as we look to respect existing social ties amongst residents.

Throughout East Aldine, having access to Affordable Housing stock from rentals to homes is important. As of now, the median home value is approximately \$88,000, compared to \$175,000 in Harris County overall. Throughout East Aldine, there is a high need for housing units that are affordable for residents that make 30% - 50% of the East Aldine median income.

Lastly, in the next twenty years East Aldine residents should be supported and encouraged to age in place. Unfortunately, at the moment there is not sufficient infrastructure to support the tripling of populations of 65 years or older in the next two decades. Increasing senior access to housing includes finding ways to create more affordable quality housing stock and senior living facilities, as well as housing stock that can support tight-knit families and communities that prefer to keep their elders within the household. The important piece here is to support the renovation and access to quality lasting housing stock, considering the age for residential homes in East Aldine is about 60 years old, with over 4000 units built in the 1960s, and a drastic decrease of new housing from 1980's to 2010, per P34 in the East Aldine Case for Action Report.



Housing in East Aldine. Source: Asakura Robinson.

ACCESS TO OPPORTUNITY

As East Aldine continues to grow and develop, residents and businesses alike are at risk of displacement from flooding. The major employers in East Aldine include Construction fields, Manufacturing, Wholesale Trade, Educational Service, and Retail Trade. These local businesses directly contribute to the character of the neighborhood and should be part of how we consider increasing and understanding the connectivity density, the improvement of intersections, and integration of multiple modes of movement from pedestrian and bicycles, to vehicular and industrial trucks. Overall, efforts to widen streets should also be complemented by creating complete streets that take multiple users in mind, and are mindful of health impacts such as reduced air quality.

HONORING CULTURE AND TRAUMA

The cultural environment of East Aldine is representative of the self-made history of the community. Historically in East Aldine, some of these cultures are represented through the annual Día de Los Muertos Festival partnered with the local cemetery, the annual Fall Festival, the Kite festival, the annual bazaar at St. Leo the Great Catholic Church, and the National Night Out. Many of these events feature Tejano music, and foods from various Latin(x) identified communities. Even in informal spaces, communities find ways to self-express, and as the formal support for the arts grows it will be an exciting way for the community to connect to greater Harris County and further define its own identity.



A complete street. Source: City of Fort Lauderdale, Florida

Lastly, people need to feel seen to feel valued and understood, even in moments of trauma. Based on Aldine-COH Northside Puma 4608 Data, there are higher rates of Poor Mental Health Outcomes (18.9%), compared to Harris County (9.9%). This mental health statistic becomes important considering the top 3 risk factors for poor health include adults and children having higher rates of obesity (72.8% and 61.8% respectively), and a high rate of cigarette smoking (33.5%), compared to rates of adult obesity (67.9%), child obesity (32.8%) and cigarette smoking (26%) in Harris County as a whole. Identifying the social and environmental

components that can address these health outcomes is important to comprehensively approach solutions towards a more resilient East Aldine. In addition to built environment interventions, additional research should explore the rate of access to health care services, and seek to understand the quality of healthcare that East Aldine residents have access to. This information can provide a more trauma-informed approach to addressing concerns from East Aldine residents.



Día de los Muertos. Source: East Aldine Management District.

AIR QUALITY ASSESSMENT

Improving air quality is an important outcome for any transportation study or project. In addition to health and safety benefits of recommended projects, a shift in travel modes to increased levels of biking, walking, and transit in the study area will likely reduce the level of emissions from vehicle trips.

METHODOLOGY

While it is difficult to estimate the total impact from these improvements due to the number of factors that affect the total trips and the share of diverted trips in the study area, an estimation of the potential benefits has been made. This estimate is based on assumptions of the total trips generated from the region for both home and employment based trips as well as trip lengths, mode shift factors and emission rates.

The air quality benefits derived from implementation of the recommended improvements for the East Aldine Livable Centers Study Area were estimated based on methodology below and are summarized in Table 1.

CATCHMENT AREA

The East Aldine Study Area was defined as the catchment area to determine the number of trips that would potentially be affected by the recommended improvements.

TRIPS GENERATED

The following regional trip generation rates based on data from H-GAC were used to estimate the total trips produced in the catchment area:

- 6.54 trips per household
- 2.53 trips per job

MODE SHARE SHIFTS

Three mode share shift rates were estimated based on a comparison of existing travel modes in the study area and region. The three rates were identified as Scenario 1 at 5% mode share shift, Scenario 2 at 10% mode share shift, and Scenario 3 at 15% mode share shift (Table 2).

DEMAND

The number of non-vehicle trips generated was computed by multiplying the assumed increase in mode split by the total number of trips computed for the catchment area. This resulted in three trip estimates respective of each scenario (Table 2).

VMT REDUCTION

Total reduction in vehicle miles traveled (VMTs) were calculated by multiplying 2017 National Household Travel Survey estimates of trip length (2.38 miles for bike, 0.87 miles for walking, 7.15 miles for transit). A total average trip length was calculated by estimating the share of each mode within the total mode share for the computed demand (3.52 miles per trip moved from auto to bus, bike, or transit combined) (Tables 3 and 4).

AIR QUALITY CALCULATIONS

Emission reductions were calculated using the 2020 Mobile Source Emissions Reduction Strategies (MOSERS) guide from Texas A&M Transportation Institute. Specific emission rates per pollutant were assumed for an Urban-Arterial corridor, year 2018 for automobiles at 35 miles per hour. The emission rates were multiplied by the VMT reduction to identify overall air quality emission benefits for each scenario (Table 5).

Table 1: Air Quality Benefit Summary

| SCENARIO 1: TOTAL ANNUAL EMISSIONS REDUCTION | | |
|--|-------|----------|
| Nox | 1,117 | kg/year |
| VOC | 443 | kg/year |
| CO | 24 | ton/year |
| CO2 | 3,033 | ton/year |
| PM10 | 35 | kg/year |
| SCENARIO 2: TOTAL ANNUAL EMISSIONS REDUCTION | | |
| Nox | 2,234 | kg/year |
| VOC | 886 | kg/year |
| CO | 48 | ton/year |
| CO2 | 6,065 | ton/year |
| PM10 | 71 | kg/year |
| SCENARIO 3: TOTAL ANNUAL EMISSIONS REDUCTION | | |
| Nox | 3,351 | kg/year |
| VOC | 1,329 | kg/year |
| CO | 71 | ton/year |
| CO2 | 9,098 | ton/year |
| PM10 | 106 | kg/year |

