TIRZ 15 Mobility Plan

June 2022

East Downtown Redevelopment Authority (TIRZ 15)

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Table of Contents

Introduction
Pages 4-9

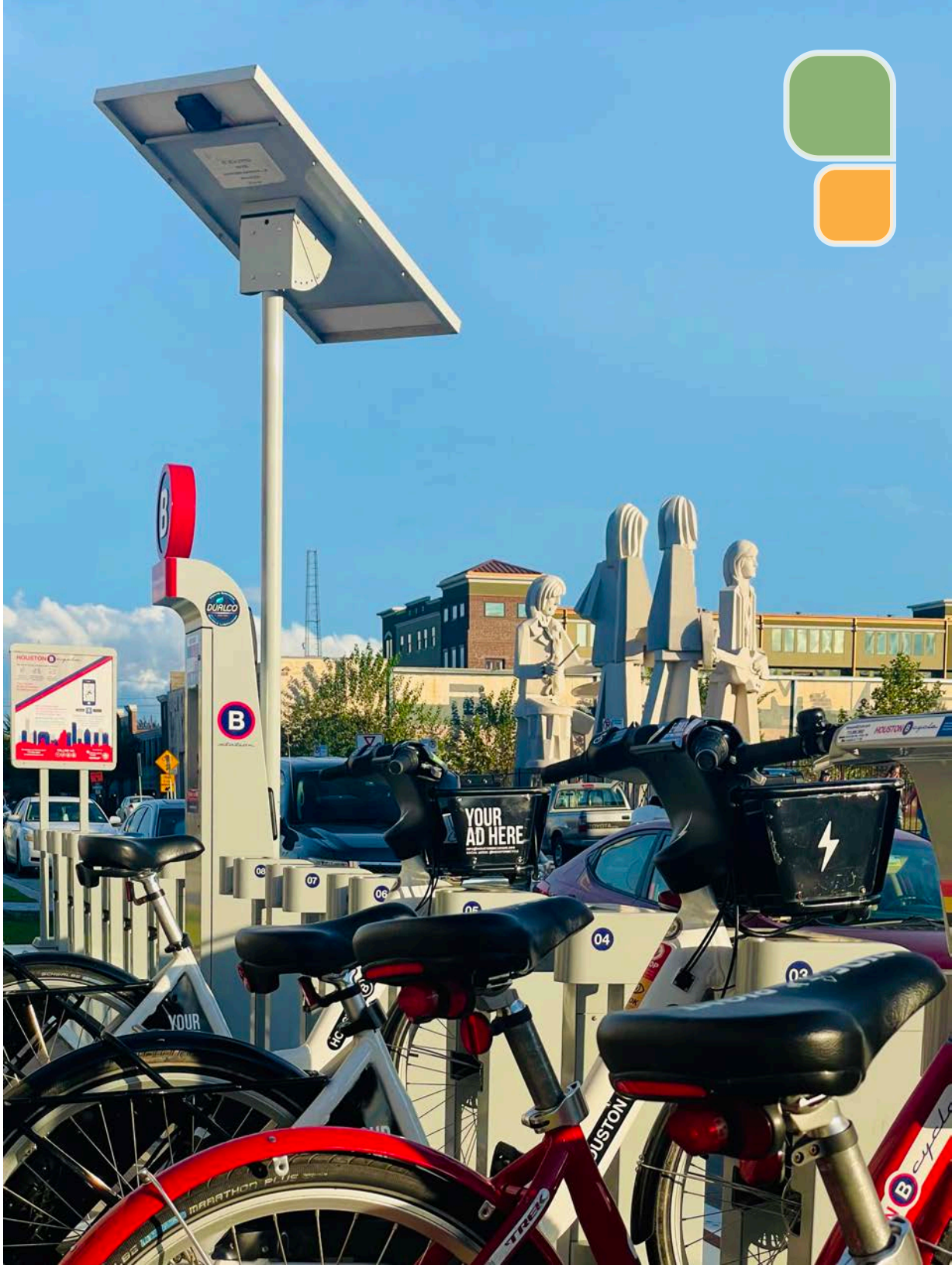
Case for Action & Mobility Opportunities
Pages 10-25

Enhancing East Downtown's Network
Pages 26-70

Action Plan
Pages 71-92

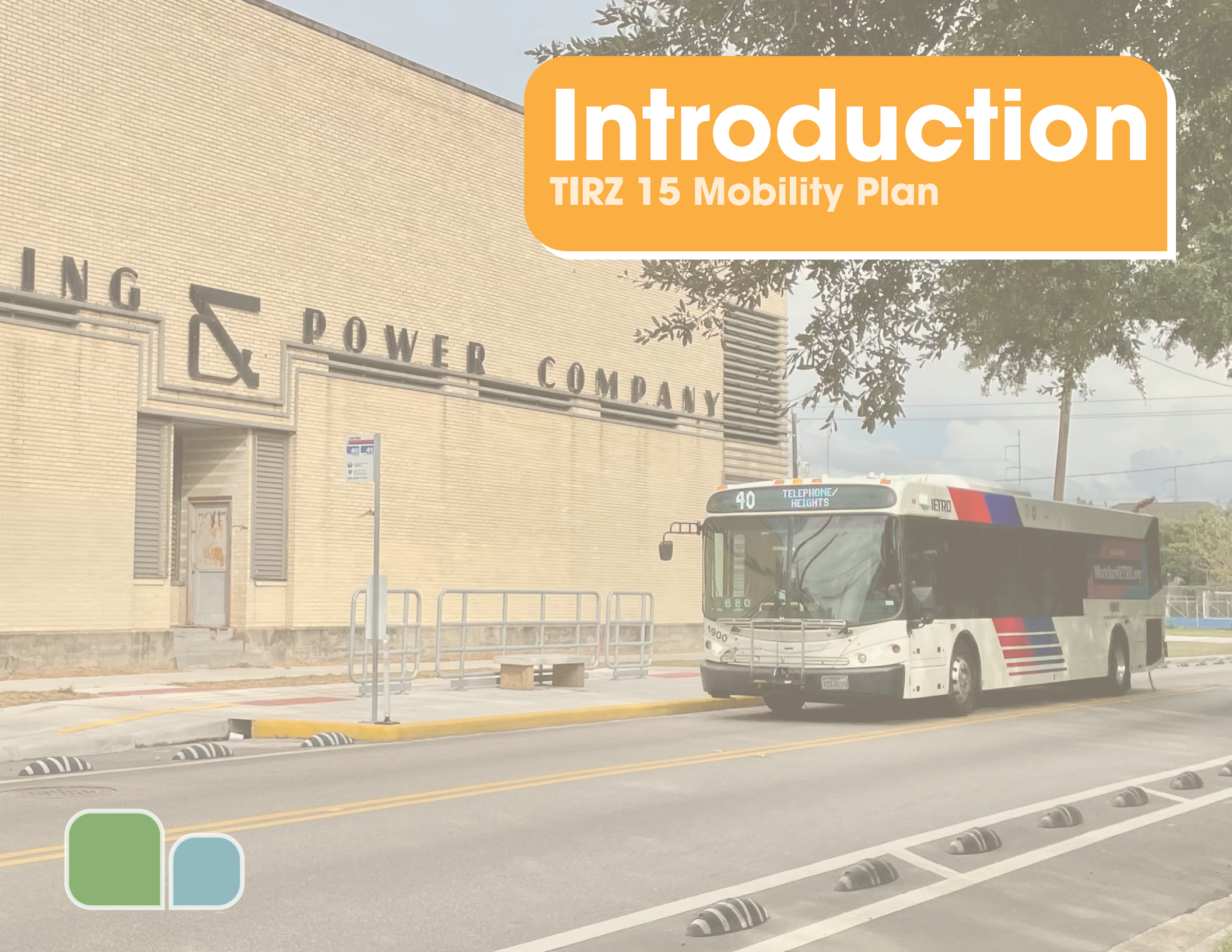
Appendix A: Fact Book
A1-A51

Appendix B: Community Engagement
B1-B25



Introduction

TIRZ 15 Mobility Plan



About the Plan

Plan Purpose

The TIRZ 15 Mobility Plan establishes a future-looking vision and strategy for the TIRZ to guide mobility investments for the next decade. The Plan builds on previous TIRZ work and incorporates findings from community input, TIRZ Board input, mobility and demographic data, previous planning efforts, and national best practices in multimodal street design. The final set of project and program recommendations reflect these inputs. The TIRZ and partner agencies can use this Plan to build a street network that is the foundation of a high quality of life, healthy businesses, and connected destinations within and proximate to East Downtown.

Plan Structure

The Plan's four chapters build toward final recommendations and a strategy for implementation. The **Introduction** establishes the purpose, history and context for the Plan. The **Case for Action & Mobility Opportunities** chapter defines today's mobility challenges and opportunities in the Zone and describes a set of goals for building a connected multimodal network. **Enhancing East Downtown's Network** outlines specific project and program recommendations to accomplish the Mobility Opportunities. Finally, the **Action Plan** considers project design, phasing, funding, and partnerships to support implementation.

Case for Action
What are the **motivating factors** for improving mobility?

▼

Mobility Opportunities
Where should the **TIRZ focus** its time and resources?

▼

Enhancing East Downtown's Network
What **projects, programs, and policies** meet these opportunities?

▼

Action Plan
How should strategies be **phased and funded** for implementation?

About TIRZ 15

The Role of the TIRZ

Tax Increment Reinvestment Zone 15 (TIRZ 15), also called the East Downtown Redevelopment Authority (EDRA), was created in 1999 by the Houston City Council. TIRZs use the increase in tax revenue from rising property values to invest in infrastructure improvements like mobility and drainage projects. These projects bolster and enhance additional private development within the TIRZ boundaries. Since the EDRA was the 15th TIRZ created by the City, it is also known as TIRZ 15.

Development Goals

As part of its founding documents, the TIRZ establishes project priorities, or goals for the development of the Zone. Multiple of the TIRZ's goals pertain directly to mobility, including creating "pedestrian-friendly environments," "reinforcement of pedestrian-attractive retail developments," and "complementing revitalization activities" along future and proposed METRO corridors in the TIRZ.

The Study Area

The study area (the Zone) is located in the heart of the City of Houston, adjacent to Downtown (see Figure 1). The Zone is a hub of entertainment in the City with PNC Stadium, multiple performing arts venues and breweries, and popular bars and restaurants. In recent years, growing residential development has increased the Zone's population.

Vibrant neighborhoods like Downtown, Second Ward, Third Ward, and Midtown border the Zone and connect to its street grid. Although these neighborhoods are close, the Zone is surrounded by barriers like IH-69/US-59, IH-45, and the West Belt Subdivision freight rail line.

Figure 1 Study Area

Source: Team Analysis 2021

METRORail Lines & Stations
Freight Rail Lines
TIRZ Boundaries
School
Park
Major Destinations

The Streets of East Downtown

Historic Industrial Hub

East Downtown is one of Houston's oldest neighborhoods with its origin in the City's early days as an industrial and logistics hub with ship repair and maintenance facilities, textile factories, and cement manufacturers. East Downtown sat at the intersection of Downtown and port facilities along Buffalo Bayou. In the early 1850s, a boom of railroad construction connected the industry of East Downtown to Galveston's port and rural farmlands to the west.

As industry thrived in Houston, so did East Downtown. By the 1930s bakeries, restaurants, and other local shops were serving a growing Cantonese population that established roots in the neighborhood. The Texas Department of Transportation (TxDOT) constructed IH-45 along the southern border of East Downtown in the early 1970s. Parts of East Downtown were referred to as "Old Chinatown" for its high concentration of Chinese residents and businesses. The area also included numerous Vietnamese enterprises and institutions until the 1980s when most of the area's Chinese and Vietnamese establishments moved out to Bellaire Boulevard.

An Entertainment Hub & Growing Neighborhood

Today, East Downtown is experiencing rapid changes including new commercial and entertainment destinations, along with the continued development of new and denser housing. Retrofitting and adaptive reuse of the area's historic industrial building stock has created new spaces for independent, locally owned businesses. The mix of historic, new, and retrofitted buildings reinforces the uniqueness, excitement and entrepreneurial vibrancy of the Zone. The combination of town homes, diverse third spaces, and the ability to live without a car has attracted young talent with high educational attainment akin to cities like Austin or university-anchored towns. With a large share of parcels still underdeveloped, East Downtown's future relies on improving old infrastructure to meet the needs of this mixed-use, vibrant Zone.

The area will also be greatly impacted by the North Houston Highway Improvement Project (NHHIP). The METRORail Purple and Green Lines cross the heart of the Zone near PNC Stadium, and popular bikeways along the Columbia Tap Trail and Polk Street offer high-comfort routes to bike east-west within the Zone. The intact street grid remains one of the Zone's strongest mobility assets and helps create strong connectivity between destinations in East Downtown.

Gulf Freeway in construction through East Downtown, 1955; Source: Houston Chronicle

Pedicabs, METRORail, and cars share the street in East Downtown; Source: TEI

Mobility over the Years

Gridded Streets 1836

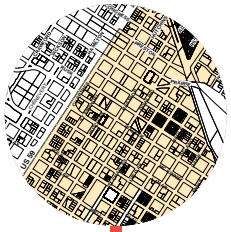
Gail Borden designs Houston's streets at 80' wide, with the first east to west street known as Texas Avenue

1853 Rail Construction

Houston constructs its first railroad known as the Buffalo Bayou, Brazos and Colorado Railway (B.B.B. & C)

Highways 1961

East Downtown's border highway (US-59/IH-69) opens in 1961; IH-45 opens in 1971



1999 TIRZ 15 Created

The City of Houston votes to create TIRZ 15 as a tax increment reinvestment zone for the East Downtown neighborhood

Columbia Tap Trail 2009

City of Houston builds the Columbia Tap Trail in the alignment of the former Houston Tap & Brazoria Railway, connecting the Zone to Third Ward

2012 PNC Stadium

The City of Houston and Houston Dynamo FC complete the construction of the soccer stadium, solidifying East Downtown as an entertainment hub

Bastrop Promenade 2013

The TIRZ builds the first pieces of the Bastrop Promenade along a former San Antonio & Aransas Pass rail line in the heart of East Downtown

2015 METRORail Lines

The Green and Purple METRORail lines first run on May 23, 2015, serving East Downtown with one station

Looking to the Future

The history and location of East Downtown give it unique redevelopment potential in a City that is already seeing a rapid pace of growth and change. The goals that guide the strategic vision for this Plan, the data, and mobility solutions identified will unlock the Zone's potential and create room for a broad range of development typologies for all land use types.

Mobility investments that create a multimodal street network will help attract, grow, and retain retail and office tenants and encourage new developments that further complement the walkability, bikeability, and transit connections in the neighborhood. The current environment of building and land use regulations in the Zone – including the lack of parking minimums – benefits future development in the Zone by allowing more buildable area in a place where living without a car is convenient. As East Downtown continues to develop, a flexible and adaptive mobility-first approach will give residents and visitors many travel options and will allow the Zone to grow organically to support strong residential neighborhoods, vibrant commercial corridors, and even high density development.

Case for Action & Mobility Opportunities

The Time to Plan is Now

The Case for a Mobility Plan

Now Is the Time to Plan

The TIRZ has focused recent efforts on designing and constructing the slate of projects already scheduled in its CIP. These projects go a long way in creating a safer and more connected central core in the Zone. This Plan complements those investments and will help the TIRZ Board prioritize where to focus next to support its goals.

This chapter summarizes the findings gathered from previous planning efforts, the mobility analysis in the Fact Book (Appendix A), and community input from the Goals Survey (Appendix B). Taken together, this information builds a Case for Action for the TIRZ 15 Mobility Plan by revealing why East Downtown would benefit from proactive and creative thinking about the future of mobility.

Setting Goals for the Plan

The Case for Action lays the groundwork for the Mobility Opportunities which represent the goals of the Plan. The Mobility Opportunities define where the TIRZ can invest resources and time to address the Case for Action insights and bring about a truly multimodal East Downtown.

Case for Action

Based on data analysis, previous planning studies, and community input, what important mobility characteristics provide motivation for the plan and should be addressed by the planning process?

Mobility Opportunities

Where should the TIRZ focus its time and resources to create a safe, connected, and multimodal network for East Downtown?

Five Mobility Categories

The Case for Action consists of insights grouped into five mobility categories: Streets & Safety, Sidewalks & Walkability, Bikeway Connectivity, Transit Access, and NHHIP Impacts.

Streets & Safety page 16

Walkability & Sidewalks page 18

Bikeway Connectivity page 20

Transit Access page 22

NHHIP Impacts page 24

The State of Mobility in East Downtown

The Benefits of Gridded Streets

East Downtown's gridded layout makes connectivity within the Zone easier for all types of mobility. For example, if a street is closed for construction, the grid layout gives people several other options along parallel streets to get to their destination, regardless of whether they are walking, biking, or driving.

The Zone's short block lengths (about 300 feet between intersections) also support walkability by creating a dense network of crossings to connect to destinations. The street grid is a defining feature for East Downtown that provides a strong foundation for building a connected multimodal network.

Excessive Pavement Width

In its historic role as an industrial hub, many streets in the Zone have wide pavement widths to accommodate high volumes of freight vehicles. These same streets no longer carry as many vehicles, creating a mismatch between travel demand and the design of the street. Figure 2 maps excess pavement width on the Zone's streets, or the width of the street compared to its current lane configuration.

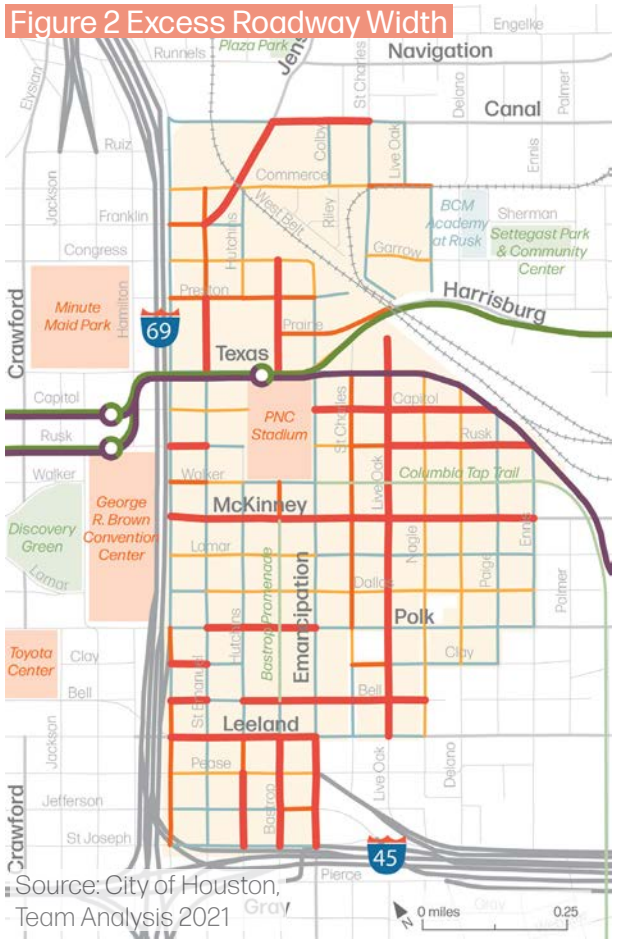
The streets in red and orange have wider pavement than required by vehicle demand. This extra-wide pavement can be reallocated to improve mobility in other ways while still maintaining good vehicular access and circulation. Improvements may include wide sidewalks, formalized parking, new bikeways, and amenities like lighting, seating, trees, and public art.