Table 2: Mode (Bike/Ped/Transit) Share Shift

| CALCULATION STEP | EQUATION | | QUANTITY | UNITS |
|-----------------------------|-----------------|------------|----------|----------------|
| East Aldine Trip Generators | a | Households | 17,268 | homes |
| | b | Employment | 31,843 | jobs |
| Trip Rates | c | Households | 6.54 | trips/day/job |
| | d | Employment | 2.53 | trips/day/home |
| Total Trips | $e=(a*c)+(b*d)$ | | 193,496 | trips/day |
| Mode Shift Rate | f | Scenario 1 | 5% | percent trips |
| | f | Scenario 2 | 10% | percent trips |
| | f | Scenario 3 | 15% | percent trips |
| Trips Replaced | $g=e*f$ | Scenario 1 | 9,675 | trips/day |
| | $g=e*f$ | Scenario 2 | 19,350 | trips/day |
| | $g=e*f$ | Scenario 3 | 29,024 | trips/day |

Table 3: Trip Length Reduction

| CALCULATION STEP | EQUATION | SCENARIO | QUANTITY | UNITS |
|-------------------------------|----------|----------|----------|------------|
| Trips Replaced | $g=e*f$ | 1 | 9,675 | trips/day |
| | $g=e*f$ | 2 | 19,350 | trips/day |
| | $g=e*f$ | 3 | 29,024 | trips/day |
| Miles per Trip Replaced^ | h | | 3.52 | miles/trip |
| Vehicle Miles Travel Replaced | $j=g*h$ | 1 | 34,065 | miles/day |
| | $j=g*h$ | 2 | 68,130 | miles/day |
| | $j=g*h$ | 3 | 102,195 | miles/day |

Table 4: ^Miles Per Trip Replaced Assumptions & Weighted Average Calculation

| MODE | SHARE OF MODE SHIFT | TRIP LENGTH (MI)* | WEIGHTED MILES/ TRIP |
|-----------------------------|---------------------|-------------------|----------------------|
| Walking | 35% | 0.87 | 0.3 |
| Biking | 30% | 2.38 | 0.71 |
| Transit | 35% | 7.15 | 2.5 |
| Weighted Miles/Trip Average | | | 3.52 |

Table 5: Emission Reduction

| CALCULATION STEP | EQUATION | POLLUTANT | QUANTITY | UNITS | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 |
|----------------------------|----------|-----------|-----------|-----------|------------|------------|------------|
| Emissions Factors | k | NOx | 0.13 | g/mile | | | |
| | l | VOC | 0.05 | g/mile | | | |
| | m | CO | 2.69 | g/mile | | | |
| | n | CO2 | 342.41 | g/mile | | | |
| | o | PM10 | 0.004 | g/mile | | | |
| Total Emissions Reduced | p=j*k | NOx | | g | 4,296 | 8,592 | 12,888 |
| | q=j*l | VOC | | g | 1,703 | 3,406 | 5,110 |
| | r=j*m | CO | | g | 91,635 | 183,269 | 274,904 |
| | s=j*n | CO2 | | g | 11,664,157 | 23,328,314 | 34,992,471 |
| | t=j*o | PM10 | | g | 136 | 273 | 409 |
| Assumed Annual Days | u | | 260 | days/year | | | |
| Metric Conversion Factor | v | | 1,000 | g/kg | | | |
| | w | | 1,000,000 | g/ton | | | |
| Annual Emissions Reduction | x=q*u/v | NOx | | kg/year | 1,117 | 2,234 | 3,351 |
| | y=r*u/v | VOC | | kg/year | 443 | 886 | 1,329 |
| | z=s*u/w | CO | | ton/year | 24 | 48 | 71 |
| | aa-t*u/w | CO2 | | ton/year | 3,033 | 6,065 | 9,098 |
| | ab-t*u/v | PM10 | | kg/year | 35 | 71 | 106 |

Emission reduction was calculated using the 2020 Mobile Source Emissions Reduction Strategies (MOSERS) guide from Texas A&M Transportation Institute. Specific emission rates per pollutant were assumed for an Urban-Arterial corridor, year 2020 for automobiles at 35 miles per hour.

OPINION OF PROBABLE PROJECT CONSTRUCTION COSTS

Project 1.1.1.A: Centro East Aldine Placemaking

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 1.1.1.A | TOTAL |
|--|---|-----------------|-------|
| 6 FT SidewalkA | \$90 | | \$0 |
| 5 FT SidewalkA | \$75 | | \$0 |
| 10 FT Sidewalk/SidepathA | \$150 | | \$0 |
| Proposed Curb Ramps - Each | \$2,250 | | \$0 |
| Neighborhood Bikeway/Safe Street | \$34 | | \$0 |
| Standard Bike Lanes | \$53 | | \$0 |
| Off-Street Trail | \$125 | | \$0 |
| Street Restripe (Remove \$8/FT and Install \$20/FT) | \$28 | | \$0 |
| Proposed Tier 1 Bus Stop Improvement (Each) | \$25,000 | | \$0 |
| Proposed Tier 2 Bus Stop Improvement (Each) | \$20,000 | | \$0 |
| Proposed Tier 3 Bus Stop Improvement (Each) | \$15,000 | | |
| Proposed Mid-block Crossings | \$40,500 | | \$0 |
| Traffic Signal (Each) | \$250,000 | | \$0 |
| Signal Modification (Each) | \$30,000 | | \$0 |
| Signalized Pedestrian/Bike Crossing (Each) | \$150,000 | | \$0 |
| Flashing Crossing Signs - RRFB or other (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Fwy) (Each) | \$30,000 | | \$0 |
| Shade Trees (Each) | \$700 | | \$0 |
| Roadway Rebuild Minor (\$1.1million per lane mile) | \$208 | | \$0 |
| Roadway Rebuild Major (\$1.5million per lane mile) | \$284 | | \$0 |
| Drainage Minor (\$400k per mile) | \$76 | | \$0 |

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 1.1.1.A | TOTAL |
|-------------------------------------|--|-----------------|--------------------|
| Drainage Minor (\$600k per mile) | \$114 | | \$0 |
| 5 FT Buffer (sod and concrete curb) | \$51 | | \$0 |
| 2 FT Buffer (sod and concrete curb) | \$30 | | \$0 |
| Proposed ped/bike bridge (10' wide) | \$6,250 | | \$0 |
| Pedestrian lighting pole (each) | \$8,000 | 160 | \$1,280,000 |
| Upgraded street lighting (each) | \$10,000 | 40 | \$400,000 |
| Wayfinding Signage (each) | \$200 | 16 | \$3,200 |
| Banners (each) | \$500 | 36 | \$18,000 |
| Custom bike racks | \$850 | 100 | \$85,000 |
| Benches (each) | \$2,200 | 54 | \$118,800 |
| Kiosk (each) | \$10,000 | 3 | \$30,000 |
| | | | |
| Subtotal | Typical | | \$1,935,000 |
| Mobilization | 10% | 10% | \$193,500 |
| Contingency | 20% | 20% | \$387,000 |
| Engineering/Design | 15% | 15% | \$290,250 |
| | | | |
| Total | | | \$2,805,750 |

APricing includes New Sidewalk (\$12/SF), Demolition (\$3/SF)
 Unless otherwise stated unit cost estimates are based on recent project bid prices or the TxDOT
 Average Low Bid Unit Prices

Note: The infrastructure elements of Aldine Westfield for walking/biking/driving are included in
 cost estimate 3.1.2.A. These costs are for placemaking components only beyond the roadway
 reconstruction.