Travel Lane Space Needed (20 feet)

Parking Space Needed (18 feet)

Excess Pavement Width (14 feet)

Figure 2 Excess Roadway Width



Source: City of Houston, Team Analysis 2021

Little to No Excess Pavement (0-3 feet)

Some Excess Pavement (4-8 feet)

More Excess Pavement (9-12 feet)

Significant Excess Pavement (13-24 feet)

The State of Mobility in East Downtown

Major Barriers Surround the Zone

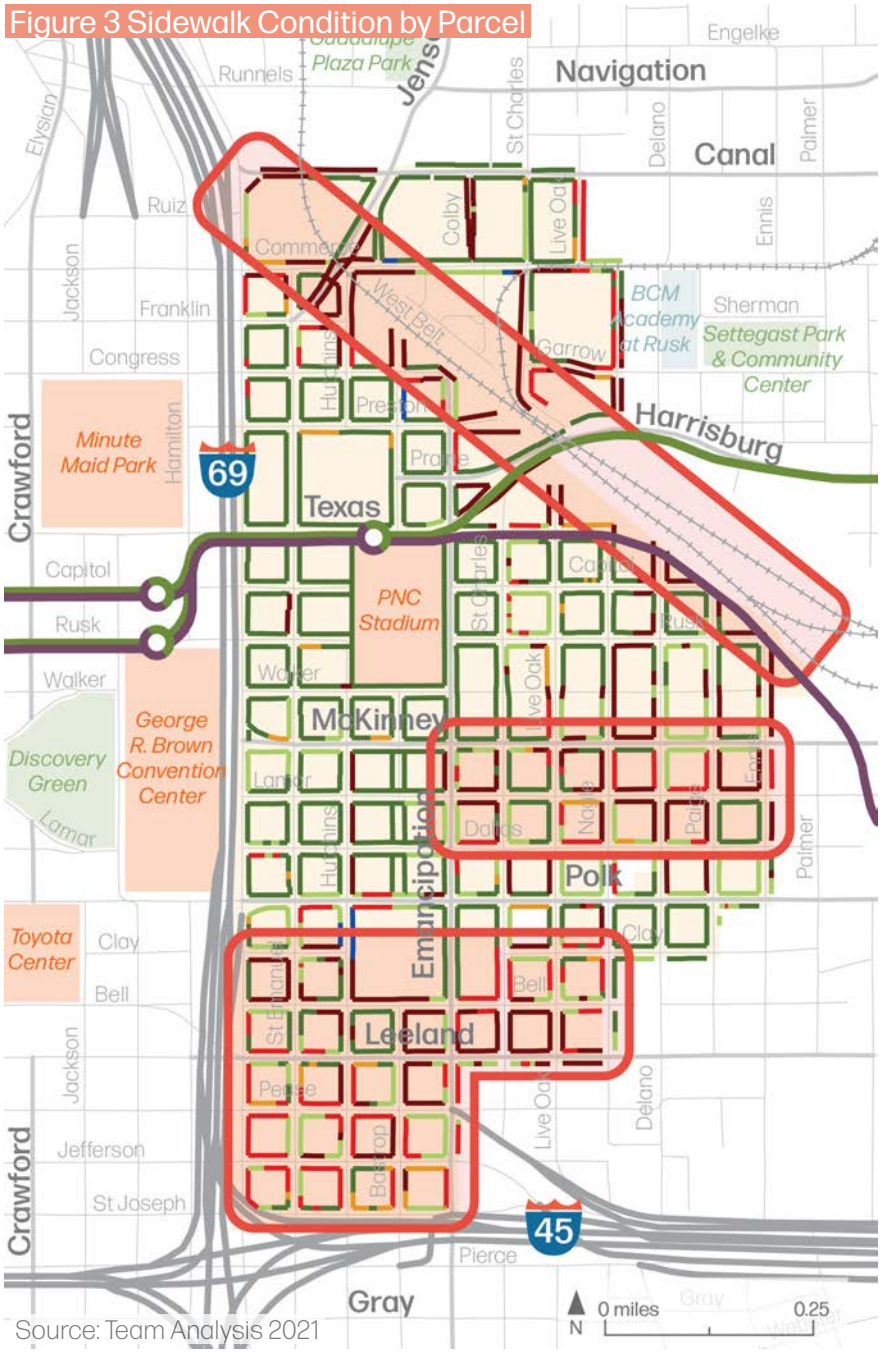
Although East Downtown is located at the heart of activity in Houston, historic decisions have disconnected the Zone from surrounding neighborhoods. Rail lines and a large rail yard limit connections into the East End. The construction of IH-69 and IH-45 in the middle of the 20th century further sectioned off the Zone from Downtown and Third Ward, limiting access to those areas. Project recommendations establish and strengthen multimodal connections to better link East Downtown to the rest of the City's mobility network.

A Gap in Walkability

While the street grid should support walkability, large portions of the Zone have missing sidewalks or sidewalks that are in poor condition and not traversable by someone using a wheelchair or stroller. Figure 3 shows the condition of sidewalks in East Downtown at the parcel level. Sidewalks in dark red are missing. Sidewalks in bright red are not traversable. Large portions of the Zone have significant clusters of sidewalks in poor condition, including south of Polk Street, around the freight rail line, and east of Emancipation Avenue. All recommended projects offer an opportunity to update sidewalks and curb ramps to support the walkable development of the Zone.

For a detailed look at mobility and demographic data analyzed for the plan, see the Fact Book in Appendix A.

Figure 3 Sidewalk Condition by Parcel



Source: Team Analysis 2021

Area with poor sidewalk conditions

- A — Flat - 5'+
- B — Flat - Less than 5'
- C — Poor Condition - 5'+
- D — Poor Condition - Less than 5'
- E — No Sidewalk Present
- Under Construction

Feedback from the Community

Asking the Community about Their Mobility Goals

In addition to the Fact Book, recommendations are informed by input from community members throughout the planning process. Respondents use all types of modes and a large portion of them regularly visit the Zone for its many entertainment destinations.

The initial Goals Survey asked the community to share their experiences traveling to and within the Zone, including their concerns and frustrations. The survey also gathered input about what type of improvements people would like to see from TIRZ investments.

The survey received 154 responses and the majority of people said that they regularly visit the Zone to shop, eat, or go to events. Respondents also had a range of age, racial, and ethnic backgrounds. About half of all survey-takers were under the age of 40, representing the population of young professionals that live in and frequently visit East Downtown.

Desire for a Multimodal East Downtown

The main insights from the survey, shown on the right, highlight the need to invest in multimodal choices in East Downtown. Most respondents already walk or bike but would do it more frequently if it were easier and safer. Respondents overwhelmingly support improved sidewalks, protected bikeways, safe intersection crossings, and additional transit service. The survey also indicated a desire to maintain connectivity between East Downtown and Downtown through the NHHIP construction and implementation.

For a detailed analysis of survey results, see Appendix B.

The Zone is a **regional commercial destination** and a large share of the people using its streets are **visitors**.

People are **already biking and walking** in and through the Zone but would do it **more frequently if it were easy and safer**.

People prefer **biking on streets with protection** from high vehicle speeds and volumes.

People want **safer crossings**, particularly across **rail lines and wide, high speed streets** like Emancipation Avenue.

People want to see **more light rail access** and new **north-south transit options**.

People do not want to **lose existing connectivity** to Downtown or the **character of the Zone due to NHHIP**.

Case for Action Insights

The information gathered from the Fact Book's demographic and mobility analysis culminates in a Case for Action.

The Case for Action is split into five distinct categories with insight statements that highlight the key mobility challenges and opportunities facing the TIRZ. The five categories are Streets & Safety, Walkability & Sidewalks, Bikeway Connectivity, Transit Access, and NHHIP Impacts. These insights inform the plan's strategies and recommendations.

Streets & Safety, page 16

The Zone has a **strong street grid** that can support a range of mobility network improvements.

Many corridors in the Zone have **excess roadway pavement width** that can be reallocated to expand mobility opportunities for safer walking, biking, and streetscape improvements while **maintaining good vehicular access and circulation**.

Crashes in the Zone occur predominately on **wide, high-speed streets** and intersections of two wide streets.

Walkability & Sidewalks, page 18

The TIRZ has had a **positive impact on safety for people walking in the Zone's central core** but some sidewalk gaps and inaccessible intersections remain.

Beyond the walkable core, connections to Downtown and other neighborhoods are difficult due to **wide, fast streets with limited safe crossing locations** and limited crossing points of the West Belt Subdivision freight rail line.

Bikeway Connectivity, page 20

The Zone **lacks a connected network** of high-comfort bikeways serving many destinations, especially for north-south connections to Third Ward, the East End, or Buffalo Bayou.

The Zone is **crossed by some high-comfort bikeway corridors** that can be improved.

Transit Access, page 22

Though served by two METRORail lines and a high-frequency bus corridor, **the Zone lacks north-south transit access** and pockets of the area are isolated from METRO service.

NHHIP Impacts, page 24

The North Houston Highway Improvement Project will have **profound impacts on mobility and land use** in the Zone by changing the design and context of major streets and altering connectivity across IH-69 & IH-45.

Streets & Safety

The Streets & Safety category encompasses the general characteristics of mobility in East Downtown including the Zone's historic roadway designs and pavement quality. This category also captures the current safety concerns gathered from recent crash data and community input.

Case for Action Insights

The Zone has a **strong street grid** that can support a range of mobility network improvements.

Many corridors in the Zone have **excess roadway pavement width** that can be reallocated to expand mobility opportunities for safer walking, biking, and streetscape improvements while **maintaining good vehicular access and circulation**.

Crashes in the Zone occur predominately on **wide, high-speed streets** and intersections of two wide streets.

Mobility Opportunities

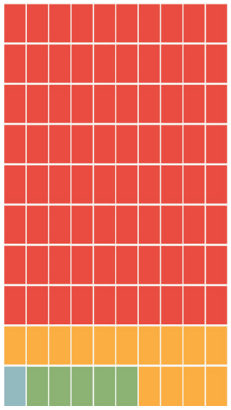
1. **Optimize excess pavement width** to improve safety, increase multimodal options, and dedicate curb space for priority uses.
2. Continue the TIRZ practice of designing streets to **prioritize safety and connectivity** for all users.
3. Better align the Zone's **supply and management of parking** with peak demand during evenings and weekends.

Streets & Safety: Community Input & Data

The Zone's streets were designed to serve mostly industrial uses and can be reimagined to better meet the needs of today's residents, businesses, and visitors to East Downtown. Mobility data shows that many of the Zone's streets have excess pavement width for their current use (see Figure 4). The width of these streets contributes to safety issues by encouraging higher speeds that can lead to crashes involving serious injuries and fatalities.

When surveyed, the community asked for improvements that would provide safe and convenient options for people walking, biking, and riding transit to make East Downtown a premier multimodal neighborhood in Houston.

What **describes you best**?



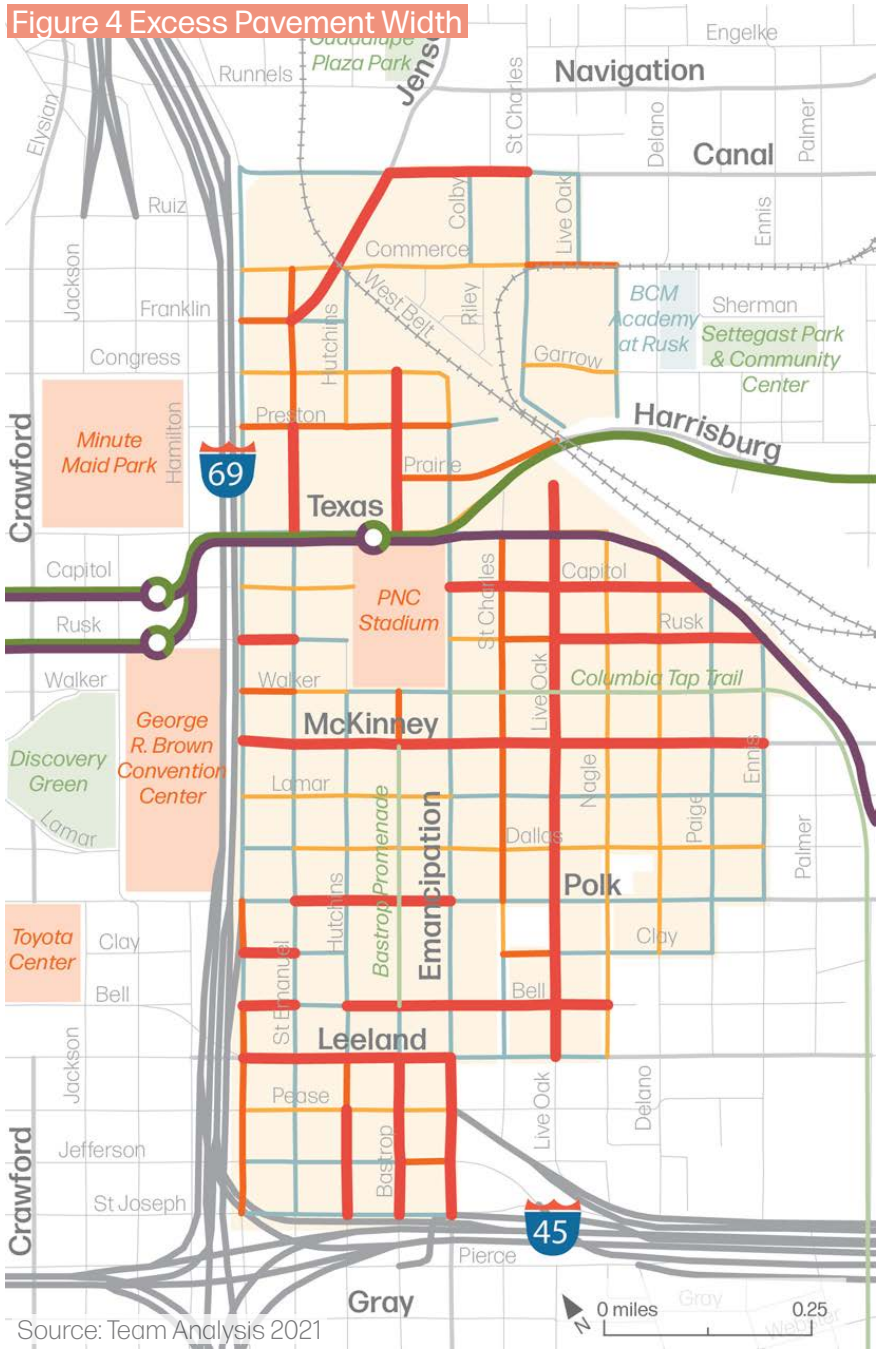
80% I already **walk/bike/ride** transit but would **like to see improvements**.

14% I **do not walk/bike/ride** transit but would **with improvements**.

5% I **drive everywhere** and am **unlikely to walk/bike/ride** transit.

1% I already **walk/bike/ride** transit and am good with **current conditions**.

Figure 4 Excess Pavement Width



Source: Team Analysis 2021

Little to No Excess Pavement (0-3 feet)

Some Excess Pavement (4-8 feet)

More Excess Pavement (9-14 feet)

Significant Excess Pavement (15-24 feet)

Walkability & Sidewalks

This category outlines the findings related to the experience of people walking in East Downtown. Walkability considerations include safety for people walking and using wheelchairs, as well as the quality of sidewalks, curb ramps, and intersection crossings throughout the Zone.

Case for Action Insights

The TIRZ has had a **positive impact on safety for people walking in the Zone's central core** but some sidewalk gaps and inaccessible intersections remain.

Beyond the walkable core, connections to Downtown and other neighborhoods are difficult due to **wide, fast streets with limited safe crossing locations** and limited crossing points of the West Belt Subdivision freight rail line.

Mobility Opportunities

1. Target sidewalk improvements in the **clusters of highest need** and prioritize spot improvements to **fill gaps**.
2. Develop a **fully connected sidewalk grid with safe crossings** never more than one block away.
3. Leverage new City policies and work with private developers to ensure that **every project includes walkability improvements** aligned with the TIRZ's Public Improvements Guide.
4. Prioritize walkability **improvements near transit** stops.

Walkability & Sidewalks: Community Input & Data

Like many parts of the City, the Zone has considerable gaps in its sidewalk network and dangerous intersections that can make it unsafe to walk, use a wheelchair, or push a stroller. Figure 5 shows the quality of sidewalks by block in the Zone with 50% of all blocks either missing or not traversable for someone with mobility challenges (maroon or red).

This data is supported by community input highlighting missing and poor quality sidewalks and unsafe intersections as two of the top three mobility concerns in East Downtown.

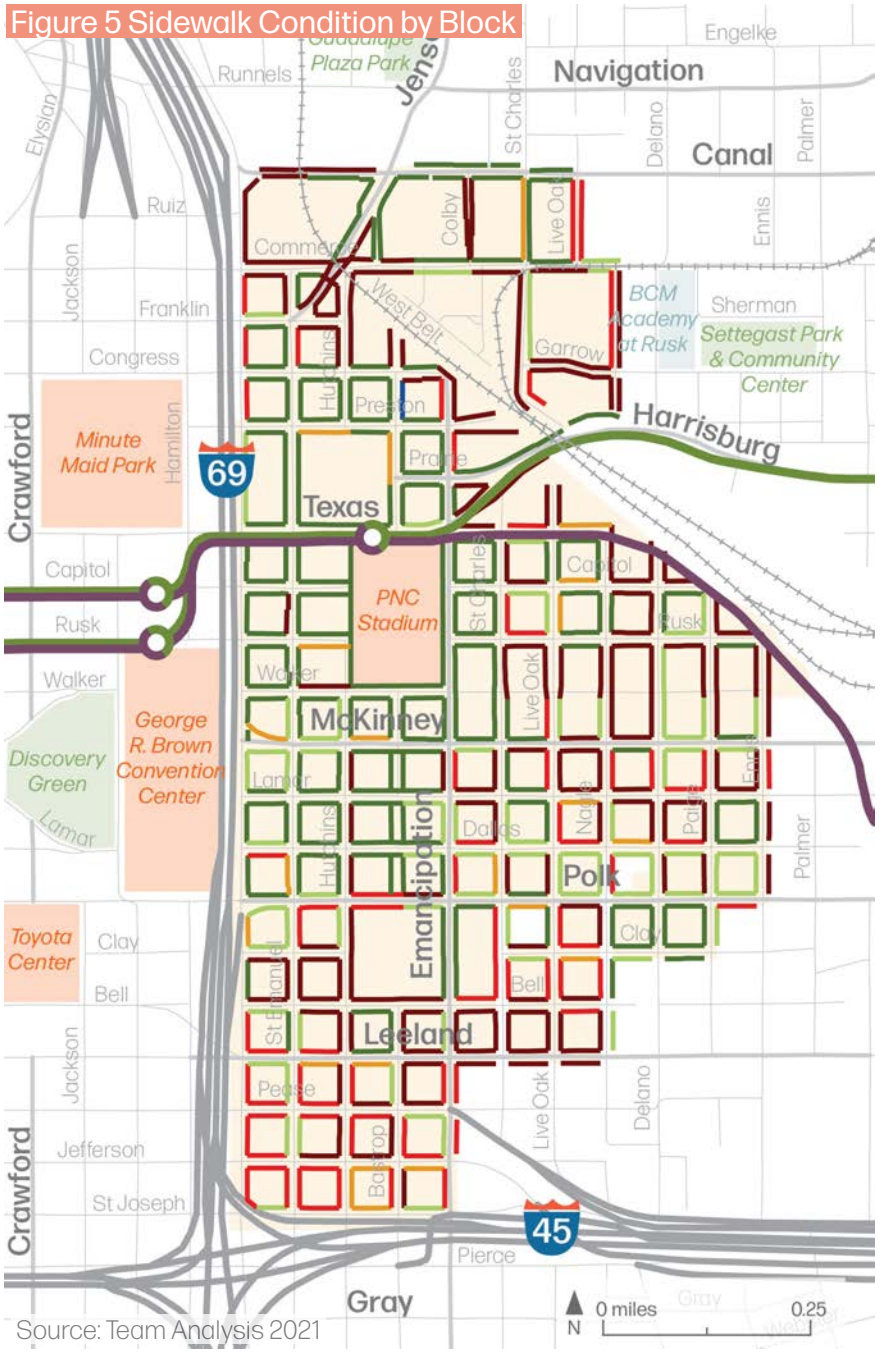
What are your **concerns or frustrations** when getting around the Zone?

#1 Sidewalks missing/poor condition **(72%)**

#2 Unsafe biking conditions **(58%)**

#3 Difficult to cross busy streets **(53%)**

Figure 5 Sidewalk Condition by Block



Source: Team Analysis 2021

A — Flat - 5'+

B — Flat - Less than 5'

C — Poor Condition - 5'+

D — Poor Condition - Less than 5'

E — No Sidewalk Present

Under Construction

Bikeway Connectivity

The Bikeway Connectivity category analyzes the state of existing bikeways as well as bikeway connections in the Zone and to the growing network of high-comfort bikeways across the City.

Case for Action Insights

The Zone **lacks a connected network** of high-comfort bikeways serving many destinations, especially for north-south connections to Third Ward, the East End, or Buffalo Bayou.

The Zone is **crossed by some high-comfort bikeway corridors** that can be improved.

Mobility Opportunities

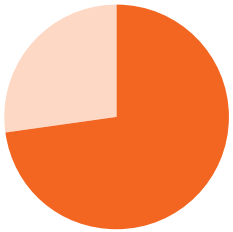
1. Build a **full network** of high-comfort bikeways across the Zone, prioritizing **north-south connectivity**.
2. **Extend existing bikeways and trails** through the length of the Zone to **connect to the growing network of bikeways** in surrounding neighborhoods.

Bikeway Connectivity: Community Input & Data

East Downtown is home to some of the City's best examples of high-comfort bikeways such as the Columbia Tap Trail and the protected bikeways on Polk Street. Unfortunately, large parts of the Zone are far from these bikeways. The bikeways are also not well-connected to the broader bikeway network in the City (see Figure 6). East Downtown could benefit from stronger north-south bikeway connections in particular.

Community responses to the Goals Survey underline the popularity of biking in the Zone. When asked what would make travel more enjoyable and easier, the top answer from responsents was "safe places to bike in the existing right-of-way."

What would make travel **easier and more enjoyable**?



73% Safe places to bike in the existing right-of-way

Figure 6 Bikeways with Missing Connections

Source: City of Houston, Team Analysis 2021

Transit Access

This category encompasses the state of existing transit service in the Zone. This includes METRO's local bus routes, rail lines, and connectivity to the larger METRO network.

Case for Action Insights

Though served by two METRORail lines and a high-frequency bus corridor, **the Zone lacks north-south transit access** and pockets of the area are isolated from METRO service.

Mobility Opportunities

1. Work with METRO to establish a new **north-south transit connection** in the Zone.
2. Ensure that every address in the Zone is within a **quarter mile of a transit stop**.
3. Improve the **experience at all bus stops and light rail stations** for people riding transit.

Transit Access: Community Input & Data

East Downtown benefits from multiple high-frequency transit lines including the METRO 40/41 local bus routes along Polk Street and the METRORail Purple and Green Lines with a station at PNC Stadium. Similar to the bikeway network, these transit routes do not provide a strong north-south connection for East Downtown and large areas of the Zone are more than a quarter-mile away from transit service and have difficulty accessing destinations (see Figure 7).

When asked about transit in East Downtown, survey-takers agreed with the idea of new north-south service and the addition of a rail station along the Purple Line.

What are the **most important transit investments** for the Zone?

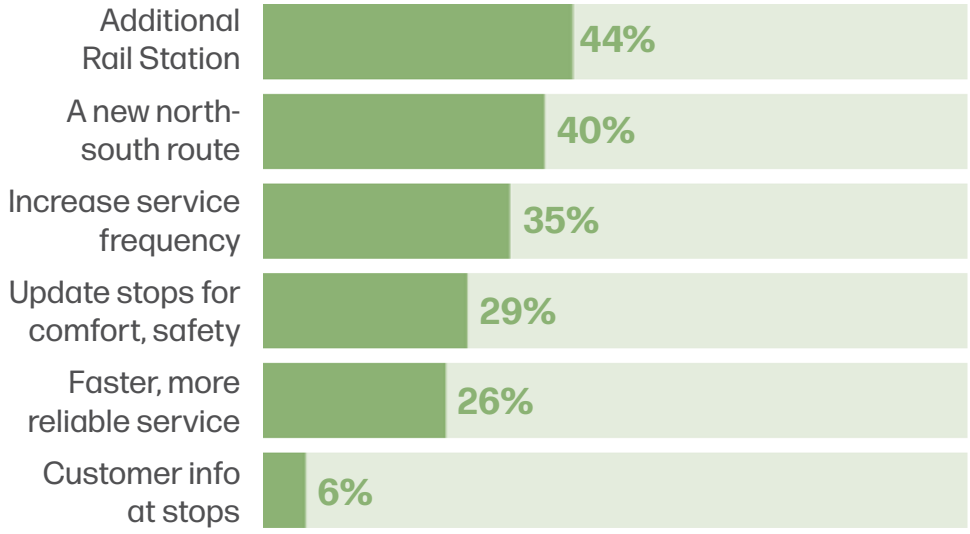
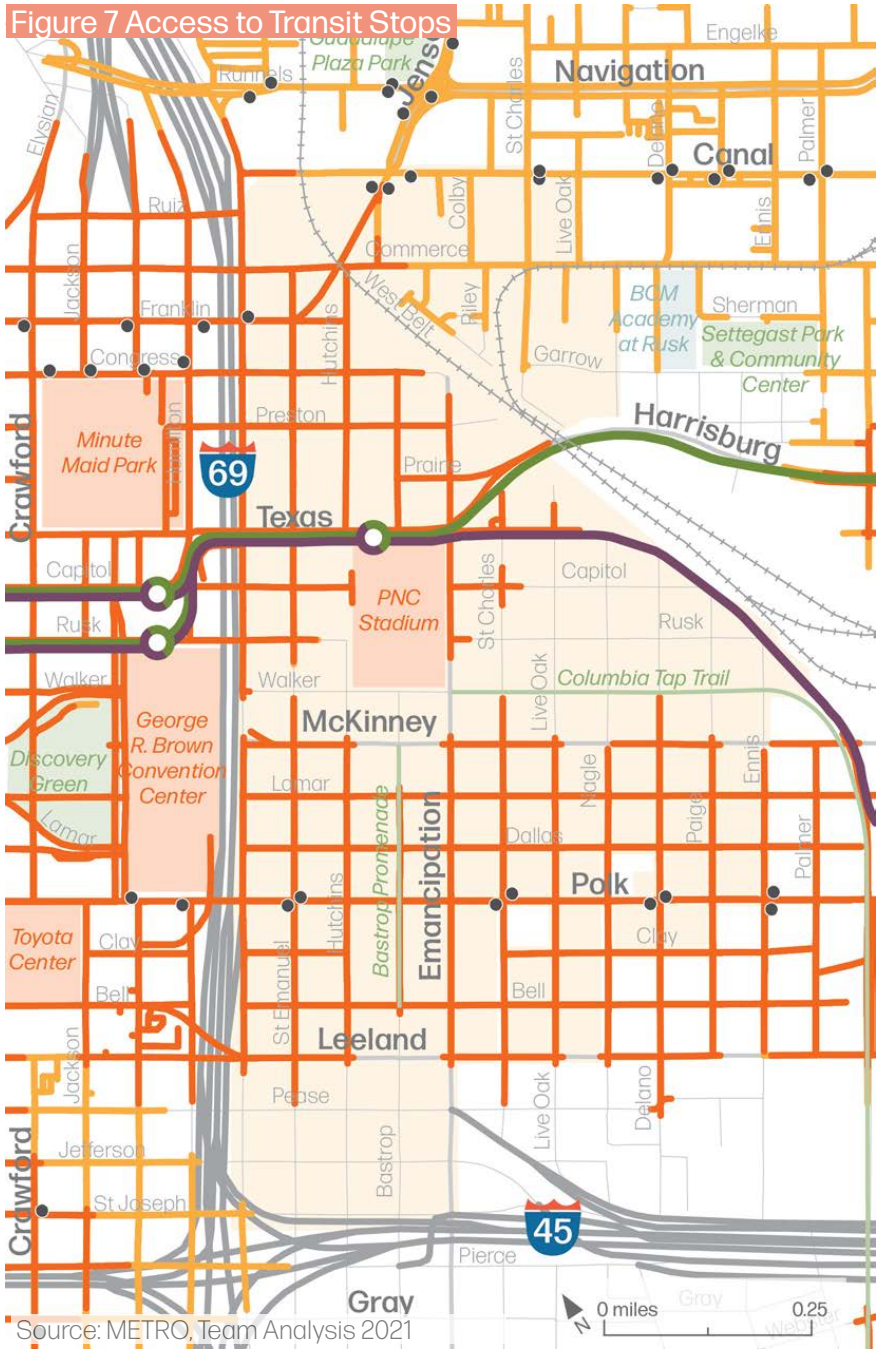


Figure 7 Access to Transit Stops



Source: METRO, Team Analysis 2021

Bus Stop

Within 1/4 mile of a high-frequency transit route

Within 1/4 mile of a non-high-frequency transit route

NHHIP Impacts

This category analyzes the proposed plans for TxDOT's North Houston Highway Improvement Project and their impact on the Zone's streets and connectivity. This includes impacts for all modes.

Case for Action Insights

The North Houston Highway Improvement Project will have **profound impacts on mobility and land use** in the Zone by changing the design and context of major streets and altering connectivity across IH-69 & IH-45.

Mobility Opportunities

1. Establish **north-south crossings of the existing IH-45 alignment** as gateways into the Zone prior to the start of NHHIP construction.
2. Leverage the NHHIP to **maintain or improve connectivity across IH-69 and IH-45**, especially for people walking, biking, and riding transit.
3. Establish a **vision for the Zone's streets** that cross and run alongside the NHHIP alignment.

NHHIP Impacts: Community Input & Data

TxDOT's NHHIP will have significant impacts on mobility in the Zone. The project will widen the freeway right-of-way between Downtown and East Downtown to re-route IH-45 through the two neighborhoods. This will convert St. Emanuel Street into a one-way northbound frontage road and re-shape the way that east-west streets connect the Zone to Downtown.

When asked about how to prepare for the NHHIP, survey respondents showed a desire to prioritize connectivity to Downtown and to design any re-constructed streets like St. Emanuel Street to be walkable.

What is the best way to **prepare for the NHHIP project**?

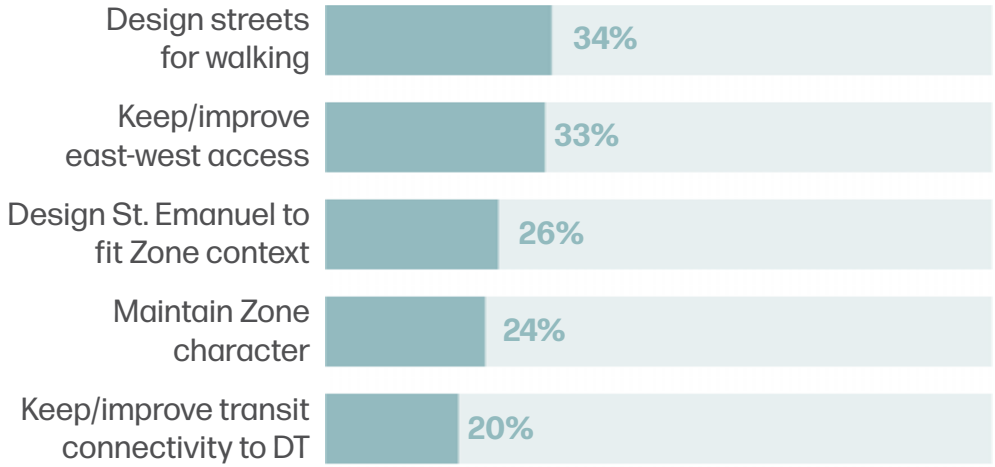
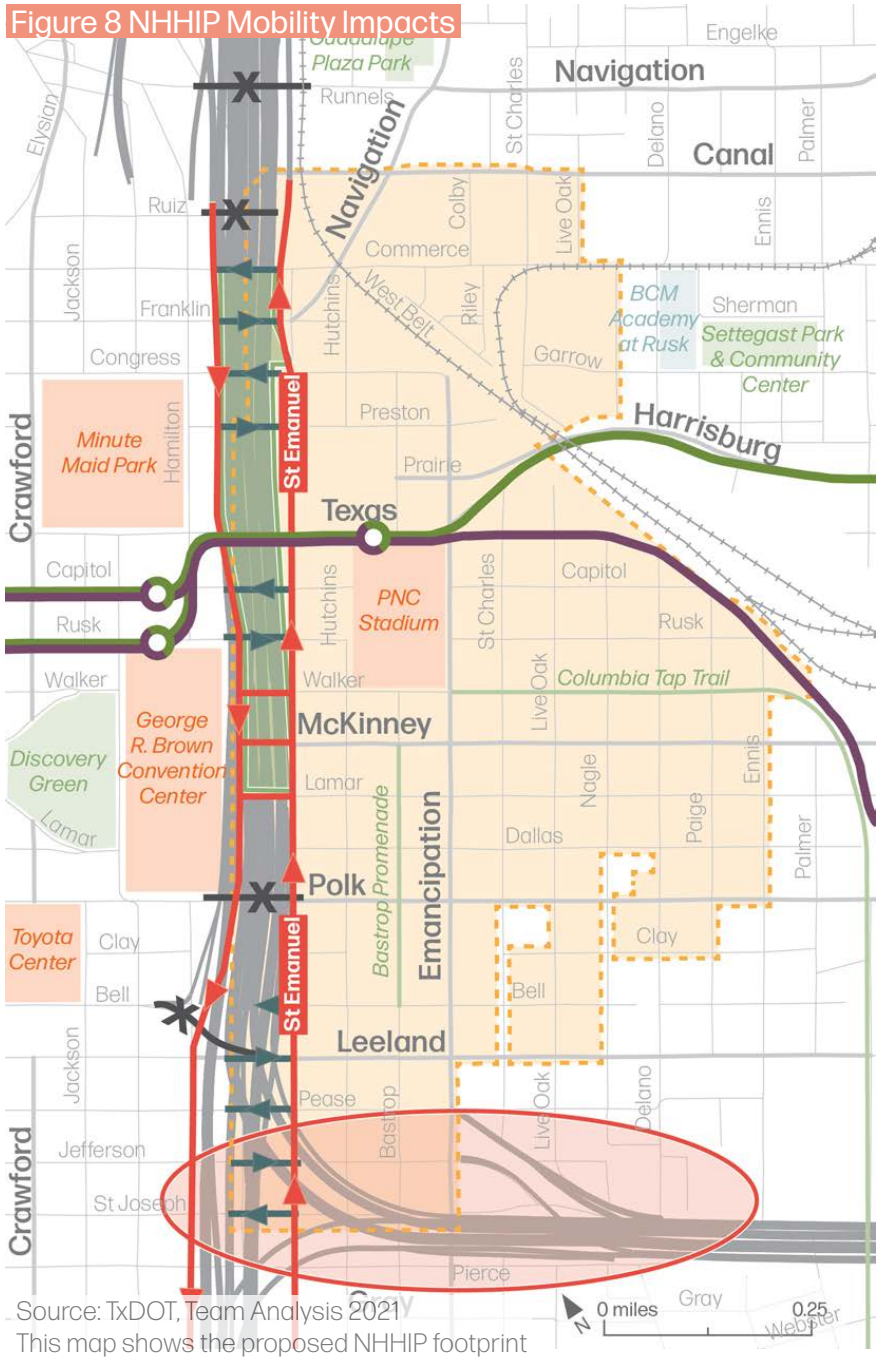


Figure 8 NHHIP Mobility Impacts



Source: TxDOT, Team Analysis 2021
This map shows the proposed NHHIP footprint

Southern Zone Access Impacts
Proposed Cap Park
Frontage Road
Added Cap Park Crossing
Maintained Highway Crossing
Closed Local Crossing

Enhancing East Downtown's Network

Study Recommendations

How to Use This Chapter

Context for Recommendations Page 28

This chapter describes a set of recommended projects to achieve the vision set forth by the TIRZ and capitalize upon the Mobility Opportunities. The first section outlines the TIRZ's programmed mobility projects and describes how previous planning efforts by others impact mobility for East Downtown.

Recommended Projects Page 37

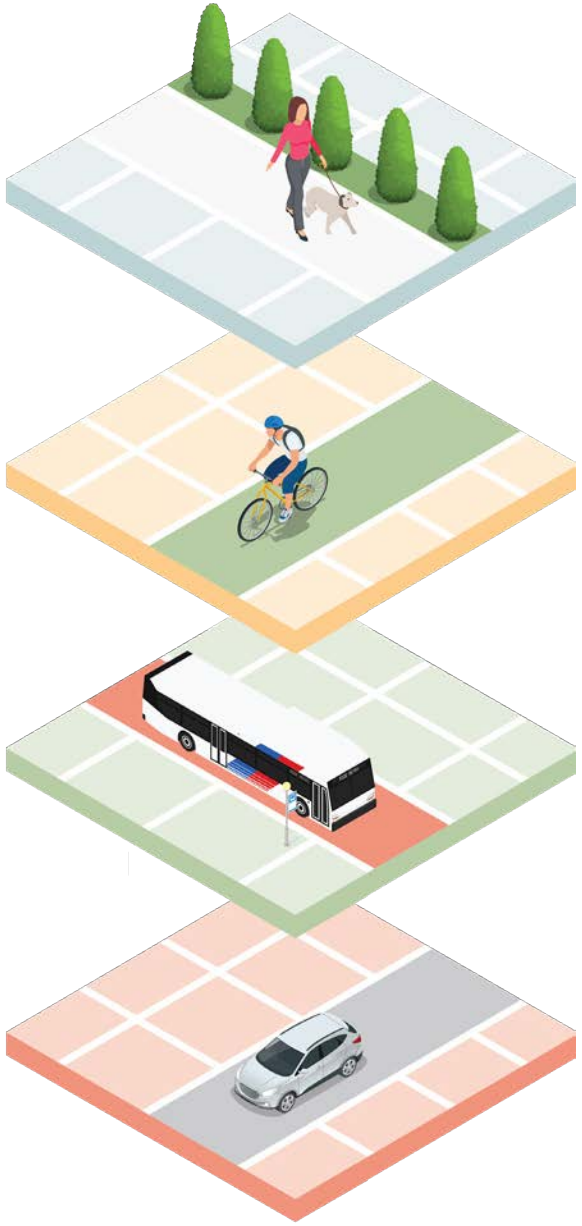
Recommendations are presented in four project categories: Reconstruction Projects, Multimodal Corridor Improvements, Transit Enhancements, and NHHIP Impact Projects. The proposed improvements work together to enhance East Downtown's mobility network for all modes and represent an investment in all areas of the Zone.

Recommended Programs Page 57

This chapter also outlines four recommended programs to support TIRZ's mobility opportunities and complement the recommended infrastructure projects.

Impacts on East Downtown Page 63

The recommendations are followed by data showing how improvements would benefit safety, accessibility, and connectivity for people living, working, and visiting the Zone. This section includes feedback from the community about the proposed network of improvements.

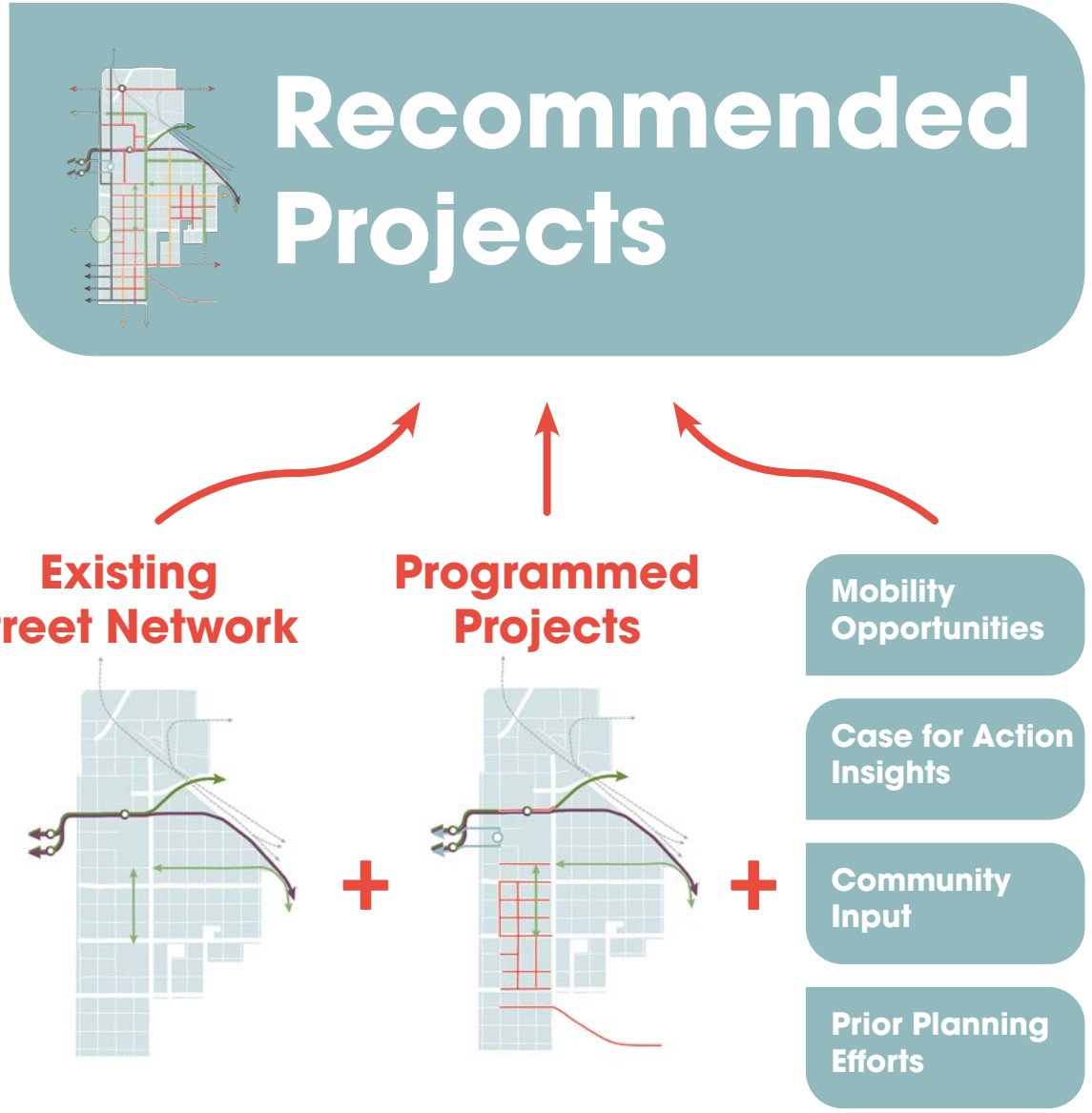


A Complete Network for East Downtown

Building on Strengths

The insights from the Case for Action and the guiding framework of the Mobility Opportunities lay the groundwork for a set of study recommendations for the East Downtown street network. These recommendations build on the strengths of East Downtown and envision a neighborhood with a complete network of streets that serves all modes. This includes high-quality sidewalks for all streets, a connected bikeway network, frequent transit service, and roadways that are safe for people driving, walking, and biking.