Project 1.2.1.A: Bikeways on Aldine Mail Route

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 1.2.1.A | TOTAL |
|--|--|-----------------|-------------|
| 6 FT SidewalkA | \$90 | | \$0 |
| 5 FT SidewalkA | \$75 | | \$0 |
| 10 FT Sidewalk/SidepathA | \$150 | 36,960 | \$5,544,000 |
| Proposed Curb Ramps - Each | \$2,250 | 125 | \$281,250 |
| Neighborhood Bikeway/Safe Street | \$34 | | \$0 |
| Standard Bike Lanes | \$53 | | \$0 |
| Off-Street Trail | \$125 | | \$0 |
| Street Restripe (Remove \$8/FT and Install \$20/FT) | \$28 | | \$0 |
| Proposed Tier 1 Bus Stop Improvement (Each) | \$25,000 | | \$0 |
| Proposed Tier 2 Bus Stop Improvement (Each) | \$20,000 | | \$0 |
| Proposed Tier 3 Bus Stop Improvement (Each) | \$15,000 | | |
| Proposed Mid-block Crossings | \$40,500 | | \$0 |
| Traffic Signal (Each) | \$250,000 | | \$0 |
| Signal Modification (Each) | \$30,000 | | \$0 |
| Signalized Pedestrian/Bike Crossing (Each) | \$150,000 | | \$0 |
| Flashing Crossing Signs - RRFB or other (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Fwy) (Each) | \$30,000 | | \$0 |
| Shade Trees (Each) | \$700 | | \$0 |
| Roadway Rebuild Minor (\$1.1million per lane mile) | \$208 | | \$0 |
| Roadway Rebuild Major (\$1.5million per lane mile) | \$284 | | \$0 |
| Drainage Minor (\$400k per mile) | \$76 | | \$0 |

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 1.2.1.A | TOTAL |
|-------------------------------------|--|-----------------|--------------------|
| Drainage Minor (\$600k per mile) | \$114 | | \$0 |
| 5 FT Buffer (sod and concrete curb) | \$51 | | \$0 |
| 2 FT Buffer (sod and concrete curb) | \$30 | | \$0 |
| Proposed ped/bike bridge (10' wide) | \$6,250 | | \$0 |
| Pedestrian lighting pole (each) | \$8,000 | | \$0 |
| Upgraded street lighting (each) | \$10,000 | | \$0 |
| Wayfinding Signage (each) | \$200 | | \$0 |
| Banners (each) | \$500 | | \$0 |
| Custom bike racks | \$850 | | \$0 |
| Benches (each) | \$2,200 | | \$0 |
| Kiosk (each) | \$10,000 | | \$0 |
| | | | |
| Subtotal | Typical | | \$5,825,250 |
| Mobilization | 10% | 10% | \$582,525 |
| Contingency | 20% | 20% | \$1,165,050 |
| Engineering/Design | 15% | 15% | \$873,788 |
| | | | |
| Total | | | \$8,446,613 |

APricing includes New Sidewalk (\$12/SF), Demolition (\$3/SF)
Unless otherwise stated unit cost estimates are based on recent project bid prices or the TxDOT
Average Low Bid Unit Prices

The bikeway costs for Aldine Mail Route are also included in cost estimates for recommendation
3.1.2.A for Aldine Mail Route as this recommendation could be done independently or part of a
larger project.

Project 1.2.1.B: Bike Parking

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 1.2.1.B | TOTAL |
|--|--|-----------------|-------|
| 6 FT SidewalkA | \$90 | | \$0 |
| 5 FT SidewalkA | \$75 | | \$0 |
| 10 FT Sidewalk/SidepathA | \$150 | | \$0 |
| Proposed Curb Ramps - Each | \$2,250 | | \$0 |
| Neighborhood Bikeway/Safe Street | \$34 | | \$0 |
| Standard Bike Lanes | \$53 | | \$0 |
| Off-Street Trail | \$125 | | \$0 |
| Street Restripe (Remove \$8/FT and Install \$20/FT) | \$28 | | \$0 |
| Proposed Tier 1 Bus Stop Improvement (Each) | \$25,000 | | \$0 |
| Proposed Tier 2 Bus Stop Improvement (Each) | \$20,000 | | \$0 |
| Proposed Tier 3 Bus Stop Improvement (Each) | \$15,000 | | |
| Proposed Mid-block Crossings | \$40,500 | | \$0 |
| Traffic Signal (Each) | \$250,000 | | \$0 |
| Signal Modification (Each) | \$30,000 | | \$0 |
| Signalized Pedestrian/Bike Crossing (Each) | \$150,000 | | \$0 |
| Flashing Crossing Signs - RRFB or other (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Fwy) (Each) | \$30,000 | | \$0 |
| Shade Trees (Each) | \$700 | | \$0 |
| Roadway Rebuild Minor (\$1.1million per lane mile) | \$208 | | \$0 |
| Roadway Rebuild Major (\$1.5million per lane mile) | \$284 | | \$0 |
| Drainage Minor (\$400k per mile) | \$76 | | \$0 |

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 1.2.1.B | TOTAL |
|-------------------------------------|--|-----------------|-----------------|
| Drainage Minor (\$600k per mile) | \$114 | | \$0 |
| 5 FT Buffer (sod and concrete curb) | \$51 | | \$0 |
| 2 FT Buffer (sod and concrete curb) | \$30 | | \$0 |
| Proposed ped/bike bridge (10' wide) | \$6,250 | | \$0 |
| Pedestrian lighting pole (each) | \$8,000 | | \$0 |
| Upgraded street lighting (each) | \$10,000 | | \$0 |
| Wayfinding Signage (each) | \$200 | | \$0 |
| Banners (each) | \$500 | | \$0 |
| Custom bike racks | \$850 | 10 | \$8,500 |
| Benches (each) | \$2,200 | | \$0 |
| Kiosk (each) | \$10,000 | | \$0 |
| | | | |
| Subtotal | Typical | | \$8,500 |
| Mobilization | 10% | 10% | \$850 |
| Contingency | 20% | 20% | \$1,700 |
| Engineering/Design | 15% | 15% | \$1,275 |
| | | | |
| Total | | | \$12,325 |

APricing includes New Sidewalk (\$12/SF), Demolition (\$3/SF)
 Unless otherwise stated unit cost estimates are based on recent project bid prices or the TxDOT
 Average Low Bid Unit Prices

Project 1.2.1.D: Bike Share

The typical cost for a Houston BCycle 9 dock station is \$40,000 with the minimum starting cost at \$19,000. Costs vary due to the size, solar, and site preparation needs.

Project 3.1.1.A: Town Center Connections

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.1.1.A | TOTAL |
|--|---|-----------------|-----------|
| 6 FT SidewalkA | \$90 | | \$0 |
| 5 FT SidewalkA | \$75 | | \$0 |
| 10 FT Sidewalk/SidepathA | \$150 | | \$0 |
| Proposed Curb Ramps - Each | \$2,250 | | \$0 |
| Neighborhood Bikeway/Safe Street | \$34 | 1,800 | \$61,364 |
| Standard Bike Lanes | \$53 | | \$0 |
| Off-Street Trail | \$125 | 5,640 | \$705,000 |
| Street Restripe (Remove \$8/FT and Install \$20/FT) | \$28 | | \$0 |
| Proposed Tier 1 Bus Stop Improvement (Each) | \$25,000 | | \$0 |
| Proposed Tier 2 Bus Stop Improvement (Each) | \$20,000 | | \$0 |
| Proposed Tier 3 Bus Stop Improvement (Each) | \$15,000 | | \$0 |
| Proposed Mid-block Crossings | \$40,500 | | \$0 |
| Traffic Signal (Each) | \$250,000 | | \$0 |
| Signal Modification (Each) | \$30,000 | 1 | \$30,000 |
| Signalized Pedestrian/Bike Crossing (Each) | \$150,000 | | \$0 |
| Flashing Crossing Signs - RRFB or other (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Fwy) (Each) | \$30,000 | | \$0 |
| Shade Trees (Each) | \$700 | | \$0 |
| Roadway Rebuild Minor (\$1.1million per lane mile) | \$208 | | \$0 |
| Roadway Rebuild Major (\$1.5million per lane mile) | \$284 | | \$0 |
| Drainage Minor (\$400k per mile) | \$76 | | \$0 |

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.1.1.A | TOTAL |
|-------------------------------------|--|-----------------|--------------------|
| Drainage Minor (\$600k per mile) | \$114 | | \$0 |
| 5 FT Buffer (sod and concrete curb) | \$51 | | \$0 |
| 2 FT Buffer (sod and concrete curb) | \$30 | | \$0 |
| Proposed ped/bike bridge (10' wide) | \$6,250 | | \$0 |
| Pedestrian lighting pole (each) | \$8,000 | | \$0 |
| Upgraded street lighting (each) | \$10,000 | | \$0 |
| Wayfinding Signage (each) | \$200 | | \$0 |
| Banners (each) | \$500 | | \$0 |
| Custom bike racks | \$850 | | \$0 |
| Benches (each) | \$2,200 | | \$0 |
| Kiosk (each) | \$10,000 | | \$0 |
| | | | |
| Subtotal | Typical | | \$796,364 |
| Mobilization | 10% | 10% | \$79,636 |
| Contingency | 20% | 20% | \$159,273 |
| Engineering/Design | 15% | 15% | \$119,455 |
| | | | |
| Total | | | \$1,154,727 |

APricing includes New Sidewalk (\$12/SF), Demolition (\$3/SF)
 Unless otherwise stated unit cost estimates are based on recent project bid prices or the TxDOT Average Low Bid Unit Prices

The trail identified in this recommendation is the same location as in Recommendation 3.2.1.B, except it only goes to Lauder Road, not to Greens Bayou.

Project 3.1.2.A: Aldine Westfield Reconstruction

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.2.1.A (AW) | TOTAL |
|--|--|----------------------|--------------|
| 6 FT SidewalkA | \$90 | 95,040 | \$8,553,600 |
| 5 FT SidewalkA | \$75 | | \$0 |
| 10 FT Sidewalk/SidepathA | \$150 | | \$0 |
| Proposed Curb Ramps - Each | \$2,250 | 300 | \$675,000 |
| Neighborhood Bikeway/Safe Street | \$34 | | \$0 |
| Standard Bike Lanes | \$53 | | \$0 |
| Off-Street Trail | \$125 | | \$0 |
| Street Restripe (Remove \$8/FT and Install \$20/FT) | \$28 | | \$0 |
| Proposed Tier 1 Bus Stop Improvement (Each) | \$25,000 | | \$0 |
| Proposed Tier 2 Bus Stop Improvement (Each) | \$20,000 | | \$0 |
| Proposed Tier 3 Bus Stop Improvement (Each) | \$15,000 | | \$0 |
| Proposed Mid-block Crossings | \$40,500 | | \$0 |
| Traffic Signal (Each) | \$250,000 | 5 | \$1,250,000 |
| Signal Modification (Each) | \$30,000 | | \$0 |
| Signalized Pedestrian/Bike Crossing (Each) | \$150,000 | | \$0 |
| Flashing Crossing Signs - RRFB or other (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Fwy) (Each) | \$30,000 | | \$0 |
| Shade Trees (Each) | \$700 | 500 | \$350,000 |
| Roadway Rebuild Minor (\$1.1million per lane mile) | \$208 | | \$0 |
| Roadway Rebuild Major (\$1.5million per lane mile) | \$284 | 118,800 | \$33,739,200 |
| Drainage Minor (\$400k per mile) | \$76 | | \$0 |

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.2.1.A (AW) | TOTAL |
|-------------------------------------|--|----------------------|---------------------|
| Drainage Minor (\$600k per mile) | \$114 | 23,760 | \$2,700,000 |
| 5 FT Buffer (sod and concrete curb) | \$51 | 55,361 | \$2,823,401 |
| 2 FT Buffer (sod and concrete curb) | \$30 | 47,520 | \$1,425,600 |
| Proposed ped/bike bridge (10' wide) | \$6,250 | | \$0 |
| Pedestrian lighting pole (each) | \$8,000 | | \$0 |
| Upgraded street lighting (each) | \$10,000 | 170 | \$1,700,000 |
| Wayfinding Signage (each) | \$200 | 38 | \$7,600 |
| Banners (each) | \$500 | | \$0 |
| Custom bike racks | \$850 | | \$0 |
| Benches (each) | \$2,200 | | \$0 |
| Kiosk (each) | \$10,000 | | \$0 |
| | | | |
| Subtotal | Typical | | \$53,224,401 |
| Mobilization | 10% | 10% | \$5,322,440 |
| Contingency | 20% | 20% | \$10,644,880 |
| Engineering/Design | 15% | 15% | \$7,983,660 |
| | | | |
| Total | | | \$77,175,381 |

APricing includes New Sidewalk (\$12/SF), Demolition (\$3/SF)

Unless otherwise stated unit cost estimates are based on recent project bid prices or the TxDOT Average Low Bid Unit Prices

Note: This project is currently in the HGAC Regional Transportation Plan sponsored by the City of Houston. The estimated project cost is \$119,327,011.00 There is likely to be significant drainage needs that were not able to be included in this project, additionally, the cross-section that this cost estimate was based on is likely different than what was used for the RTP project.