Recommendations extend the existing investments of the TIRZ and its partners, and incorporate key elements from other recent planning studies like the Houston Bike Plan, TxDOT's NHHIP, and METRONext. These inputs are a springboard for proposed improvements that further enhance the street network to support local businesses and ensure continued economic development.



Recent, Ongoing, & Programmed Projects

The TIRZ and partners have already made critical investments and are planning new projects for East Downtown's network to improve connectivity, safety, and access for people using all types of transportation modes. Figure 9 shows projects that have been recently completed or are programmed by the TIRZ and others in the Zone.

Most projects in Figure 9 are part of the TIRZ's Capital Improvement Plan (CIP) but the map also includes the Scenic Houston project along Pease Street (E), Polk Street improvements (F), and METRO's Inner Katy Bus Rapid Transit line (M). These projects largely cover the area west of Emancipation Avenue and south of Texas Avenue. They represent major investments in sidewalks, safe crossings, transit connectivity, and new amenities like lighting, and benches. Additional information about each project can be found on the next page.

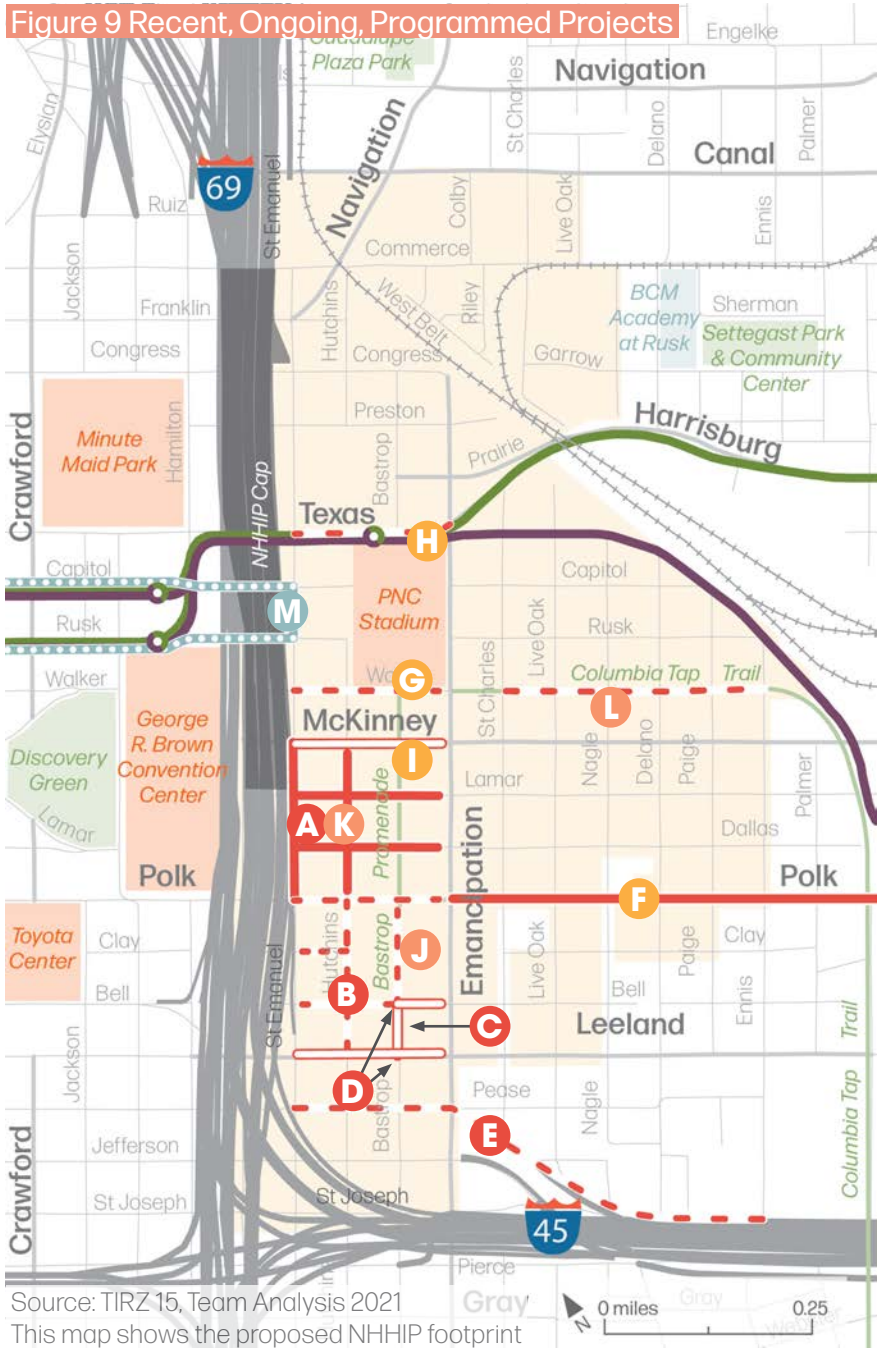
Projects	
Reconstruction Projects	
A	Phase 1 - Roadway and Utility Reconstruction
B	Phase 2 - Roadway and Utility Reconstruction
C	Bastrop Right-of-Way Improvements
D	Phase 3 - Roadway and Utility Reconstruction
E	Pease Street Improvements
Rehabilitation & Operations	
F	Polk Street Improvements (incl. new bike lanes)
G	Walker Street Roadway Rehabilitation
H	Texas Avenue Roadway Improvements
I	McKinney Street Rehabilitation
Landscape & Amenities	
J	Bastrop Promenade/Greenspace
K	Phase 1 - Amenity Overlay
L	Columbia Tap Trail Improvements
Transit Enhancements	
M	Inner Katy Bus Rapid Transit Line & Station

Complete

In Design

Future

Figure 9 Recent, Ongoing, Programmed Projects



Source: TIRZ 15, Team Analysis 2021
This map shows the proposed NHHIP footprint

Recent, Ongoing, & Programmed Projects

		Project	Agency	Location	Description
Reconstruction	A	Phase 1 - Roadway and Utility Reconstruction *Complete*	TIRZ 15	St. Emanuel Street and Hutchins Street (McKinney to Polk); Dallas Street, and Lamar Street (Chartres to Emancipation)	Reconstruction of the roadway, sidewalks, and curb ramps, including updating public utilities
	B	Phase 2 - Roadway and Utility Reconstruction *In Design*	TIRZ 15	Hutchins Street (Polk to Leeland); Clay Street (St. Emanuel to Hutchins); Bell Street (St. Emanuel to Bastrop); Polk Street (St. Emanuel to Emancipation)	Reconstruction of the roadway, sidewalks, and curb ramps, including updating public utilities
	C	Bastrop Right-of-Way Improvements *Future*	TIRZ 15	Bastrop Street (Bell to Leeland)	Analysis and improvement of Bastrop Street right-of-way, including potential reallocation of space for the extension of the Bastrop Promenade
	D	Phase 3 - Roadway and Utility Reconstruction *Future*	TIRZ 15	Bell Street (Bastrop to Emancipation); Leeland Street (St. Emanuel to Emancipation)	Reconstruction of the roadway, sidewalks, and curb ramps, including updating public utilities
	E	Pease East Downtown Gateway Experience *In Design*	Scenic Houston	Pease Street (St. Emanuel to Emancipation); IH-45 Frontage Road to Emancipation Avenue	Reconstruction to widen sidewalks, create safer crossings, and add landscaping
Rehab & Operations	F	Polk Street Rehabilitation *Complete*	TIRZ 15, Harris Co. Precinct One	Polk Street (Emancipation to Cullen)	Rehabilitation of the roadway to add protected bikeways, repair sidewalks, and improve bus stops
	G	Walker Street Roadway Rehabilitation *In Design*	TIRZ 15	Walker Street (St. Emanuel to Emancipation)	Rehabilitation to repair pavement and sidewalks, design a protected bikeway, and add safe crossings
	H	Texas Avenue Roadway Improvements *In Design*	TIRZ 15	Texas Avenue (St. Emanuel to Emancipation)	Traffic modifications including improvements to pedestrian crossings to PNC Stadium
	I	McKinney Street Rehabilitation *Future*	TIRZ 15	McKinney Street (St. Emanuel to Emancipation)	Improvements include mill and overlay of pavement and streetscape improvements
Landscape & Amenities	J	Bastrop Promenade/ Greenspace *In Design*	TIRZ 15	Bastrop Promenade (Polk to Bell)	Recreational and pedestrian improvements to undeveloped portions of the promenade, including a playground, dog park improvements, public art, and pedestrian lighting
	K	Amenity Overlay - Phase 1 *Under Construction*	TIRZ 15	St. Emanuel Street and Hutchins Street (McKinney to Polk) Dallas Street and Lamar Street (Chartres to Emancipation)	Includes addition of trees, pedestrian lighting, bicycle racks, benches, and other items
	L	Columbia Tap Trail Improvements *In Design*	TIRZ 15	Columbia Tap Trail (St. Charles to Ennis)	Additional trees, lighting, ADA related improvements to ramps, crosswalks, work out and bicycle repair stations
Transit	M	Inner Katy Bus Rapid Transit Line & Station *Future*	METRO	Capitol Street, Rusk Street, and St. Emanuel Street, connecting to the Northwest Transit Center	Construction of a dedicated rapid bus service and station in or near East Downtown as part of a larger bus rapid transit line connecting to the Northwest Transit Center

Key Inputs from Other Plans

Building on Previous Plans

This Plan follows previous work of the TIRZ and others to create a safety and multimodal Zone. The TIRZ defined seven development goals (also called plan priorities) in its founding documents. The Mobility Opportunities and recommendations of this plan align with these seven TIRZ development goals:

Infrastructure Improvements

Reconstruction of critical infrastructure such as utilities and roadways

Pedestrian-Friendly Environments

Street design and amenities that make the Zone more walkable

Parks & Related Amenities

Development of park spaces and their connectivity to the rest of the Zone

Pedestrian-Attractive Developments

Retain and build mixed-use commercial developments that serve people walking

Complement Transit Investments

Fund infrastructure that supports transit projects by METRO

Economic Development

Support business development in the Zone through incentives

Affordable Housing

Fund housing initiatives in the Zone for homeless populations and others

Houston General Plan

As an organization created by the City of Houston, the TIRZ work supports the goals established by the City's guiding planning documents, including the Houston General Plan. This Plan directly supports the following strategies and subsequent actions of the General Plan:

- Grow Responsibly
- Nurture Safe/Healthy Neighborhoods
- Connect People & Places
- Sustain Quality Infrastructure

"Support a well-connected transportation network that includes transit, bicycle, and pedestrian options."

- Action from the Houston General Plan

"Encourage development of a transportation network that considers all modes of transportation and context sensitive design principles."

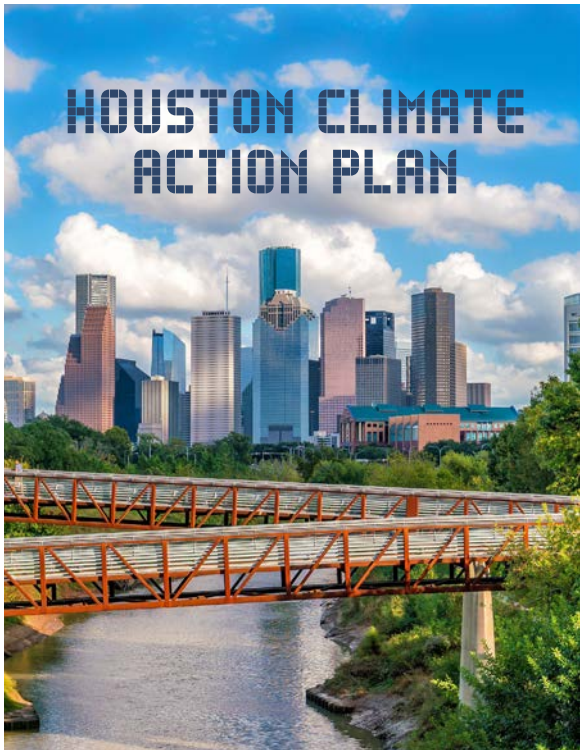
- Action from the Houston General Plan

Resiliency & Climate Plans

The City adopted Resilient Houston and the Climate Action Plan in 2020. The TIRZ's work supports the goals of both plans to mitigate and adapt to climate change.

Resilient Houston includes some mobility-aligned goals like "increase regional transportation choice" and "improve safety and well-being for all Houstonians."

The Climate Action Plan adds that Houston should "reduce vehicle miles traveled per capita," "provide equitable and safe mobility choices."



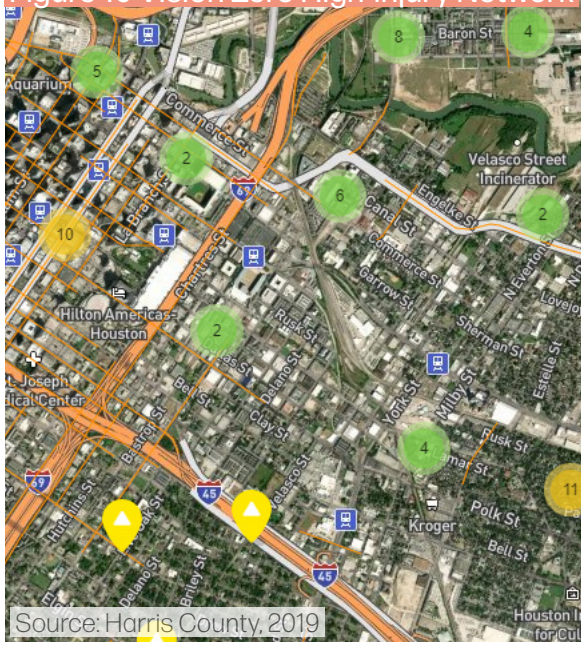
Key Inputs from Other Plans

Houston Vision Zero Action Plan

The City of Houston adopted a Vision Zero plan in 2019 with a goal to end traffic deaths and serious injuries by 2030. The plan encourages the construction of safe infrastructure, particularly for vulnerable road users like people walking and biking.

The plan identifies a set of streets called the High Injury Network. The High Injury Network represents the 6% of City streets where 60% of traffic fatalities and serious injuries occur, including streets in East Downtown. Study recommendations for TIRZ 15 include safety improvements to all streets and intersections on the High Injury Network in the Zone.

Figure 10 Vision Zero High-Injury Network



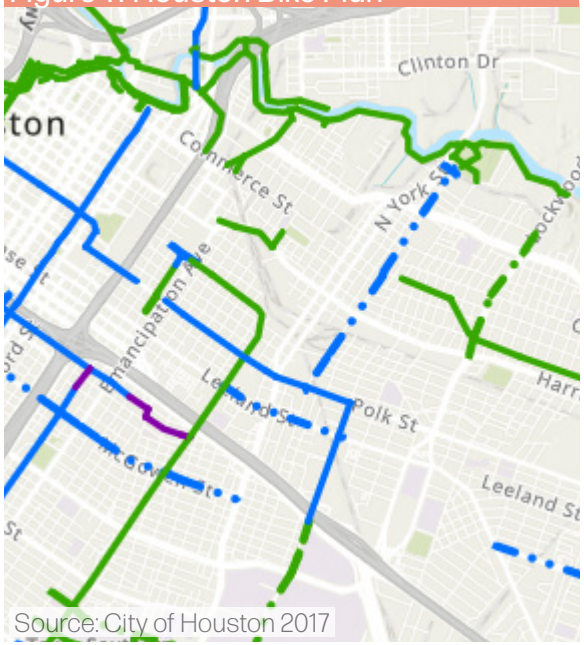
Source: Harris County, 2019

City of Houston Bike Plan

Houston City Council adopted the Houston Bike Plan in 2017 with the goal of becoming a gold-level Bicycle Friendly City by 2027. The Plan identifies an 1,800-mile citywide network of high-comfort bikeways, including several streets in East Downtown.

The study recommendations incorporate the recommendations of the Houston Bike Plan with a few exceptions. Details about how the recommended bikeways align with the Houston Bike Plan can be found on page 68.

Figure 11 Houston Bike Plan



Source: City of Houston 2017

East End Bike Plan

The East End District and Harris County Precinct 2 partnered to conduct the East End Bike Plan, completed in summer 2021. The plan identifies a network of bikeways across the entire East End, including the portion of TIRZ 15 north and west of the West Belt Rail Line.

Study recommendations align with the East End Bike Plan, particularly for Commerce Street connections to Downtown and Second Ward.

Figure 12 East End Bike Plan

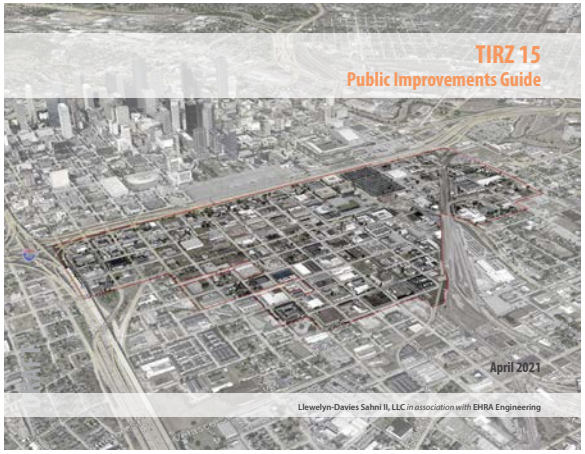
Source: Harris County, 2021

Key Inputs from Other Plans

TIRZ 15 Public Improvements Guide

The TIRZ adopted its Public Improvements Guide in 2021 to define standards for a suite of amenity investments including trees and landscaping, seating, bike racks, trash cans, lighting, and signage. These amenity standards can be used by developers, the TIRZ, management districts, and other local agencies during streetscape and development projects.

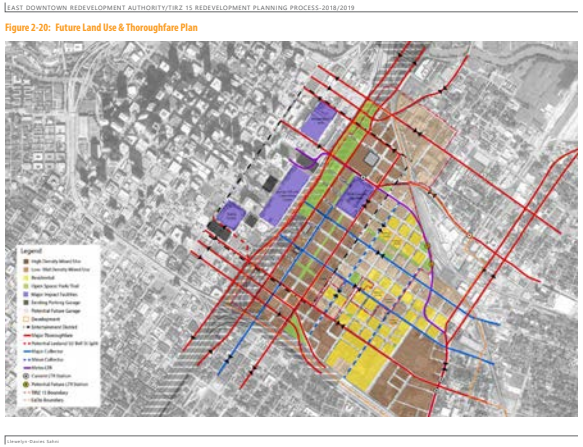
The amenities and design standards shown in the Public Improvements Guide complement the mobility recommendations of this plan by making streets in East Downtown a more enjoyable place to be.



TIRZ 15 Redevelopment Planning Documentation

The TIRZ adopted the Redevelopment Planning Documentation for Phased Implementation in 2019 to better understand the nature of existing development initiatives and how they may be impacted by TxDOT's NHHIP.

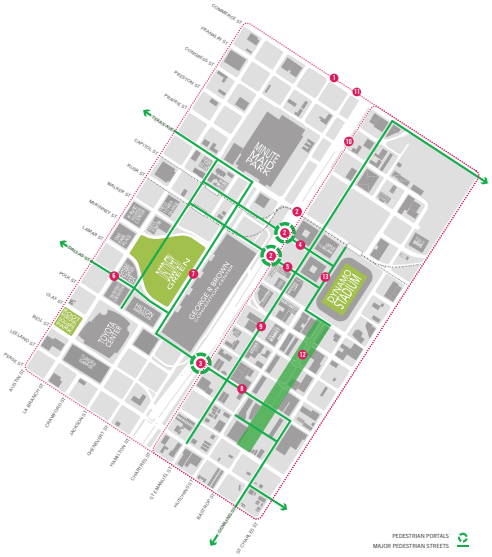
The recommended projects of the Mobility Plan draw upon the Planning Documentation and its projection of future land use and thoroughfares throughout the Zone. Mobility Plan recommendations for major thoroughfares and collectors support the framework of this plan and help the TIRZ prepare for the coming NHHIP project.