Project 3.1.2.A: Aldine Mail Route Reconstruction

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.1.2.A (AMR) | TOTAL |
|--|--|-----------------------|-------------|
| 6 FT SidewalkA | \$90 | | \$0 |
| 5 FT SidewalkA | \$75 | | \$0 |
| 10 FT Sidewalk/SidepathA | \$150 | 36,960 | \$5,544,000 |
| Proposed Curb Ramps - Each | \$2,250 | 125 | \$281,250 |
| Neighborhood Bikeway/Safe Street | \$34 | | \$0 |
| Standard Bike Lanes | \$53 | | \$0 |
| Off-Street Trail | \$125 | | \$0 |
| Street Restripe (Remove \$8/FT and Install \$20/FT) | \$28 | | \$0 |
| Proposed Tier 1 Bus Stop Improvement (Each) | \$25,000 | | \$0 |
| Proposed Tier 2 Bus Stop Improvement (Each) | \$20,000 | | \$0 |
| Proposed Tier 3 Bus Stop Improvement (Each) | \$15,000 | | \$0 |
| Proposed Mid-block Crossings | \$40,500 | | \$0 |
| Traffic Signal (Each) | \$250,000 | 2 | \$500,000 |
| Signal Modification (Each) | \$30,000 | | \$0 |
| Signalized Pedestrian/Bike Crossing (Each) | \$150,000 | | \$0 |
| Flashing Crossing Signs - RRFB or other (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Fwy) (Each) | \$30,000 | | \$0 |
| Shade Trees (Each) | \$700 | 160 | \$112,000 |
| Roadway Rebuild Minor (\$1.1million per lane mile) | \$208 | | \$0 |
| Roadway Rebuild Major (\$1.5million per lane mile) | \$284 | 15,000 | \$4,260,000 |
| Drainage Minor (\$400k per mile) | \$76 | | \$0 |

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.1.2.A (AMR) | TOTAL |
|-------------------------------------|--|-----------------------|---------------------|
| Drainage Minor (\$600k per mile) | \$114 | 3,000 | \$340,909 |
| 5 FT Buffer (sod and concrete curb) | \$51 | 46,200 | \$2,356,200 |
| 2 FT Buffer (sod and concrete curb) | \$30 | | \$0 |
| Proposed ped/bike bridge (10' wide) | \$6,250 | | \$0 |
| Pedestrian lighting pole (each) | \$8,000 | | \$0 |
| Upgraded street lighting (each) | \$10,000 | 148 | \$1,480,000 |
| Wayfinding Signage (each) | \$200 | 30 | \$6,000 |
| Banners (each) | \$500 | | \$0 |
| Custom bike racks | \$850 | | \$0 |
| Benches (each) | \$2,200 | | \$0 |
| Kiosk (each) | \$10,000 | | \$0 |
| | | | |
| Subtotal | Typical | | \$14,880,359 |
| Mobilization | 10% | 10% | \$1,488,036 |
| Contingency | 20% | 20% | \$2,976,072 |
| Engineering/Design | 15% | 15% | \$2,232,054 |
| | | | |
| Total | | | \$21,576,521 |

APricing includes New Sidewalk (\$12/SF), Demolition (\$3/SF)
 Unless otherwise stated unit cost estimates are based on recent project bid prices or the TxDOT
 Average Low Bid Unit Prices

Project 3.1.3.A: Improved Transit Amenities

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.1.3.A | TOTAL |
|--|--|-----------------|-----------|
| 6 FT SidewalkA | \$90 | | \$0 |
| 5 FT SidewalkA | \$75 | | \$0 |
| 10 FT Sidewalk/SidepathA | \$150 | | \$0 |
| Proposed Curb Ramps - Each | \$2,250 | | \$0 |
| Neighborhood Bikeway/Safe Street | \$34 | | \$0 |
| Standard Bike Lanes | \$53 | | \$0 |
| Off-Street Trail | \$125 | | \$0 |
| Street Restripe (Remove \$8/FT and Install \$20/FT) | \$28 | | \$0 |
| Proposed Tier 1 Bus Stop Improvement (Each) | \$25,000 | 4 | \$100,000 |
| Proposed Tier 2 Bus Stop Improvement (Each) | \$20,000 | 5 | \$100,000 |
| Proposed Tier 3 Bus Stop Improvement (Each) | \$15,000 | 13 | \$195,000 |
| Proposed Mid-block Crossings | \$40,500 | | \$0 |
| Traffic Signal (Each) | \$250,000 | | \$0 |
| Signal Modification (Each) | \$30,000 | | \$0 |
| Signalized Pedestrian/Bike Crossing (Each) | \$150,000 | | \$0 |
| Flashing Crossing Signs - RRFB or other (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Fwy) (Each) | \$30,000 | | \$0 |
| Shade Trees (Each) | \$700 | | \$0 |
| Roadway Rebuild Minor (\$1.1million per lane mile) | \$208 | | \$0 |
| Roadway Rebuild Major (\$1.5million per lane mile) | \$284 | | \$0 |
| Drainage Minor (\$400k per mile) | \$76 | | \$0 |

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.1.3.A | TOTAL |
|-------------------------------------|--|-----------------|------------------|
| Drainage Minor (\$600k per mile) | \$114 | | \$0 |
| 5 FT Buffer (sod and concrete curb) | \$51 | | \$0 |
| 2 FT Buffer (sod and concrete curb) | \$30 | | \$0 |
| Proposed ped/bike bridge (10' wide) | \$6,250 | | \$0 |
| Pedestrian lighting pole (each) | \$8,000 | | \$0 |
| Upgraded street lighting (each) | \$10,000 | | \$0 |
| Wayfinding Signage (each) | \$200 | | \$0 |
| Banners (each) | \$500 | | \$0 |
| Custom bike racks | \$850 | | \$0 |
| Benches (each) | \$2,200 | | \$0 |
| Kiosk (each) | \$10,000 | | \$0 |
| | | | |
| Subtotal | Typical | | \$395,000 |
| Mobilization | 10% | 10% | \$39,500 |
| Contingency | 20% | 20% | \$79,000 |
| Engineering/Design | 15% | 15% | \$59,250 |
| | | | |
| Total | | | \$572,750 |

APricing includes New Sidewalk (\$12/SF), Demolition (\$3/SF)
 Unless otherwise stated unit cost estimates are based on recent project bid prices or the TxDOT
 Average Low Bid Unit Prices

Project 3.1.4.A: Intersection Improvements

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.1.4.A | TOTAL |
|--|--|-----------------|-----------|
| 6 FT SidewalkA | \$90 | | \$0 |
| 5 FT SidewalkA | \$75 | | \$0 |
| 10 FT Sidewalk/SidepathA | \$150 | | \$0 |
| Proposed Curb Ramps - Each | \$2,250 | | \$0 |
| Neighborhood Bikeway/Safe Street | \$34 | | \$0 |
| Standard Bike Lanes | \$53 | | \$0 |
| Off-Street Trail | \$125 | | \$0 |
| Street Restripe (Remove \$8/FT and Install \$20/FT) | \$28 | | \$0 |
| Proposed Tier 1 Bus Stop Improvement (Each) | \$25,000 | | \$0 |
| Proposed Tier 2 Bus Stop Improvement (Each) | \$20,000 | | \$0 |
| Proposed Tier 3 Bus Stop Improvement (Each) | \$15,000 | | \$0 |
| Proposed Mid-block Crossings | \$40,500 | | \$0 |
| Traffic Signal (Each) | \$250,000 | | \$0 |
| Signal Modification (Each) | \$30,000 | | \$0 |
| Signalized Pedestrian/Bike Crossing (Each) | \$150,000 | | \$0 |
| Flashing Crossing Signs - RRFB or other (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Each) | \$15,000 | 9 | \$135,000 |
| Proposed Intersection Crossing Improvements (Fwy) (Each) | \$30,000 | 12 | \$360,000 |
| Shade Trees (Each) | \$700 | | \$0 |
| Roadway Rebuild Minor (\$1.1million per lane mile) | \$208 | | \$0 |
| Roadway Rebuild Major (\$1.5million per lane mile) | \$284 | | \$0 |
| Drainage Minor (\$400k per mile) | \$76 | | \$0 |

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.1.4.A | TOTAL |
|-------------------------------------|--|-----------------|------------------|
| Drainage Minor (\$600k per mile) | \$114 | | \$0 |
| 5 FT Buffer (sod and concrete curb) | \$51 | | \$0 |
| 2 FT Buffer (sod and concrete curb) | \$30 | | \$0 |
| Proposed ped/bike bridge (10' wide) | \$6,250 | | \$0 |
| Pedestrian lighting pole (each) | \$8,000 | | \$0 |
| Upgraded street lighting (each) | \$10,000 | | \$0 |
| Wayfinding Signage (each) | \$200 | | \$0 |
| Banners (each) | \$500 | | \$0 |
| Custom bike racks | \$850 | | \$0 |
| Benches (each) | \$2,200 | | \$0 |
| Kiosk (each) | \$10,000 | | \$0 |
| | | | |
| Subtotal | Typical | | \$495,000 |
| Mobilization | 10% | 10% | \$49,500 |
| Contingency | 20% | 20% | \$99,000 |
| Engineering/Design | 15% | 15% | \$74,250 |
| | | | |
| Total | | | \$717,750 |

APricing includes New Sidewalk (\$12/SF), Demolition (\$3/SF)
 Unless otherwise stated unit cost estimates are based on recent project bid prices or the TxDOT
 Average Low Bid Unit Prices

Project 3.2.1.A: Greens Bayou Greenway Trail

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.2.1.A | TOTAL |
|--|--|-----------------|-------------|
| 6 FT SidewalkA | \$90 | | \$0 |
| 5 FT SidewalkA | \$75 | | \$0 |
| 10 FT Sidewalk/SidepathA | \$150 | | \$0 |
| Proposed Curb Ramps - Each | \$2,250 | | \$0 |
| Neighborhood Bikeway/Safe Street | \$34 | | \$0 |
| Standard Bike Lanes | \$53 | | \$0 |
| Off-Street Trail | \$125 | 39,600 | \$4,950,000 |
| Street Restripe (Remove \$8/FT and Install \$20/FT) | \$28 | | \$0 |
| Proposed Tier 1 Bus Stop Improvement (Each) | \$25,000 | | \$0 |
| Proposed Tier 2 Bus Stop Improvement (Each) | \$20,000 | | \$0 |
| Proposed Tier 3 Bus Stop Improvement (Each) | \$15,000 | | \$0 |
| Proposed Mid-block Crossings | \$40,500 | | \$0 |
| Traffic Signal (Each) | \$250,000 | | \$0 |
| Signal Modification (Each) | \$30,000 | | \$0 |
| Signalized Pedestrian/Bike Crossing (Each) | \$150,000 | 1 | \$150,000 |
| Flashing Crossing Signs - RRFB or other (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Each) | \$15,000 | | |
| Proposed Intersection Crossing Improvements (Fwy) (Each) | \$30,000 | | |
| Shade Trees (Each) | \$700 | | \$0 |
| Roadway Rebuild Minor (\$1.1million per lane mile) | \$208 | | \$0 |
| Roadway Rebuild Major (\$1.5million per lane mile) | \$284 | | \$0 |
| Drainage Minor (\$400k per mile) | \$76 | | \$0 |

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.2.1.A | TOTAL |
|-------------------------------------|--|-----------------|---------------------|
| Drainage Minor (\$600k per mile) | \$114 | | \$0 |
| 5 FT Buffer (sod and concrete curb) | \$51 | | \$0 |
| 2 FT Buffer (sod and concrete curb) | \$30 | | \$0 |
| Proposed ped/bike bridge (10' wide) | \$6,250 | 300 | \$1,875,000 |
| Pedestrian lighting pole (each) | \$8,000 | | \$0 |
| Upgraded street lighting (each) | \$10,000 | | \$0 |
| Wayfinding Signage (each) | \$200 | | \$0 |
| Banners (each) | \$500 | | \$0 |
| Custom bike racks | \$850 | | \$0 |
| Benches (each) | \$2,200 | | \$0 |
| Kiosk (each) | \$10,000 | | \$0 |
| | | | |
| Subtotal | Typical | | \$6,975,000 |
| Mobilization | 10% | 10% | \$697,500 |
| Contingency | 20% | 20% | \$1,395,000 |
| Engineering/Design | 15% | 15% | \$1,046,250 |
| | | | |
| Total | | | \$10,113,750 |