Downtown & East Downtown Livable Centers Study

The Houston-Galveston Area Council (H-GAC) conducted a 2011 livable centers study for the Houston Downtown Management District and East Downtown Management District to define a vision for land use and transportation investments that build upon the area's new entertainment destinations.

The Mobility Plan adds to the livable centers study recommendations by emphasizing the importance of investments in key corridors like St. Emanuel Street and the Bastrop Promenade.



Key Inputs from Other Plans

East End Mobility Study

The Houston-Galveston Area Council and East End District conducted a 2012 study of mobility in East Downtown, portions of Eastwood, and Second Ward. The recommendations envision multimodal improvements and programs for the area that prioritize connectivity and safety and are still pertinent today. The plan emphasizes the importance of transit, bikeway, and walkability investments along key connecting corridors like Polk Street, Live Oak Street, and Commerce Street. The plan also highlights the need for intersection improvements where crossings are difficult and unsafe.

Plan Downtown

Downtown District completed a comprehensive plan for Downtown Houston in 2017. The plan sets a bold vision for the City's central business district that includes investing in the edges of Downtown to create connections to surrounding neighborhoods like East Downtown. A primary recommendation from this plan is the Downtown Green Loop shown in Figure 13 from the plan.

The Green Loop would create a connected park and trail system along the border of Downtown including segments incorporating the Bastrop Promenade and a future trail over the proposed NHHIP highway cap. The recommendations set forth in Plan Downtown and the vision of a walkable, bikeable mobility network are consistent with the Mobility Opportunities and goals of the TIRZ.

Figure 13 Plan Downtown's Green Loop Concept

Source: Downtown District, 2017

Key Inputs from Other Plans

The Texas Department of Transportation (TxDOT) has proposed the North Houston Highway Improvement Project (NHHIP) as a major reconstruction and widening of IH-45. The project entails re-routing IH-45 from the west side of Downtown to run parallel to IH-69 between Downtown and East Downtown with significant impacts for the Zone. The reconstruction will widen the existing IH-69 right-of-way from 220 feet to 550 feet to accommodate IH-45 main lanes and add lanes to both IH-69 and IH-45.

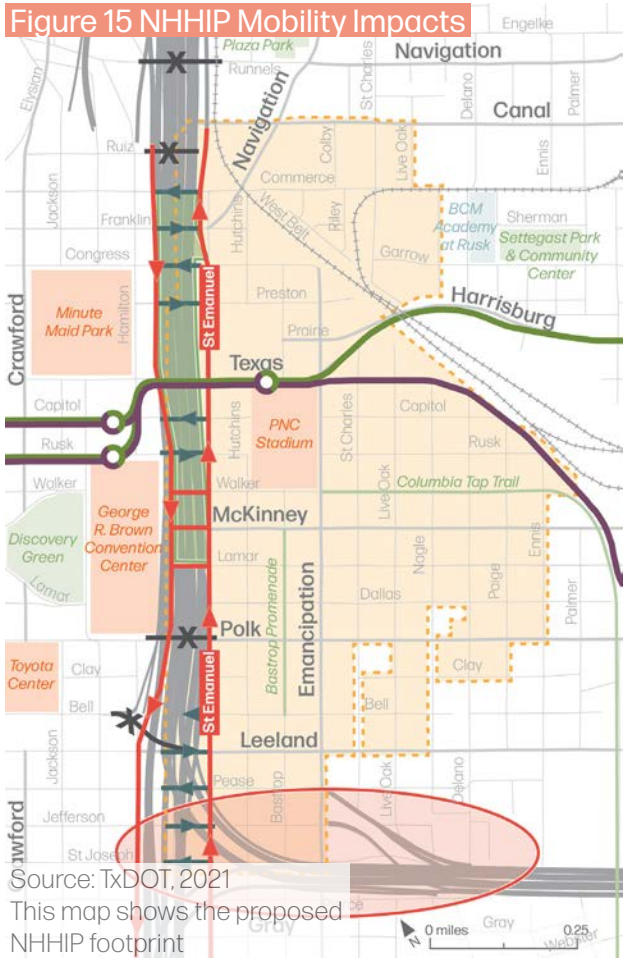
IH-69 and IH-45 act as major barriers to and from the Zone by limiting the number of crossings between East Downtown and nearby neighborhoods. The highway frontage roads and their connecting streets in the Zone are wide and high-speed streets that restrict local mobility, especially for people walking and biking.

Figures 14 and 15 show how the existing highway footprint will expand into the Zone. The final design should work to mitigate the connectivity issues caused by the highway barriers. As part of the project, the portion of the reconstructed highways from Lamar Street to Commerce Street will be depressed below grade and capped with concrete decks. The decks create space for an urban park between Downtown and East Downtown, although that concept remains unfunded by TxDOT and would have to be paid by local agencies like the TIRZ, the City of Houston, and others.

Figure 14 Existing Highways

Source: Team Analysis 2021

Figure 15 NHHIP Mobility Impacts



Source: TxDOT, 2021
This map shows the proposed NHHIP footprint

Existing Highway Footprint

Closed Local Crossing
Maintained Highway Crossing
Frontage Road
Southern Zone Access Impacts
Proposed Cap Park
Added Cap Park Crossing

Source: Downtown District, 2017

Key Inputs from Other Plans

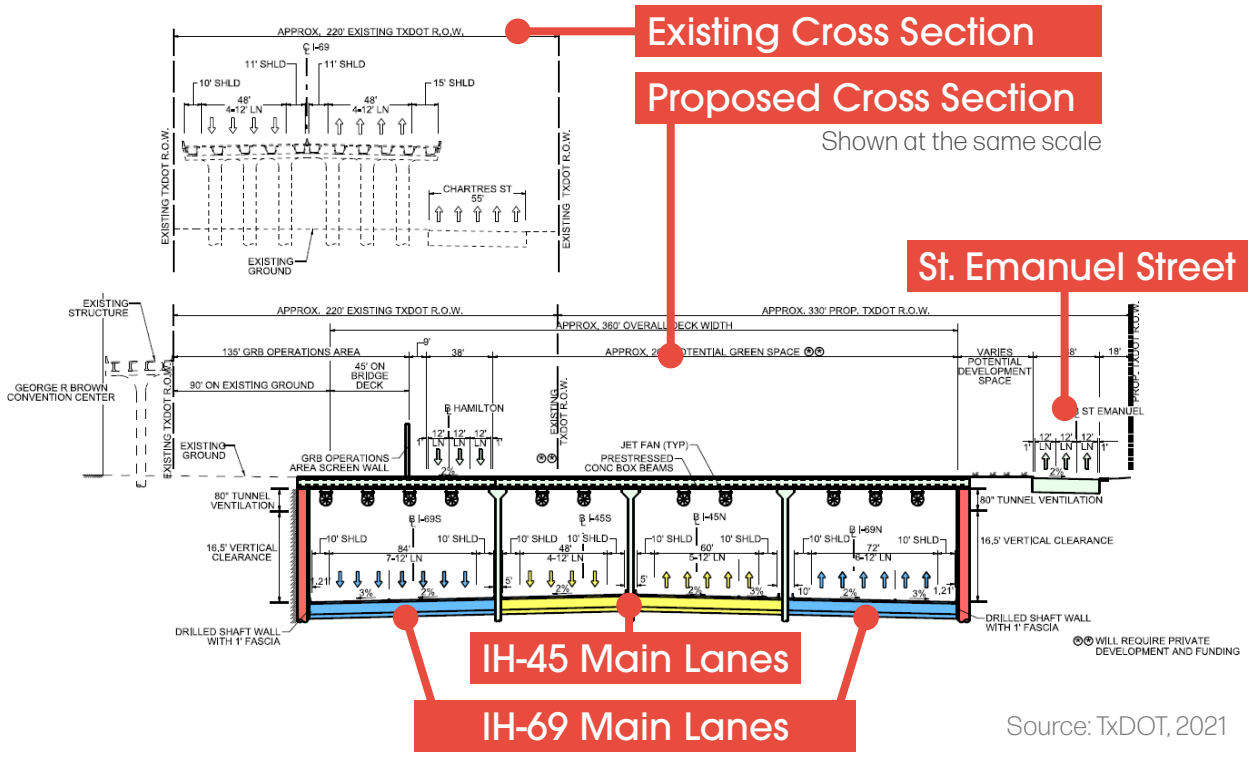
The widening of the highway footprint due to NHHIP requires the purchase and demolition of dozens of buildings and lots in the Zone. The project will remove the equivalent of 25 city blocks from the Zone, representing 15% of the total parcel area. TxDOT has already purchased some of these properties in anticipation of project construction.

Several of the impacted city blocks are along the St. Emanuel Street corridor with a vibrant restaurant, bar, and entertainment district along that street. These properties currently contribute to the TIRZs available increment that it uses to invest in infrastructure improvements.

The recommended projects consider the impact of this transformative project and work to maintain connectivity for all modes between East Downtown and Downtown during construction and once the project is complete.

Figure 16 NHHIP Rendering & Cross Section

Source: TxDOT, 2021



Source: TxDOT, 2021

Project Recommendations

The first set of study recommendations include capital projects on roadways in East Downtown's network. These projects work together to enhance the full network of streets in East Downtown by extending the existing investments of the TIRZ to serve all destinations in the Zone and connect to surrounding neighborhoods.

Project Categories

Project recommendations are grouped into four categories: Reconstruction Projects, Multimodal Corridor Improvements, Transit Enhancements, and NHHIP Impact Projects. Each category represents a different type of investment and approach for the TIRZ. The TIRZ can take a lead on Reconstruction Projects and Multimodal Corridor Improvements while Transit Enhancements and NHHIP Impact Projects will require partnerships and coordination with agencies like METRO, TxDOT, and others.

Partnerships

Several projects include "Recommended Partnerships" in instances where the project can be extended outside of the TIRZ's boundaries. Partners should be identified by the TIRZ and can include other TIRZs, management districts, METRO, City of Houston, Harris County, TxDOT, and others depending on the project type and extents.

Reconstruction Projects

page 38

Multimodal Corridor Improvements

page 41

Transit Enhancements

page 44

NHHIP Impact Projects

page 49

Reconstruction Projects

Reconstruction Projects involve a complete overhaul of the existing roadway design to optimize space between and behind the curb for all users: people walking, biking, riding transit, and driving. All projects add new sidewalks where they are missing, repair sidewalks in poor condition, and enhance intersections to allow safe crossings and encourage responsible vehicle speeds. These projects typically also include updates to utilities and drainage.

5
projects

2.65
miles

$29.6
million

Reconstruction Projects

R1 Commerce Street Reconstruction

Reconstruction to improve pavement condition, add a wide sidepath for people walking and biking, increase connectivity to Downtown and the East End, and align with the East End Bike Plan.

R2 Bastrop Promenade North Extension

Reconstruction of multiple streets to improve pavement condition, add a wide sidepath or bikeway for people walking and biking, and connect the Bastrop Promenade north toward Buffalo Bayou.

R3 Eastern Zone Safety & Crossing Improvements

Reconstruction of neighborhood streets to build and repair missing and poor-quality sidewalks, design safer crossings, and improve street pavement condition.

R4 Leeland Street Reconstruction

Reconstruction to ensure sufficient space for sidewalks, a high-comfort bikeway, and vehicle lanes to accommodate anticipated demands due to the closure of Polk Street from NHHIP.

R5 Bastrop Promenade & Southern Zone Safety Improvements

Reconstruction to improve sidewalks, design safer crossings of high-speed streets, and extend the Bastrop Promenade with a high-comfort bikeway or wide sidepath to Third Ward.

See page 56 for additional information on all projects.

Projects Completed or In-Design by TIRZ, Others

These projects, shown in detail on page 29-30, are either completed, underway, or in design by the TIRZ or other agencies.

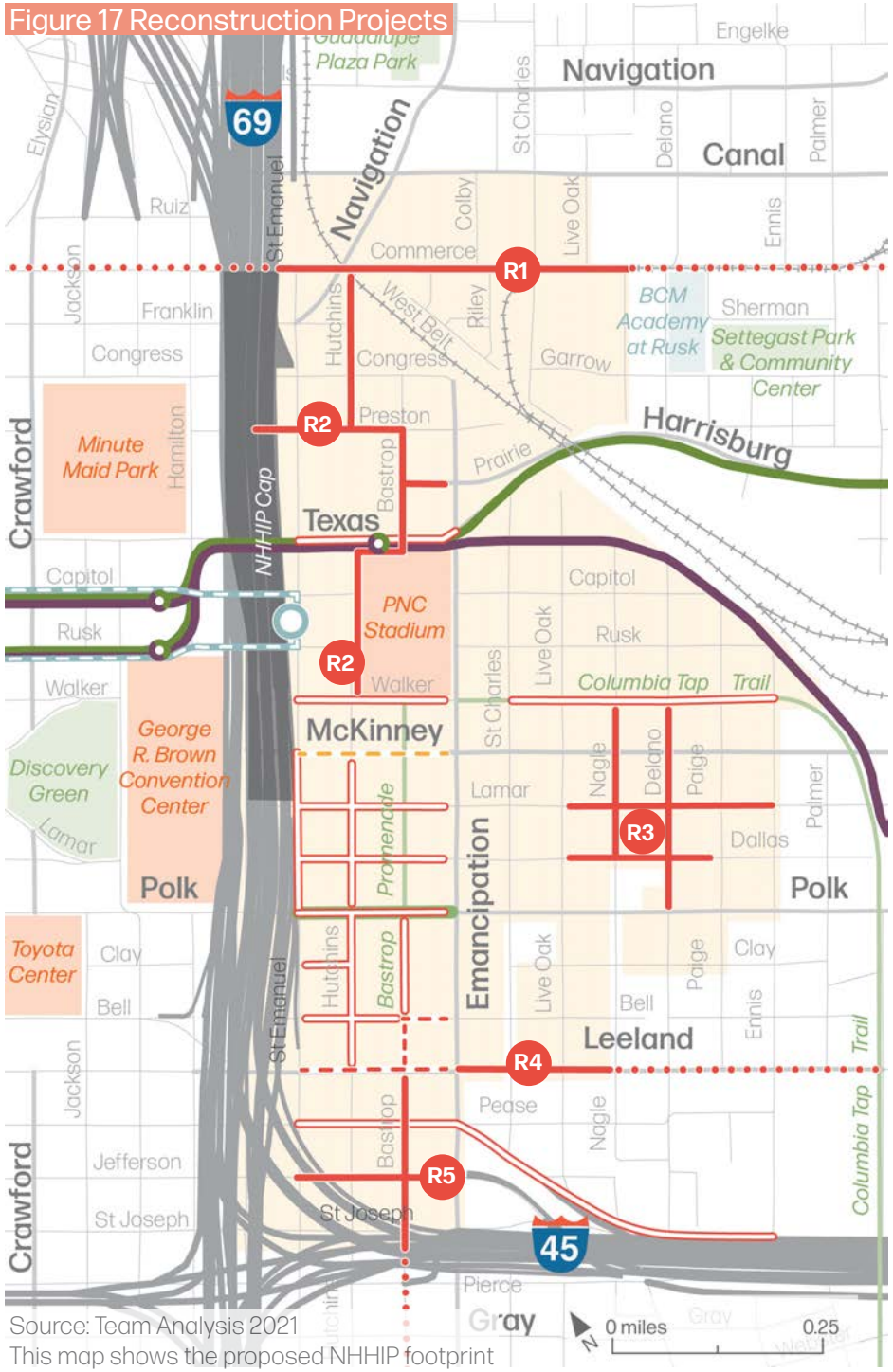
Programmed Projects by TIRZ, Others

These projects are programmed in the TIRZ CIP or by another agency for design and implementation in the next five years.

Recommended Partnerships

The TIRZ can coordinate with partners to extend recommended investments to surrounding neighborhoods and destinations.

Figure 17 Reconstruction Projects



Source: Team Analysis 2021
This map shows the proposed NHHIP footprint

Bastrop Promenade North Extension

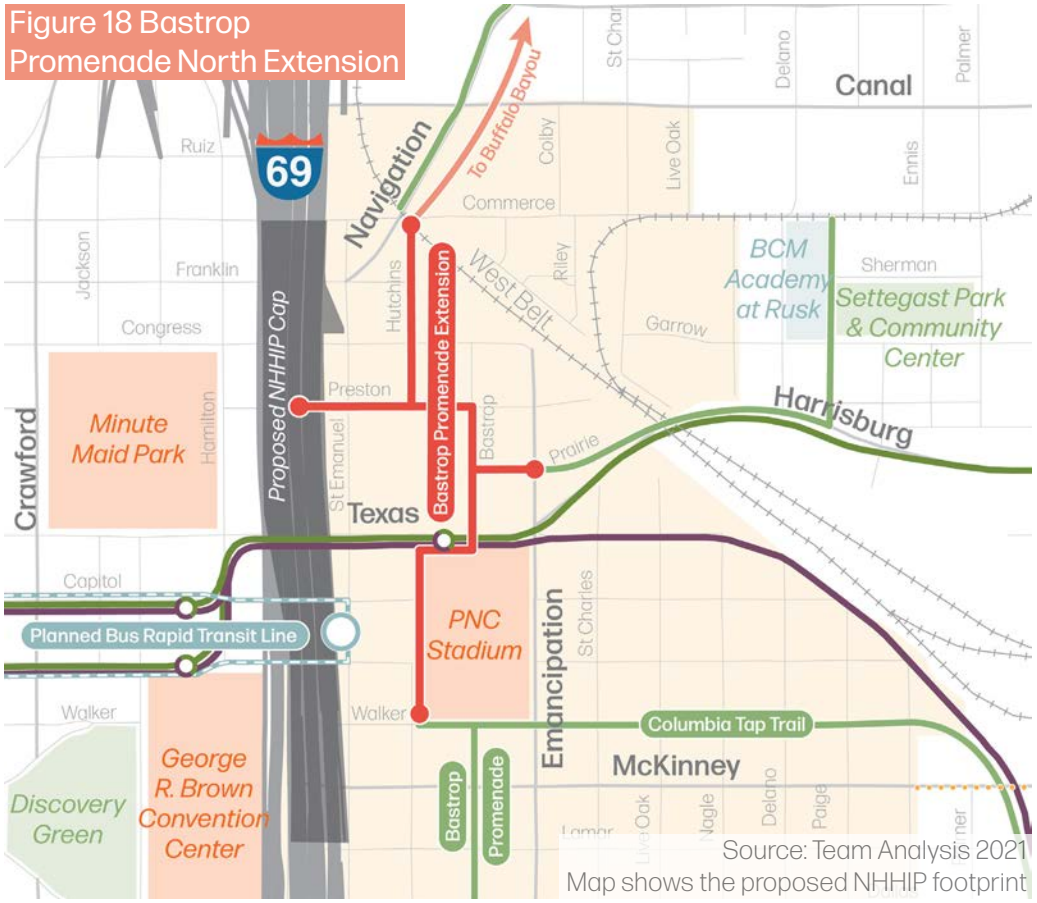
A Greenway Spine for East Downtown

The TIRZ completed the first phase of work on the Bastrop Promenade in 2013, converting an abandoned rail spur into a central greenspace for the Zone. As a recommended Reconstruction Project, the Bastrop Promenade North Extension will build upon the TIRZ's existing investment in the promenade to extend a greenway spine north to Commerce Street and toward Buffalo Bayou.

Figure 18 shows the streets that combine to create the project extents, including Hutchins Street, Bastrop Street, Preston Street, and Prairie Street. Together, these streets will extend the reach of the promenade to serve more parts of the Zone and establish a greenway spine connecting multiple destinations within and in proximity to East Downtown.

The existing promenade is located in abandoned rail right-of-way, which is not available along the streets proposed as part of the Bastrop Promenade North Extension. Instead, each street will be designed to meet its specific needs and may include improvements ranging from enhancing an existing trail (Hutchins Street along PNC Stadium) to full roadway reconstruction (Hutchins Street from Preston Street to Commerce Street).

Figure 18 Bastrop Promenade North Extension



Bastrop Promenade North Extension Project
Existing Bikeways & Trails
METRORail Purple & Green Lines

Multimodal Corridor Improvements

3
projects

Multimodal Corridor Improvements include rehabilitation of a roadway's existing pavement. The improvements are intended to better distribute space in the roadway for people using all modes. This may include reallocating a travel lane to make room for a bikeway. All projects add new sidewalks where they are missing, repair sidewalks in poor condition, and enhance intersections to allow safe crossings and encourage responsible vehicle speeds.

1.20
miles

$9.5
million

Multimodal Corridor Improvements

M1 McKinney Street Improvements

Sidewalk and crossing improvements and rehabilitation of the existing pavement to include two vehicle travel lanes, a center turn lane, and a protected bikeway that connects to the East End.