APricing includes New Sidewalk (\$12/SF), Demolition (\$3/SF)
 Unless otherwise stated unit cost estimates are based on recent project bid prices or the TxDOT
 Average Low Bid Unit Prices

Project 3.2.1.B: Bayou Community Trail

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.2.1.B | TOTAL |
|--|--|-----------------|-----------|
| 6 FT SidewalkA | \$90 | | \$0 |
| 5 FT SidewalkA | \$75 | | \$0 |
| 10 FT Sidewalk/SidepathA | \$150 | | \$0 |
| Proposed Curb Ramps - Each | \$2,250 | | \$0 |
| Neighborhood Bikeway/Safe Street | \$34 | | \$0 |
| Standard Bike Lanes | \$53 | | \$0 |
| Off-Street Trail | \$125 | 6,072 | \$759,000 |
| Street Restripe (Remove \$8/FT and Install \$20/FT) | \$28 | | \$0 |
| Proposed Tier 1 Bus Stop Improvement (Each) | \$25,000 | | \$0 |
| Proposed Tier 2 Bus Stop Improvement (Each) | \$20,000 | | \$0 |
| Proposed Tier 3 Bus Stop Improvement (Each) | \$15,000 | | \$0 |
| Proposed Mid-block Crossings | \$40,500 | 2 | \$81,000 |
| Traffic Signal (Each) | \$250,000 | | \$0 |
| Signal Modification (Each) | \$30,000 | | \$0 |
| Signalized Pedestrian/Bike Crossing (Each) | \$150,000 | | \$0 |
| Flashing Crossing Signs - RRFB or other (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Each) | \$15,000 | | |
| Proposed Intersection Crossing Improvements (Fwy) (Each) | \$30,000 | | |
| Shade Trees (Each) | \$700 | | \$0 |
| Roadway Rebuild Minor (\$1.1million per lane mile) | \$208 | | \$0 |
| Roadway Rebuild Major (\$1.5million per lane mile) | \$284 | | \$0 |
| Drainage Minor (\$400k per mile) | \$76 | | \$0 |

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.2.1.B | TOTAL |
|-------------------------------------|--|-----------------|--------------------|
| Drainage Minor (\$600k per mile) | \$114 | | \$0 |
| 5 FT Buffer (sod and concrete curb) | \$51 | | \$0 |
| 2 FT Buffer (sod and concrete curb) | \$30 | | \$0 |
| Proposed ped/bike bridge (10' wide) | \$6,250 | 240 | \$1,500,000 |
| Pedestrian lighting pole (each) | \$8,000 | | \$0 |
| Upgraded street lighting (each) | \$10,000 | | \$0 |
| Wayfinding Signage (each) | \$200 | | \$0 |
| Banners (each) | \$500 | | \$0 |
| Custom bike racks | \$850 | | \$0 |
| Benches (each) | \$2,200 | | \$0 |
| Kiosk (each) | \$10,000 | | \$0 |
| | | | |
| Subtotal | Typical | | \$2,340,000 |
| Mobilization | 10% | 10% | \$234,000 |
| Contingency | 20% | 20% | \$468,000 |
| Engineering/Design | 15% | 15% | \$351,000 |
| | | | |
| Total | | | \$3,393,000 |

APricing includes New Sidewalk (\$12/SF), Demolition (\$3/SF)
 Unless otherwise stated unit cost estimates are based on recent project bid prices or the TxDOT
 Average Low Bid Unit Prices

Project 3.2.2.B: Enhance Halls Bayou Trail

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.2.2.B | TOTAL |
|--|--|-----------------|-----------|
| 6 FT SidewalkA | \$90 | | \$0 |
| 5 FT SidewalkA | \$75 | | \$0 |
| 10 FT Sidewalk/SidepathA | \$150 | | \$0 |
| Proposed Curb Ramps - Each | \$2,250 | | \$0 |
| Neighborhood Bikeway/Safe Street | \$34 | | \$0 |
| Standard Bike Lanes | \$53 | | \$0 |
| Off-Street Trail | \$125 | 6,600 | \$825,000 |
| Street Restripe (Remove \$8/FT and Install \$20/FT) | \$28 | | \$0 |
| Proposed Tier 1 Bus Stop Improvement (Each) | \$25,000 | | \$0 |
| Proposed Tier 2 Bus Stop Improvement (Each) | \$20,000 | | \$0 |
| Proposed Tier 3 Bus Stop Improvement (Each) | \$15,000 | | \$0 |
| Proposed Mid-block Crossings | \$40,500 | | \$0 |
| Traffic Signal (Each) | \$250,000 | | \$0 |
| Signal Modification (Each) | \$30,000 | | \$0 |
| Signalized Pedestrian/Bike Crossing (Each) | \$150,000 | | \$0 |
| Flashing Crossing Signs - RRFB or other (Each) | \$15,000 | 2 | \$30,000 |
| Proposed Intersection Crossing Improvements (Each) | \$15,000 | | |
| Proposed Intersection Crossing Improvements (Fwy) (Each) | \$30,000 | | |
| Shade Trees (Each) | \$700 | | \$0 |
| Roadway Rebuild Minor (\$1.1million per lane mile) | \$208 | | \$0 |
| Roadway Rebuild Major (\$1.5million per lane mile) | \$284 | | \$0 |
| Drainage Minor (\$400k per mile) | \$76 | | \$0 |

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.2.2.B | TOTAL |
|-------------------------------------|--|-----------------|--------------------|
| Drainage Minor (\$600k per mile) | \$114 | | \$0 |
| 5 FT Buffer (sod and concrete curb) | \$51 | | \$0 |
| 2 FT Buffer (sod and concrete curb) | \$30 | | \$0 |
| Proposed ped/bike bridge (10' wide) | \$6,250 | 300 | \$1,875,000 |
| Pedestrian lighting pole (each) | \$8,000 | | \$0 |
| Upgraded street lighting (each) | \$10,000 | | \$0 |
| Wayfinding Signage (each) | \$200 | | \$0 |
| Banners (each) | \$500 | | \$0 |
| Custom bike racks | \$850 | | \$0 |
| Benches (each) | \$2,200 | | \$0 |
| Kiosk (each) | \$10,000 | | \$0 |
| | | | |
| Subtotal | Typical | | \$2,730,000 |
| Mobilization | 10% | 10% | \$273,000 |
| Contingency | 20% | 20% | \$546,000 |
| Engineering/Design | 15% | 15% | \$409,500 |
| | | | |
| Total | | | \$3,958,500 |

APricing includes New Sidewalk (\$12/SF), Demolition (\$3/SF)
 Unless otherwise stated unit cost estimates are based on recent project bid prices or the TxDOT
 Average Low Bid Unit Prices