M2 Hutchins Street & Southern Zone Safety Improvements

Rehabilitation of Hutchins Street to improve pavement quality, repair poor-quality and missing sidewalks, and redesign intersections to prioritize safe crossings.

M3 Live Oak Street Improvements

Sidewalk and crossing improvements, and rehabilitation of existing pavement on Live Oak to include a protected bikeway as the key bike connection on the eastern side of the Zone.

See page 56 for additional information on all projects.

Projects Completed or In-Design by TIRZ, Others

These projects, shown in detail on page 29-30, are either completed, underway, or in design by the TIRZ or other agencies.

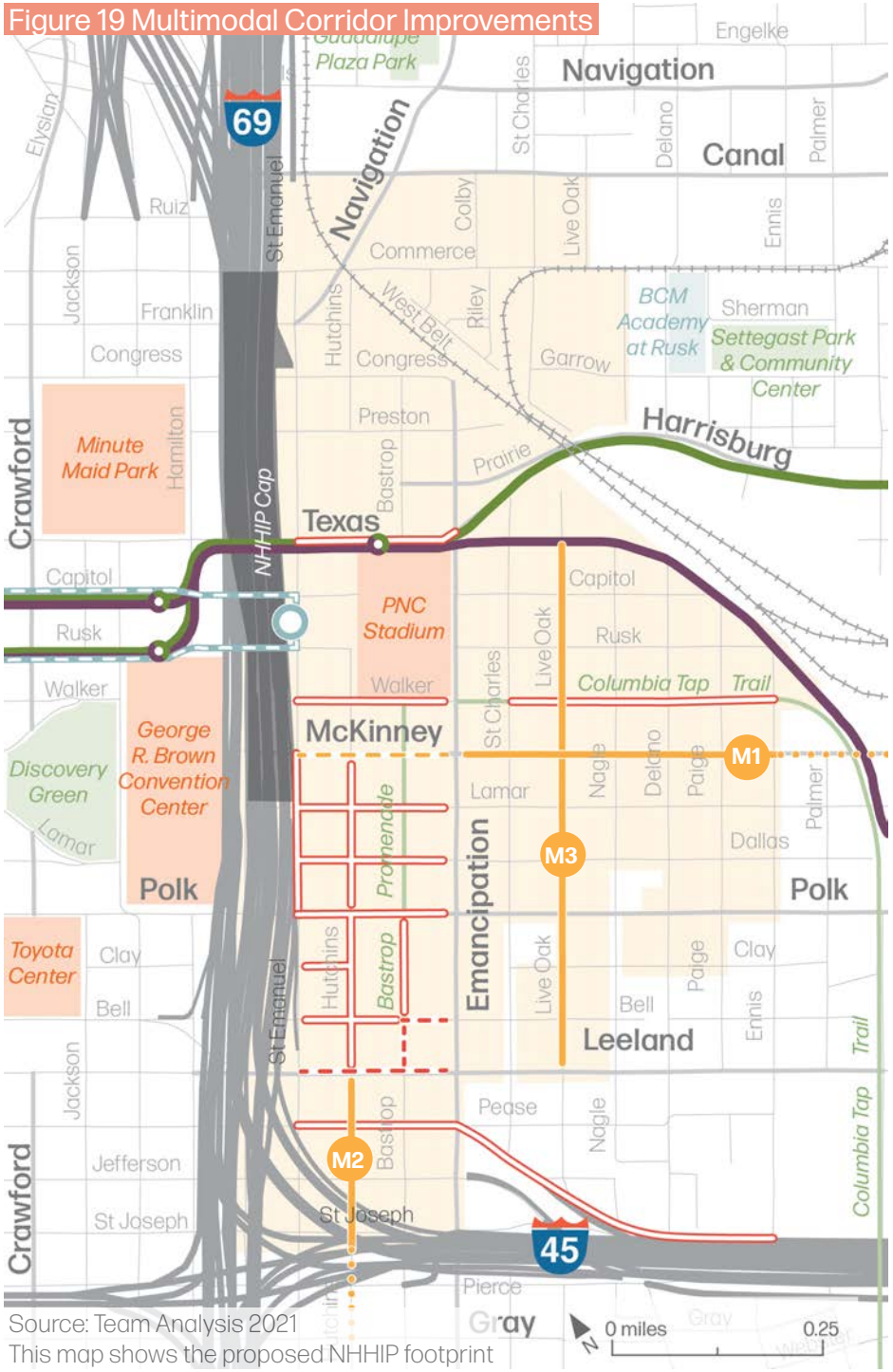
Programmed Projects by TIRZ, Others

These projects are programmed in the TIRZ CIP or by another agency for design and implementation in the next five years.

Recommended Partnerships

The TIRZ can coordinate with partners to extend recommended investments to surrounding neighborhoods and destinations.

Figure 19 Multimodal Corridor Improvements



Source: Team Analysis 2021
This map shows the proposed NHHIP footprint

McKinney Street Improvements

Quick Win Connection to the East End

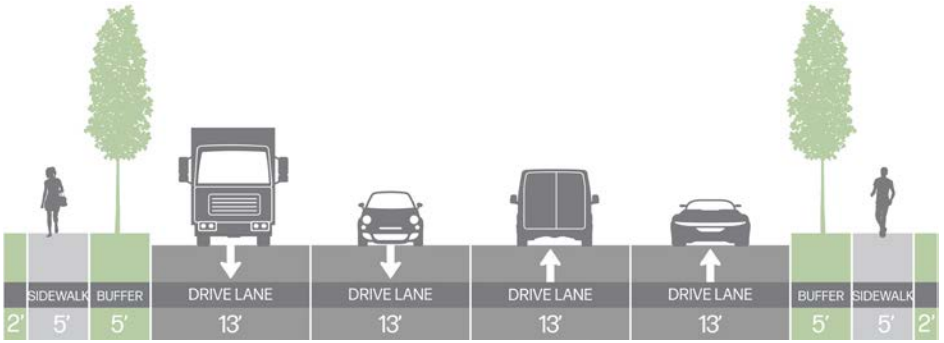
McKinney Street is one of East Downtown's major thoroughfares, connecting the Zone to the east across the existing rail lines. It intersects the Columbia Tap Trail and runs through a concentration of vacant or undeveloped old industrial parcels.

As shown in Figure 20, McKinney is currently designed with four wide, undivided vehicle travel lanes even though the street only serves 4,500 cars a day according to the most recent counts. Streets with more than three lanes are only merited when volumes approach 20,000 cars per day, more than three times the current demand on McKinney Street.

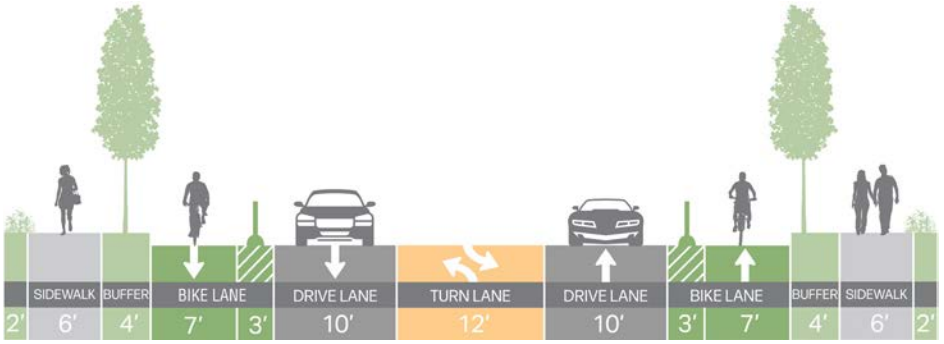
A redesign would reallocate pavement space to maintain two vehicle travel lanes and add a center turn lane along the corridor. The additional space can be used for protected bikeways in both directions.

The McKinney Street Improvement project offers an early opportunity for the TIRZ to invest in a key corridor in its multimodal network without a full reconstruction of the street. The project will also help the TIRZ prepare for TxDOT"s NHHIP. Since Polk Street will be removed by NHHIP, McKinney Street can provide an additional east-west bikeway connection for the Zone.

McKinney Street Existing Condition, Figure 20



Proposed Improvements, Figure 21



Transit Enhancements

Transit Enhancements encompass a variety of projects to improve transit service and connectivity in East Downtown. Projects include a new rail station, extended local bus routes to add service, a realigning of existing routes to accommodate the NHHIP implementation, and improving streets to provide access to rail stations.

3
projects

2.25
miles

$18.4
million*

* Cost does not include a new METRORail station, which could cost $5 million - $10 million.

Transit Enhancements

T1 Emancipation Avenue Transit Corridor

Reconstruction with wider sidewalks, two vehicle travel lanes, and a center turn lane to accommodate a local bus route and improve the walkability of the Zone's primary north-south corridor. The project includes converting Congress Street to two-way and reconstructing it to mirror the Emancipation Avenue design. See more details about the project on page 46.

T2 Purple Line Station & Connectivity

Construction of a new METRORail Purple Line station and rehabilitation of Capitol and Paige streets with improved sidewalks and crossings, and safe street designs to encourage safe speeds. See more details about the project on page 47.

T3 METRO 40/41 Connectivity

Realignment of the METRO 40/41 bus route to maintain transit connectivity to Downtown upon the completion of the NHHIP. See more details on page 48.

See page 56 for additional information on all projects.

Projects Completed or In-Design by TIRZ, Others

These projects, shown in detail on page 29-30, are either completed, underway, or in design by the TIRZ or other agencies.

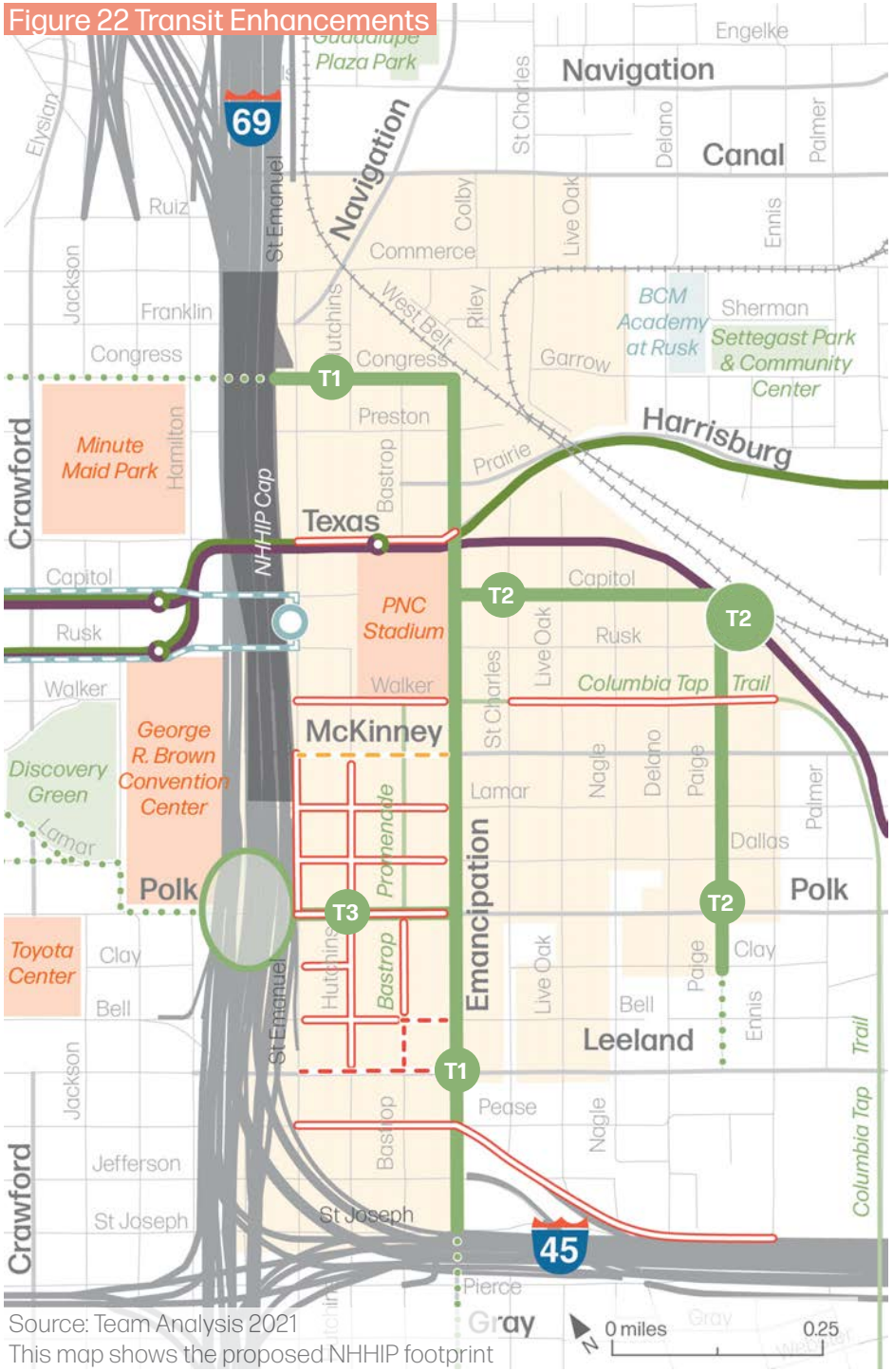
Programmed Projects by TIRZ, Others

These projects are programmed in the TIRZ CIP or by another agency for design and implementation in the next five years.

Recommended Partnerships

The TIRZ can coordinate with partners to extend recommended investments to surrounding neighborhoods and destinations.

Figure 22 Transit Enhancements



Source: Team Analysis 2021
This map shows the proposed NHHIP footprint

Reimagine Emancipation Avenue as a Transit Corridor

Creating North-South Transit Connectivity

Although East Downtown benefits from multiple east-west transit routes, the Zone lacks transit options that offer north-south connectivity. Rethinking Emancipation Avenue and Congress Avenue as transit corridors through East Downtown would establish north-south service and create new links to surrounding neighborhoods like Third Ward and Midtown. This project would also provide more space behind the curb for people walking and add landscaping and amenities that showcase Emancipation Avenue as a "Main Street" for the Zone.

Multiple Scenarios to Build on METRO's Service

While the priority should be to redesign Emancipation Avenue as a safe and attractive transit corridor, the TIRZ should rely on partnership with METRO to identify the best available option for extending or re-routing an existing local bus route.

Scenarios could include extending METRO's Route 5 or Route 65 from the Wheeler Transit Center east on Wheeler Avenue to connect to Emancipation Avenue. The Route 5 extension – as shown in Figure 23 – would connect East Downtown to a grocery store as well as the Southeast Transit Center and multiple parks. Extending the 65 could also link East Downtown to a grocery store and other neighborhoods like West University, Bellaire, Gulfton, and Chinatown. Additional re-routing and extension scenarios may be developed in partnership with METRO, TIRZ 7, and other partners. The TIRZ can work with METRO to consider a route that can support high-frequency with multiple buses per hour.

- Existing METRO Routes 5 & 65
- Proposed METRO Route 5 Extension
- METRORail Purple & Green Lines
- Other METRO Routes serving TIRZ 15
- METRO Route 5 Destinations

Figure 23 Emancipation Avenue Transit Alignment

Source: METRO, Team Analysis 2021

Build a New East Downtown Purple Line Station

Saving Space for a New Station

When METRO planned the METRORail Purple Line from Downtown through the Zone in the 2000s, significant portions of East Downtown were still industrial or vacant parcels. METRO built the Zone's only station at the site of the soon-to-be Dynamo stadium but incorporated provisions for a potential station on the eastern side of the Zone near the Columbia Tap Trail with the foresight that East Downtown would continue to redevelop with new residential and commercial density. METRO owns multiple adjacent parcels that can accommodate a new station.

Since the original construction of the Purple Line, the Zone has seen an increase of new construction, bringing a concentration of residents and entertainment destinations that can support an additional station.

The TIRZ should partner with METRO to develop a new Purple Line station that serves the growing East Downtown neighborhood. The station project can be complemented by a rehabilitation of Capitol Street and Paige Street to include high-comfort facilities for people walking and biking to and from the station. These safe-street improvements will better link a future station to residential parts of the Zone, the Columbia Tap Trail, and businesses throughout the neighborhood.

Figure 24 Potential Station Location

Source: Team Analysis 2021

Maintain Connectivity along Polk Street

Disruption from TxDOT NHHIP

TxDOT's NHHIP project will remove the direct Polk Street connection between Downtown and East Downtown, impacting METRO's 40/41 high-frequency route along that street. The 40/41 routes serve as an important east-west connection for East Downtown and other communities such as Eastwood, Gulfgate, and the Hobby Airport.

Multiple Scenarios to Maintain Connectivity

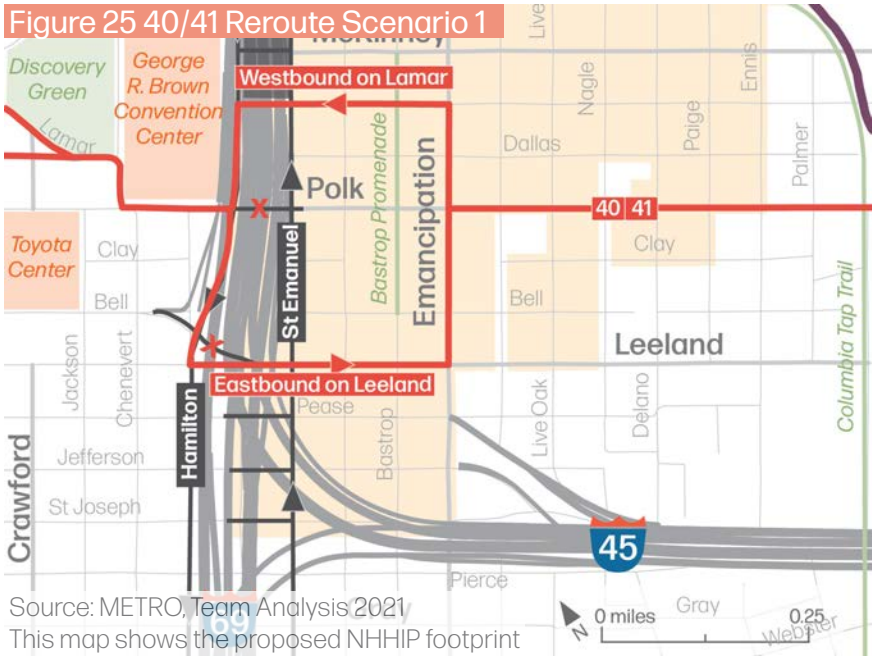
To mitigate the impacts of this disruption, the TIRZ can work with METRO and TxDOT to identify new routes for the 40/41 across the future IH-69 and IH-45 corridors. The TIRZ can play a key role in guiding the planning and design of projects like NHHIP and work along Leeland Street to support connectivity for the bus route. This will include continued coordination and communication about the route during the NHHIP construction period.

The first scenario, shown in Figure 25 would reroute westbound service on Lamar Street and eastbound service along Leeland Street. This scenario envisions Emancipation Avenue and Hamilton Street for the north-south connections back to Polk Street and the original 40/41 alignment.

The second scenario, shown in Figure 26, is to re-route all buses to the south along Emancipation Avenue and Leeland Street, ultimately connecting back to the original route via Austin Street and La Branch Street in Downtown. This approach would require additional partnership with the City of Houston to convert Leeland Street in Downtown to a two-way street.

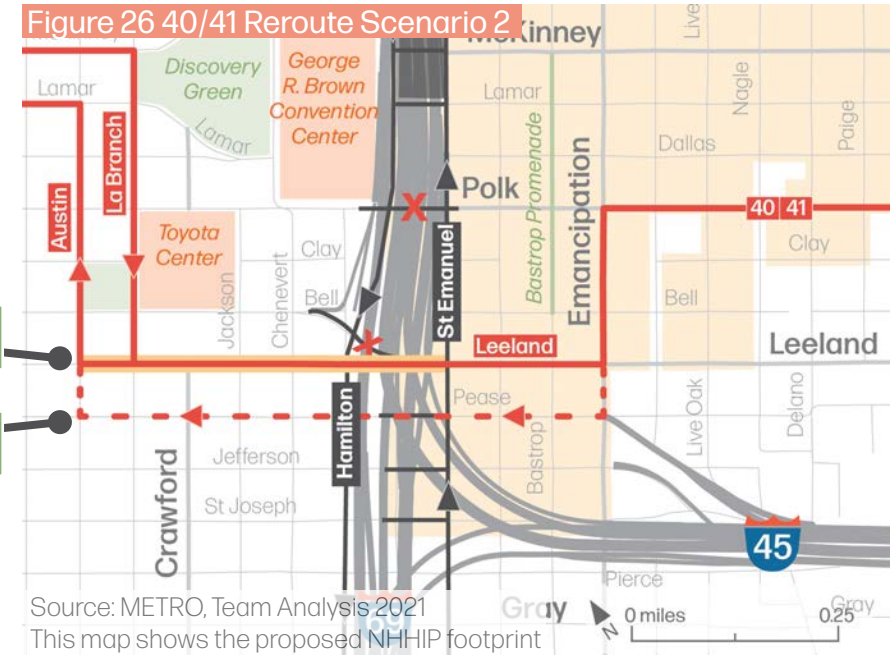
- METRO Routes 40 & 41
- Closed Local Crossing
- NHHIP Crossings
- NHHIP Frontage Road
- Proposed Cap

Figure 25 40/41 Reroute Scenario 1



Source: METRO, Team Analysis 2021
This map shows the proposed NHHIP footprint

Figure 26 40/41 Reroute Scenario 2



Source: METRO, Team Analysis 2021
This map shows the proposed NHHIP footprint

Leeland Street to be converted to two-way for direct connection

Pease Street as alternate westbound route

NHHIP Impact Projects

5
projects

NHHIP Impact Projects are for roadways that will be rebuilt as part of TxDOT's North Houston Highway Improvement Project (NHHIP). These projects will be led and funded by TxDOT, but the TIRZ can coordinate with TxDOT and influence the final design to maintain connectivity to Downtown, preserve and enhance walkability in East Downtown, and mitigate negative impacts of the project on businesses and residents in the Zone.

1.84
miles

Coordination with TxDOT

NHHIP Impact Projects

Each of these projects will be funded and constructed by TxDOT. The TIRZ should coordinate with TxDOT on final project designs.

N1 St. Emanuel Street Reconstruction

Reconstruction as the frontage road for IH-69 and IH-45; to include two/three vehicle travel lanes, a wide shared-use path or bikeway, and signals at all intersections designed to prioritize safety for all users.

N2 Walker Street Cap Trail

Construction of a new trail over the proposed highway cap connecting from Walker Street to Commerce Street. The trail can be incorporated as a feature of any future park or development.

N3 St. Joseph Parkway Reconstruction

Reconstruction to include three vehicle lanes, wide sidewalks along the full segment (including the bridge over IH-69) and signalized intersections designed to prioritize safety for all users.

N4 Commerce & Navigation Intersection

Reconstruction of the intersection to grade separate the roadway intersection and the rail line. Improvements should include safe crossings and improved connectivity for people walking and biking.

N5 Enhanced IH-69 Bridge Crossings

Reconstruction of the bridges over the depressed portion of IH-69 to include wide sidewalks and buffers, landscaping, shade, and safe intersections across the proposed frontage roads.

See page 56 for additional information on all projects.

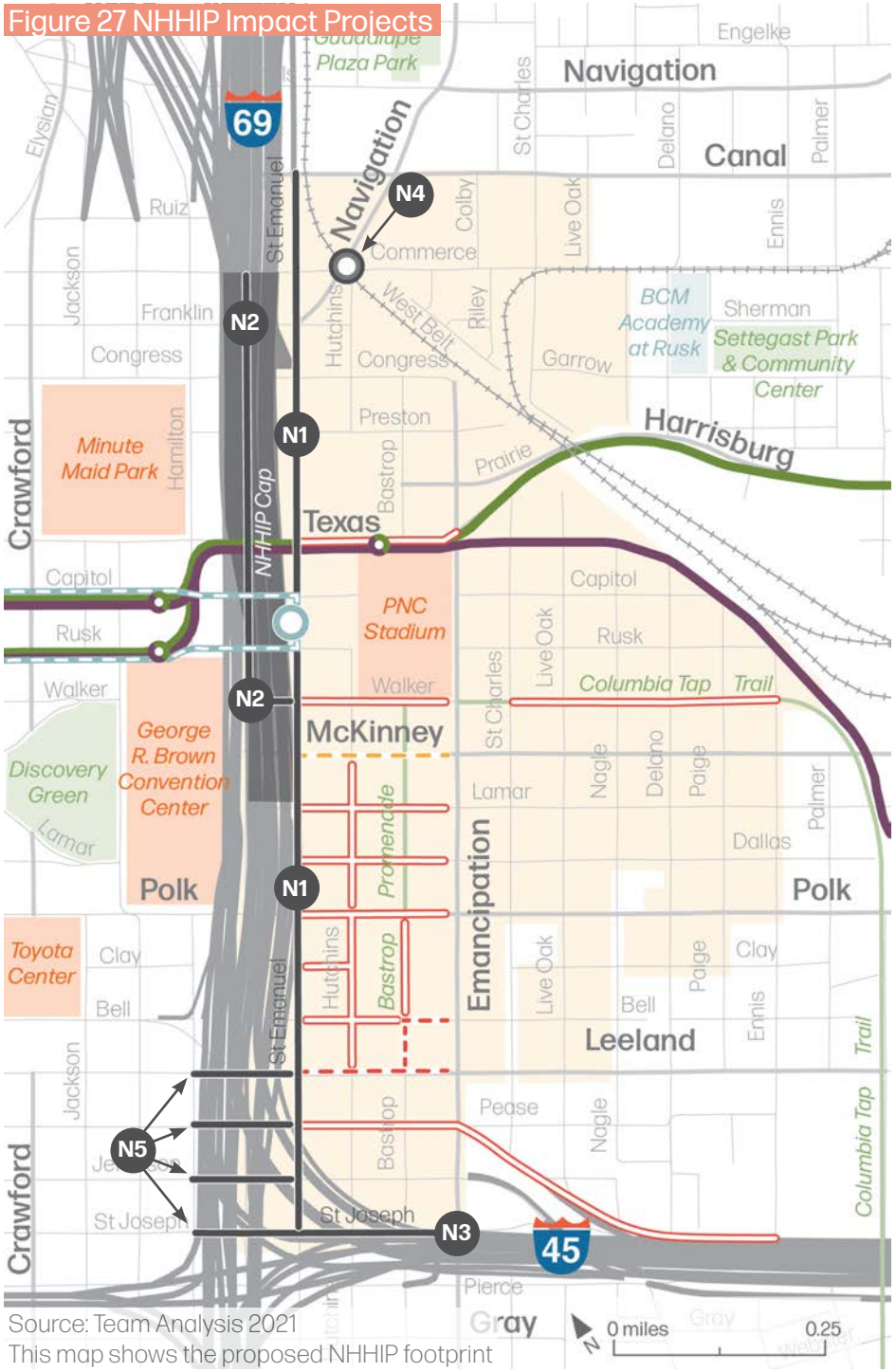
Projects Completed or In-Design by TIRZ, Others

These projects, shown in detail on page 29-30, are either completed, underway, or in design by the TIRZ or other agencies.

Programmed Projects by TIRZ, Others

These projects are programmed in the TIRZ CIP or by another agency for design and implementation in the next five years.

Figure 27 NHHIP Impact Projects



Source: Team Analysis 2021
This map shows the proposed NHHIP footprint

St. Emanuel Street Reconstruction

Maintaining Connectivity to Downtown

East Downtown's success benefits Downtown, and vice versa. East Downtown is home to great restaurants, bars, and entertainment that workers, conference-goers, tourists, and Downtown residents enjoy. Data from Houston BCycle shows notable patterns of travel between stations in Downtown and East Downtown. As designs for NHHIP materialize, it is crucial that plans prioritize safe connections across the reconstructed IH-69 and IH-45 rights-of-way. This is particularly pertinent for St. Emanuel Street as it is the future border between the two neighborhoods. To maintain that important connectivity, crossing distances for pedestrians should be minimized and all intersections along the street should be signalized to encourage responsible speeds and reduce conflicts among vehicles, people walking, and people biking.

Preserving the Heart of the Zone

St. Emanuel Street plays a vital role in East Downtown as the neighborhood's primary commercial corridor and the spine of its central restaurant, bar, and entertainment district. Recent TIRZ investments in safety and walkability along a key segment of St. Emanuel Street underscore the importance of the corridor for the Zone. TxDOT should work closely with the TIRZ during the design phases of NHHIP to ensure that St. Emanuel Street can remain a walkable and bikeable corridor for the remaining businesses at the interface of Downtown and East Downtown.

As Figures 28 and 29 show, potential cross sections for the street include a wide sidepath (or a bike lane and sidewalk) with buffers between the path and vehicles, and reduced vehicle travel lanes. Carving out sufficient space for multimodal uses will help preserve St. Emanuel Street as a multimodal spine and better separate vehicles from adjacent development.

Figure 28 Potential St. Emanuel Street Cross Section

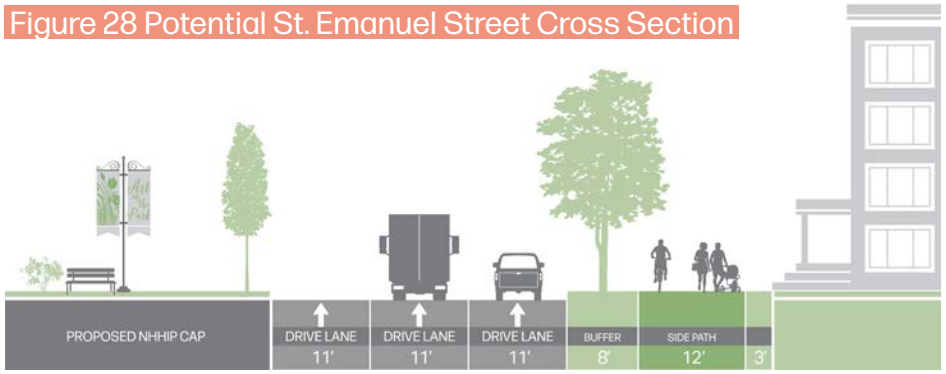
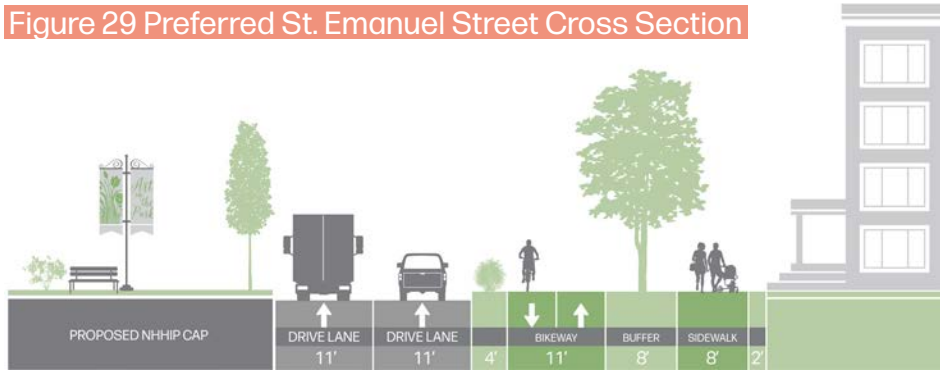


Figure 29 Preferred St. Emanuel Street Cross Section



Strong consideration should be given to providing only two vehicle travel lanes – with targeted turn lanes where necessary – to maintain appropriate vehicle speeds. Three lanes may be preferred only along segments where ramp access, event management, and turn volumes merit.

Walker Street Cap Trail

Taking Advantage of the Cap

Designs for TxDOT's NHHIP show a below-grade section of the highway from Lamar Street to Commerce Street between Downtown and East Downtown with a concrete cap covering the main highway lanes and St. Emanuel Street and Hamilton Street serving as the at-grade frontage roads.

Though it is not funded in TxDOT's NHHIP, project renderings show a park and other amenities on the cap similar to Klyde Warren Park in Dallas, TX. The renderings of the improvements include a trail along the length of the cap connecting Walker Street and the Columbia Tap Trail in the south to Commerce Street in the north. Downtown District's Plan Downtown offers a concept of this trail, shown in Figure 30.

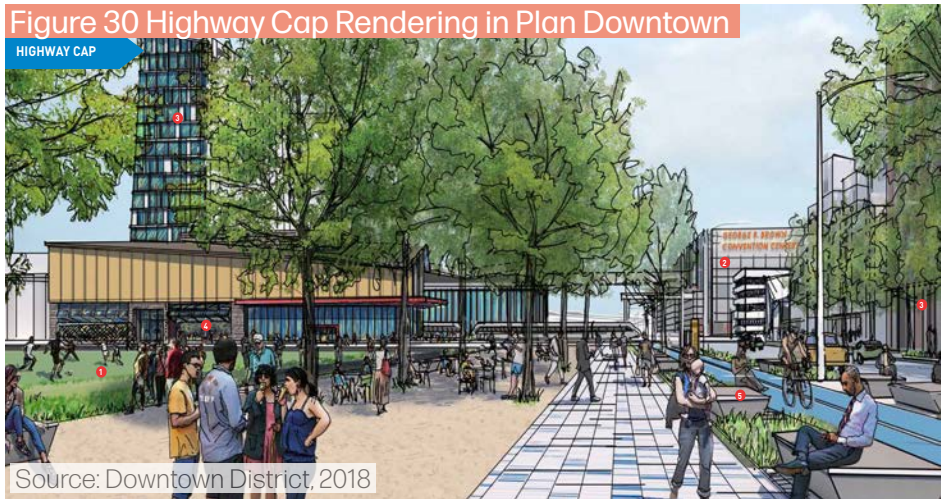
This trail would offer additional connections between East Downtown and Downtown and can connect into the Zone's broader bikeway and trail network at Walker Street, Preston Street, and Commerce Street with links to Buffalo Bayou shown in Figure 31.

Ensuring Safe Crossings

As part of NHHIP, the TIRZ should work with TxDOT to design the Walker Street intersection at St. Emanuel Street as a pedestrian- and bike-only crossing to facilitate safe and convenient access onto the cap. The other intersections along the trail should also be designed to shorten the crossing distance for people walking and biking and offer clear markings or a distinctive pavement style to enhance the visibility and safety of trail users. Like the St. Emanuel Street reconstruction, signalizing all intersections along the proposed frontage road to provide sufficient opportunities for safe crossings.

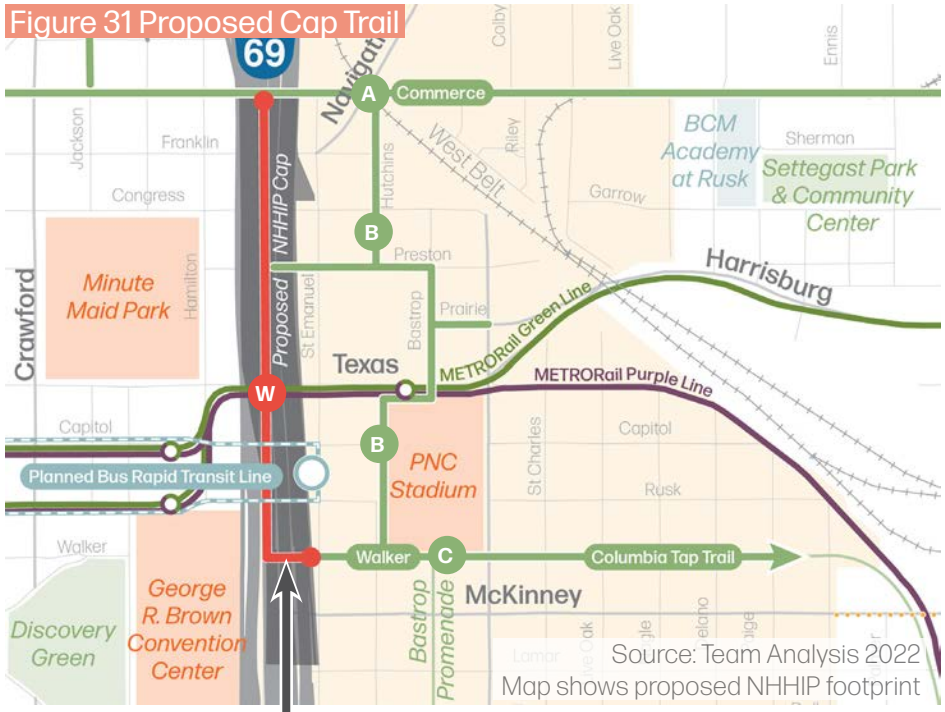
- A Proposed Commerce Street Greenway
- B Proposed Bastrop Promenade North Extension
- C Walker Street Bikeway
- W Proposed Walker Street Cap Trail

Figure 30 Highway Cap Rendering in Plan Downtown



Source: Downtown District, 2018

Figure 31 Proposed Cap Trail



Source: Team Analysis 2022
Map shows proposed NHHIP footprint

Ped- and Bike-Only Crossing

The Full Network

Reconstruction Projects

- R1 Commerce Street Reconstruction
- R2 Bastrop Promenade North Extension
- R3 East. Zone Safety & Crossing Improvements
- R4 Leeland Street Reconstruction
- R5 Bastrop Promenade & South. Zone Safety Improvements

Multimodal Corridor Improvements

- M1 McKinney Street Improvements
- M2 Hutchins Street & South. Zone Safety Improvements
- M3 Live Oak Street Improvements

Transit Enhancements

- T1 Emancipation Avenue Transit Corridor
- T2 Purple Line Station & Connectivity
- T3 METRO 40/41 Connectivity

NHHIP Impact Projects

- N1 St. Emanuel Street Reconstruction
- N2 Walker Street Cap Trail
- N3 St. Joseph Parkway Reconstruction
- N4 Commerce & Navigation Intersection
- N5 Enhanced IH-69 Bridge Crossings

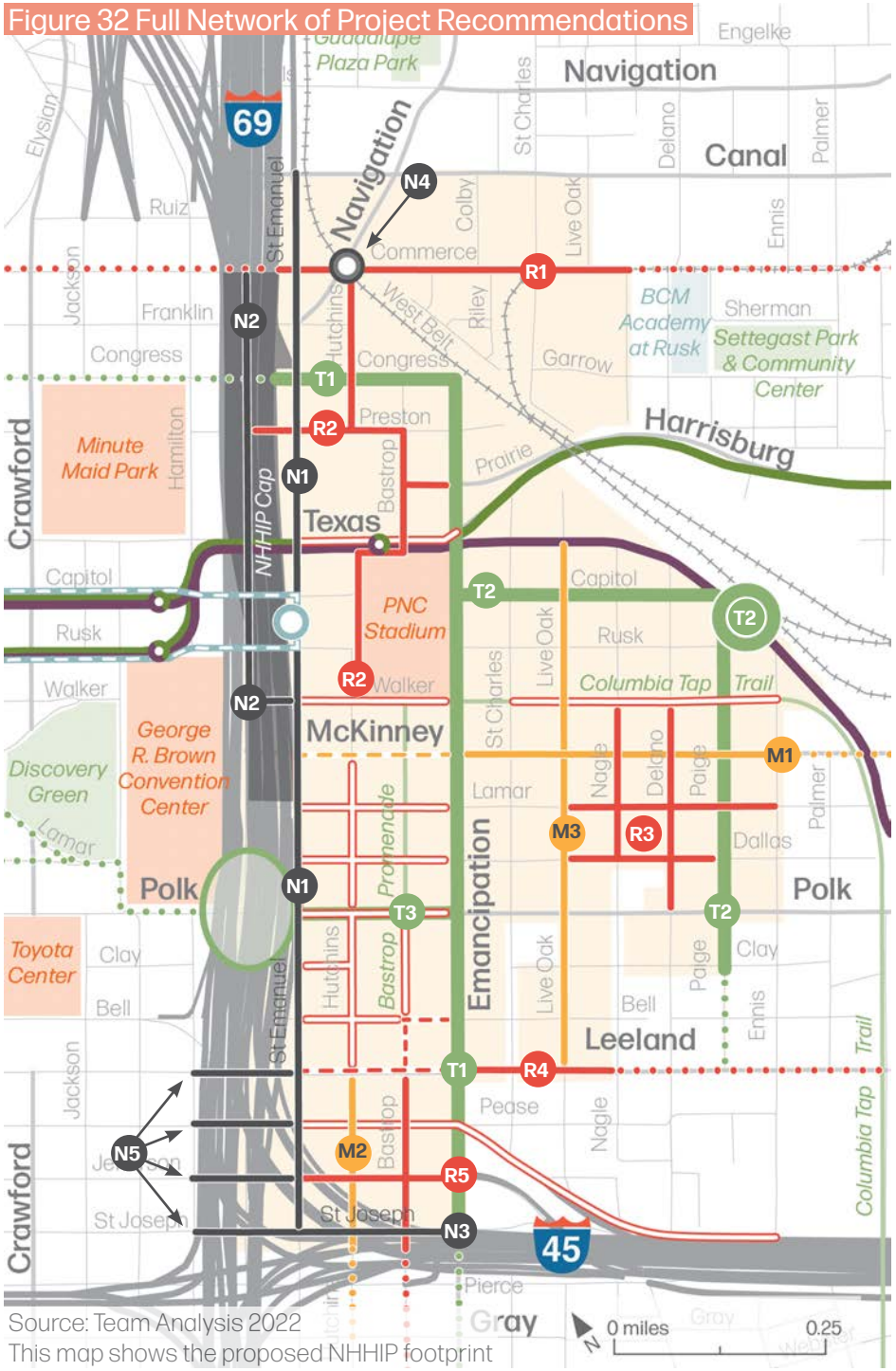
See page 56 for additional information on all projects.