Project 3.2.2.C: Hopper Complete Street

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.2.2.C | TOTAL |
|--|--|-----------------|-------------|
| 6 FT SidewalkA | \$90 | | \$0 |
| 5 FT SidewalkA | \$75 | 27,084 | \$2,031,300 |
| 10 FT Sidewalk/SidepathA | \$150 | | \$0 |
| Proposed Curb Ramps - Each | \$2,250 | 34 | \$76,500 |
| Neighborhood Bikeway/Safe Street | \$34 | 1,740 | \$59,318 |
| Standard Bike Lanes | \$53 | 13,200 | \$700,000 |
| Off-Street Trail | \$125 | | \$0 |
| Street Restripe (Remove \$8/FT and Install \$20/FT) | \$28 | | \$0 |
| Proposed Tier 1 Bus Stop Improvement (Each) | \$25,000 | | \$0 |
| Proposed Tier 2 Bus Stop Improvement (Each) | \$20,000 | | \$0 |
| Proposed Tier 3 Bus Stop Improvement (Each) | \$15,000 | | |
| Proposed Mid-block Crossings | \$40,500 | | \$0 |
| Traffic Signal (Each) | \$250,000 | | \$0 |
| Signal Modification (Each) | \$30,000 | | \$0 |
| Signalized Pedestrian/Bike Crossing (Each) | \$150,000 | | \$0 |
| Flashing Crossing Signs - RRFB or other (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Each) | \$15,000 | | |
| Proposed Intersection Crossing Improvements (Fwy) (Each) | \$30,000 | | |
| Shade Trees (Each) | \$700 | | \$0 |
| Roadway Rebuild Minor (\$1.1million per lane mile) | \$208 | | \$0 |
| Roadway Rebuild Major (\$1.5million per lane mile) | \$284 | | \$0 |
| Drainage Minor (\$400k per mile) | \$76 | | \$0 |

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.2.2.C | TOTAL |
|-------------------------------------|--|-----------------|--------------------|
| Drainage Minor (\$600k per mile) | \$114 | | \$0 |
| 5 FT Buffer (sod and concrete curb) | \$51 | | \$0 |
| 2 FT Buffer (sod and concrete curb) | \$30 | 25,344 | \$760,320 |
| Proposed ped/bike bridge (10' wide) | \$6,250 | | \$0 |
| Pedestrian lighting pole (each) | \$8,000 | | \$0 |
| Upgraded street lighting (each) | \$10,000 | | \$0 |
| Wayfinding Signage (each) | \$200 | | \$0 |
| Banners (each) | \$500 | | \$0 |
| Custom bike racks | \$850 | | \$0 |
| Benches (each) | \$2,200 | | \$0 |
| Kiosk (each) | \$10,000 | | \$0 |
| | | | |
| Subtotal | Typical | | \$3,627,438 |
| Mobilization | 10% | 10% | \$362,744 |
| Contingency | 20% | 20% | \$725,488 |
| Engineering/Design | 15% | 15% | \$544,116 |
| | | | |
| Total | | | \$5,259,785 |

APricing includes New Sidewalk (\$12/SF), Demolition (\$3/SF)
 Unless otherwise stated unit cost estimates are based on recent project bid prices or the TxDOT
 Average Low Bid Unit Prices

Project 3.3.1.A: School Access

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.3.1.A | TOTAL |
|--|--|-----------------|-------------|
| 6 FT SidewalkA | \$90 | 24,088 | \$2,167,920 |
| 5 FT SidewalkA | \$75 | | \$0 |
| 10 FT Sidewalk/SidepathA | \$150 | | \$0 |
| Proposed Curb Ramps - Each | \$2,250 | 80 | \$180,000 |
| Neighborhood Bikeway/Safe Street | \$34 | | \$0 |
| Standard Bike Lanes | \$53 | | \$0 |
| Off-Street Trail | \$125 | 2,225 | \$278,125 |
| Street Restripe (Remove \$8/FT and Install \$20/FT) | \$28 | | \$0 |
| Proposed Tier 1 Bus Stop Improvement (Each) | \$25,000 | | \$0 |
| Proposed Tier 2 Bus Stop Improvement (Each) | \$20,000 | | \$0 |
| Proposed Tier 3 Bus Stop Improvement (Each) | \$15,000 | | |
| Proposed Mid-block Crossings | \$40,500 | | \$0 |
| Traffic Signal (Each) | \$250,000 | | \$0 |
| Signal Modification (Each) | \$30,000 | | \$0 |
| Signalized Pedestrian/Bike Crossing (Each) | \$150,000 | | \$0 |
| Flashing Crossing Signs - RRFB or other (Each) | \$15,000 | | \$0 |
| Proposed Intersection Crossing Improvements (Each) | \$15,000 | | |
| Proposed Intersection Crossing Improvements (Fwy) (Each) | \$30,000 | | |
| Shade Trees (Each) | \$700 | | \$0 |
| Roadway Rebuild Minor (\$1.1million per lane mile) | \$208 | | \$0 |
| Roadway Rebuild Major (\$1.5million per lane mile) | \$284 | | \$0 |
| Drainage Minor (\$400k per mile) | \$76 | | \$0 |

| IMPROVEMENT ITEMS | UNIT PRICE PER LINEAR FOOT (UNLESS NOTED) | PROJECT 3.3.1.A | TOTAL |
|-------------------------------------|--|-----------------|--------------------|
| Drainage Minor (\$600k per mile) | \$114 | | \$0 |
| 5 FT Buffer (sod and concrete curb) | \$51 | | \$0 |
| 2 FT Buffer (sod and concrete curb) | \$30 | | \$0 |
| Proposed ped/bike bridge (10' wide) | \$6,250 | 160 | \$1,000,000 |
| Pedestrian lighting pole (each) | \$8,000 | | \$0 |
| Upgraded street lighting (each) | \$10,000 | | \$0 |
| Wayfinding Signage (each) | \$200 | | \$0 |
| Banners (each) | \$500 | | \$0 |
| Custom bike racks | \$850 | | \$0 |
| Benches (each) | \$2,200 | | \$0 |
| Kiosk (each) | \$10,000 | | \$0 |
| | | | |
| Subtotal | Typical | | \$3,626,045 |
| Mobilization | 10% | 10% | \$362,605 |
| Contingency | 20% | 20% | \$725,209 |
| Engineering/Design | 15% | 15% | \$543,907 |
| | | | |
| Total | | | \$5,257,765 |

APricing includes New Sidewalk (\$12/SF), Demolition (\$3/SF)
 Unless otherwise stated unit cost estimates are based on recent project bid prices or the TxDOT
 Average Low Bid Unit Prices