Projects Completed or In-Design by TIRZ, Others

Programmed Projects by TIRZ, Others

Recommended Partnerships

Figure 32 Full Network of Project Recommendations



Source: Team Analysis 2022
This map shows the proposed NHHIP footprint

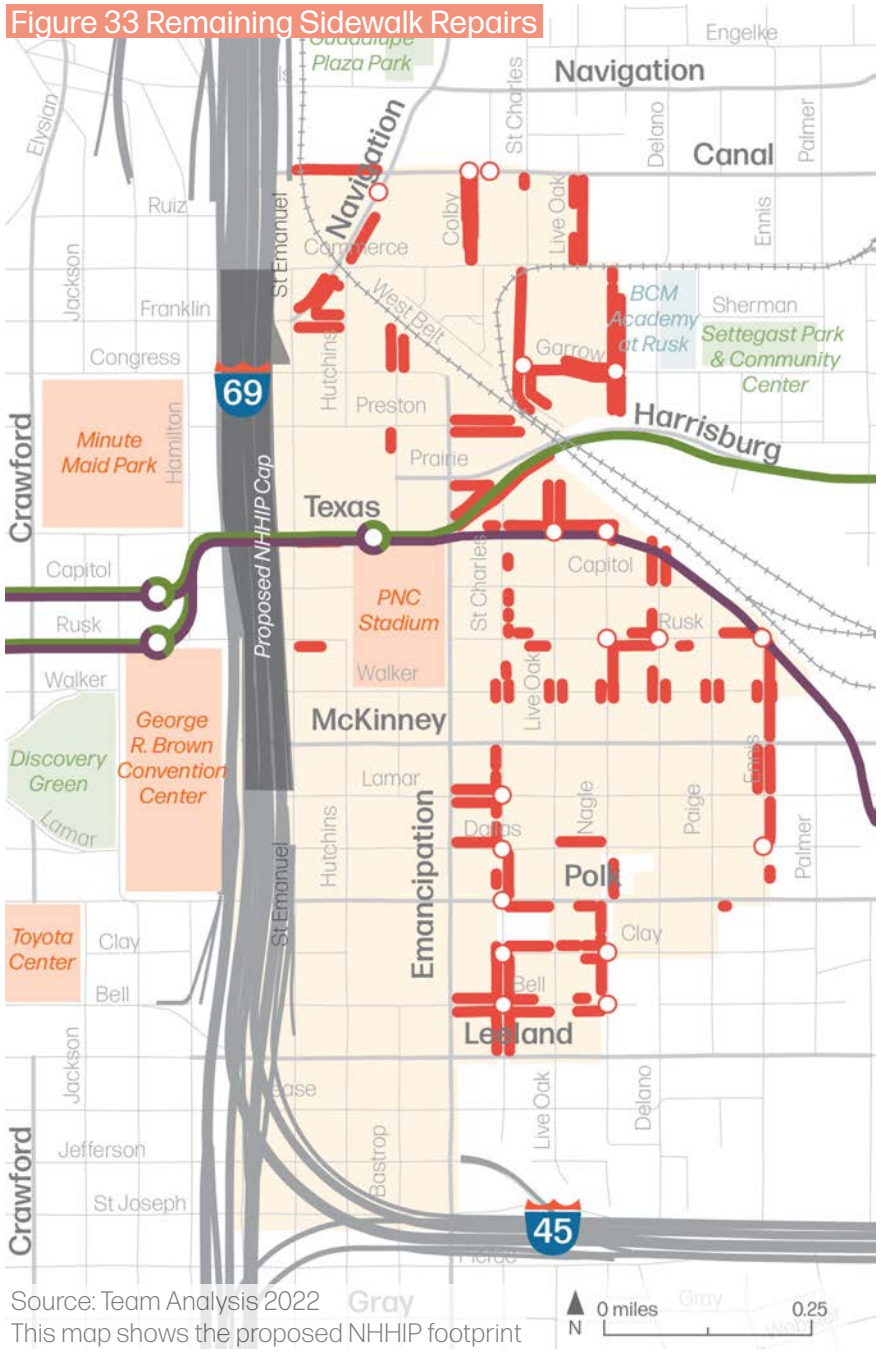
Safe Sidewalk Program

Quick Wins for the Sidewalk Network

Sidewalk quality is a major concern for residents of East Downtown. "Sidewalks missing/poor condition" was the number one concern of respondents to the first community survey for this plan. Sidewalk and curb ramp construction and repair are included in each recommended project and will create tangible improvements to the sidewalk network in the Zone.

Figure 33 shows the sidewalks and curb ramps that are not part of a recommended project and will still need to be constructed or repaired. The TIRZ has established an annual Safe Sidewalk Program in its CIP to address repairs for these sidewalks. This program dedicates funding for small, parcel-level sidewalk improvements that, if improved, make the full block traversable. These are meant to be low-investment, high-impact fixes that unlock the walkability of the Zone's sidewalk network and have a positive impact particularly for people with mobility challenges like wheelchair users.

Figure 33 Remaining Sidewalk Repairs



Source: Team Analysis 2022
This map shows the proposed NHHIP footprint

Safe Sidewalk Program

Prioritizing the Safe Sidewalk Program

Figure 34 categorizes sidewalk segments for the Safe Sidewalk Program in three categories. These segments were screened for feasibility and sidewalks with major obstacles or other costly challenges were excluded from the list.

Priority Segments

Segments with 100' or less of missing or poor-quality sidewalk that would make the whole block traversable if repaired are shown in red. These priority segments can be grouped to populate the next several years of the Zone's Safe Sidewalk Program. Figure 34 includes a potential grouping of improvements. Final priorities should be determined based on additional assessment by the TIRZ.

1 2 3 4 Potential Project Groupings

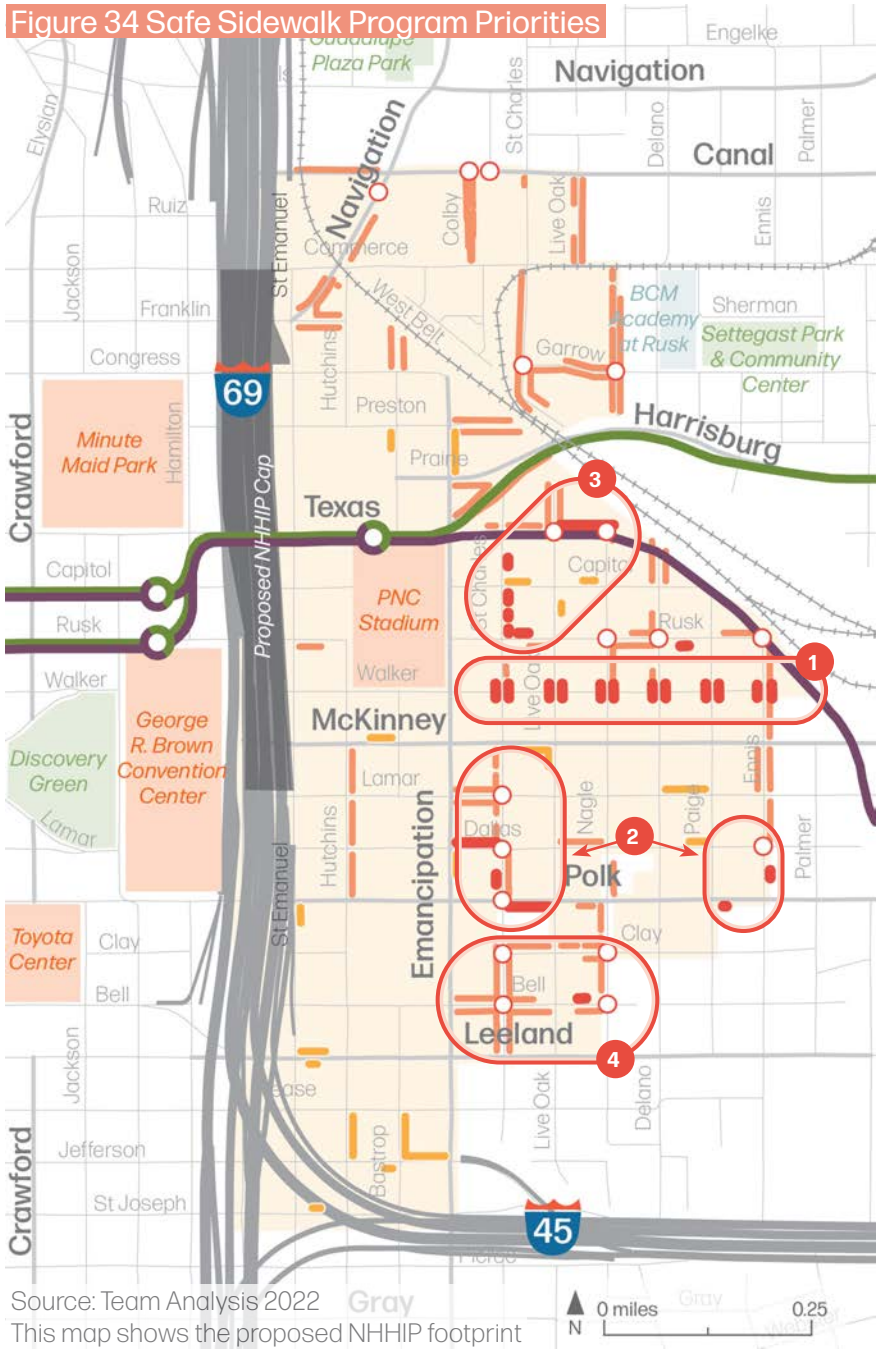
Secondary Segments

Longer segments or segments with additional implementation challenges are shown in orange and can be evaluated by the TIRZ to determine phasing of repair and construction. Secondary segments could also be grouped with nearby Priority repairs on a case-by-case basis.

Eligible Segments in a Recommended Project

Although many sidewalks will be improved as part of a project recommendation, the Safe Sidewalk Program could be used to improve smaller segments that would have a large impact on their block. This may be particularly useful for sidewalks that are part of projects that are expected to be implemented in the long term.

Figure 34 Safe Sidewalk Program Priorities



Source: Team Analysis 2022
This map shows the proposed NHHIP footprint

Recommended Projects

		Project Name	Length	Sidewalks	Bikeways	Transit	Cost Estimate
Reconstruction Projects	R1	Commerce Street Reconstruction	**0.41 miles** 1.47 miles (incl. partnership)	■	■		$4.9 million
	R2	Bastrop Promenade North Extension	**0.82 miles**	■	■		$4.8 milion
	R3	East. Zone Safety & Crossing Improvements	**0.87 miles**	■			$10.6 million
	R4	Leeland Street Reconstruction	**0.18 miles** 0.50 miles (incl. partnership)	■	■	■	$2.6 million
	R5	South. Zone Safety & Crossing Improvements	**0.37 miles** 0.49 miles (incl. partnership)	■	■		$6.7 million
Multimodal Corrid0r Improvements	M1	McKinney Street Improvements	**0.38 miles** 0.63 miles (incl. partnership)	■	■		$2.9 million
	M2	South. Zone Safety & Crossing Improvements	**0.19 miles** 0.31 miles (incl. partnership)	■			$2.6 million
	M3	Live Oak Street Improvements	**0.63 miles**	■	■		$4.0 million
Transit Enhancements	T1	Emancipation Avenue Transit Corridor	**1.5 miles**	■		■	$13.0 million
	T2	Purple Line Station & Connectivity	**0.75 miles** 0.87 miles (incl. partnership)	■	■	■	Station: $5-10 million Connectivity Projects: $5.3 million
	T3	METRO 40/41 Connectivity	NA			■	$72,500
NHHIP Impact Projects	N1	St. Emanuel Street Reconstruction	**0.63 miles**	■	■		TxDOT will fund and implement all NHHIP Impact Projects. The TIRZ can coordinate with TxDOT on implementation and may set aside designated funds to mitigate any impacts from the NHHIP construction phases.
	N2	Walker Street Cap Trail	**0.57 miles**	■	■		
	N3	St. Joseph Parkway Reconstruction	**0.30 miles**	■			
	N4	Commerce & Navigation Intersection	NA	■		■	
	N5	Enhanced IH-69 Bridge Crossings	**0.34 miles**	■			
		Safe Sidewalk Program	**Varies**	■			$50,000 per year

Program & Policy Recommendations

Complementing Investments

In addition to capital projects, the TIRZ can enhance multimodal mobility in East Downtown through a variety of programmatic and policy strategies. These recommendations complement the project recommendations by encouraging development that is pedestrian-, bike-, and transit-oriented, maximizing the use of the curb for parking, and adding important amenities that make it easier for people to walk, bike, and ride transit.

Like the projects, these recommendations may require partnerships with the East Downtown Management District, the City of Houston, and others to implement.

Program: Apply for Walkable Places Designation

Apply for Zone-wide Walkable Places Designation with the City of Houston to ensure future development enhances East Downtown's network of pedestrian-friendly streets.

New Standards to Encourage Walkability

The City of Houston adopted the Walkable Places Ordinance in 2020 to allow communities to voluntarily adopt standards for new construction and renovations to encourage context-sensitive, walkable, and dense development. Property owners along a street or in a specific area can apply for their street to gain Walkable Places Designation or a special district can apply for Planning and Development Department consideration.

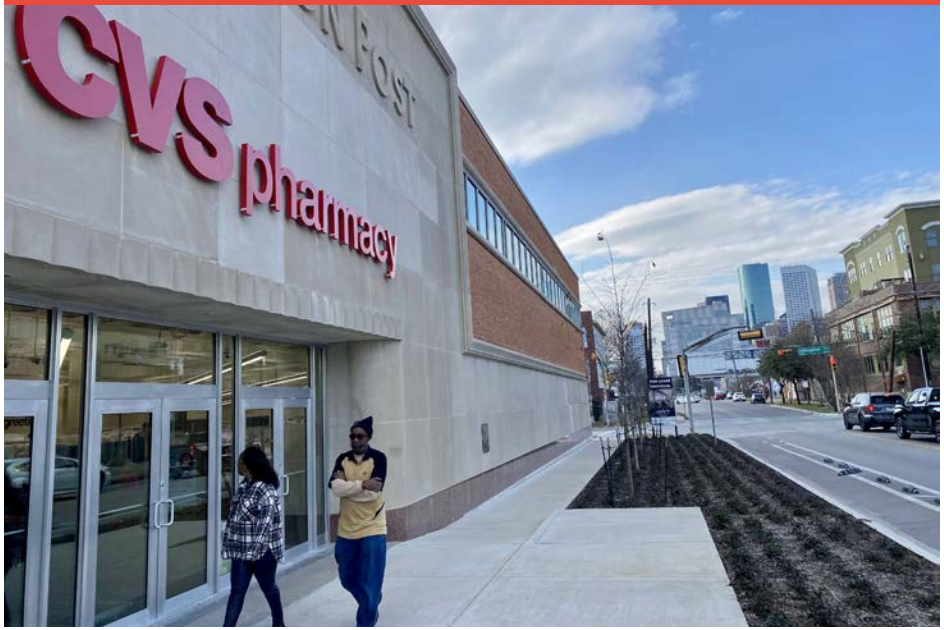
The Walkable Places standards influence multiple aspects of new developments including the amount and design of space dedicated to pedestrians between the building and the street curb and the design of the building facade to include windows and shade that create an inviting atmosphere for people on the street and in the buildings.

Benefits of Becoming a Walkable Place

The Walkable Places Designation would create a consistent development approach across the Zone to support overall goals. It provides benefits to the property owner and developer as well. The standards allow for more buildable area on a lot by reducing the distance a building must be set back from the street.

Car-oriented development in Midtown

Walkable redevelopment in East Downtown



Program: Parking Benefit District

Establish a Parking Benefit District in partnership with East Downtown Management District and the City of Houston to support maintenance of TIRZ infrastructure and investment in new amenities.

Align Parking Supply & Demand

Many of the streets in East Downtown have paid parking but the metered parking hours do not coincide with the busy evenings and weekends when visitors flock to the Zone for its restaurants, bars, sporting events, and concert venues. The TIRZ can work alongside East Downtown Management District and the City of Houston to establish a Parking Benefit District (PBD) that sets the Zone's metered hours at times when parking is in highest demand. This will help manage parking supply throughout East Downtown and the revenues can be used to benefit the businesses and residents in the area. Midtown Management District worked with ParkHouston to establish a PBD in 2022. Their experience serves as a precedent for the TIRZ and East Downtown Management District.

Creating a Parking Benefit District

To create a PBD, East Downtown Management District should work with the City of Houston to conduct a parking occupancy survey. This survey will gather data to identify the peak hours for parking usage in the Zone. The City will then use the results of that survey to update the parking meter hours to align with the peak. Once the PDB becomes official, surplus parking revenue from metered parking within the management district boundaries will be set aside for the district to use for projects in East Downtown.

The management district can use PBD funds for infrastructure maintenance, new amenities like bike share stations and public art, or other mobility and safety projects within their purview.

Identify peak hours for parking usage

(Occupancy Survey by City of Houston)

1

Update meter hours to align with peak hours

2

Collect parking revenue

3

Allocate revenue for projects in East Downtown

4

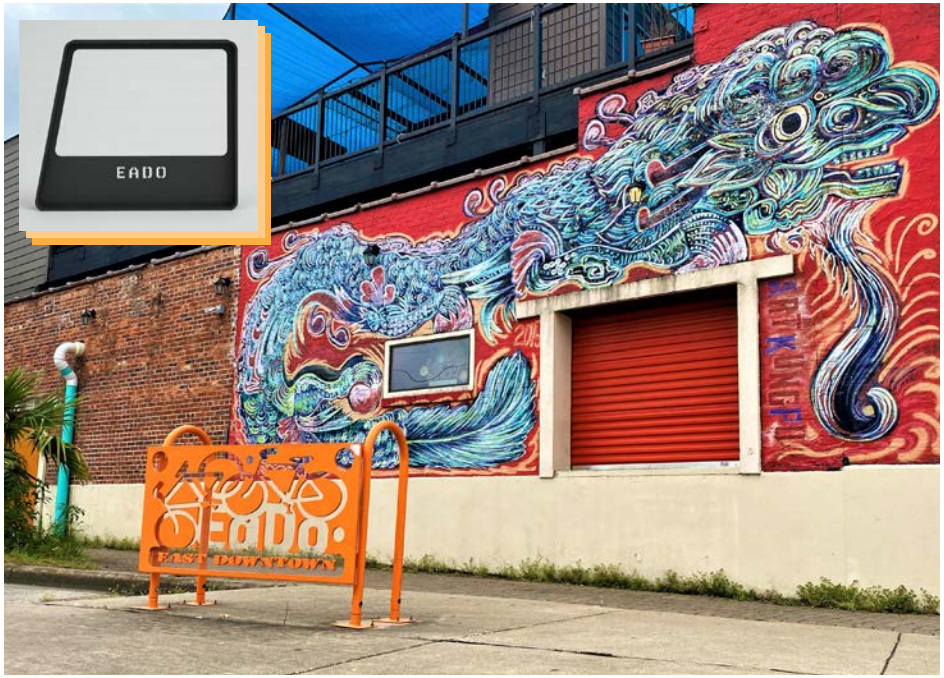
Program: Expand Bike Parking & Bike Share

Install new bike parking at destinations throughout the Zone and ensure that all parts of the Zone are within a quarter mile of two bike share stations.

Boost the Amount of Bike Parking

As a destination-rich neighborhood, East Downtown can increase the number of bike parking spaces to complement other TIRZ investments such as building out a network of high-comfort bikeways and creating a parking benefit district. New bike parking should be installed at destinations throughout the Zone and be placed to be visible from the street for easy access by people biking.

The EaDo-branded bicycle racks being incorporated into the TIRZ's current amenity investments are the type of high-quality racks that are easy to use and offer the best protection for bicycles. This program recommendation would expand the current efforts of the TIRZ.



Strengthen the Bike Share Network

The four Houston BCycle stations in the Zone were used for nearly 5,000 checkouts in the year between October 2020 and November 2021. These existing stations are located at key destinations in the core of the Zone and used by residents and visitors traveling within East Downtown and to surrounding neighborhoods like Downtown and the East End.

The TIRZ can work with Houston Bike Share, City Councilmembers, businesses, and others to densify the network of BCycle stations. An expansion would help serve all parts of the Zone with at least two bike share stations within a quarter mile.

Program: Expand Bike Parking & Bike Share

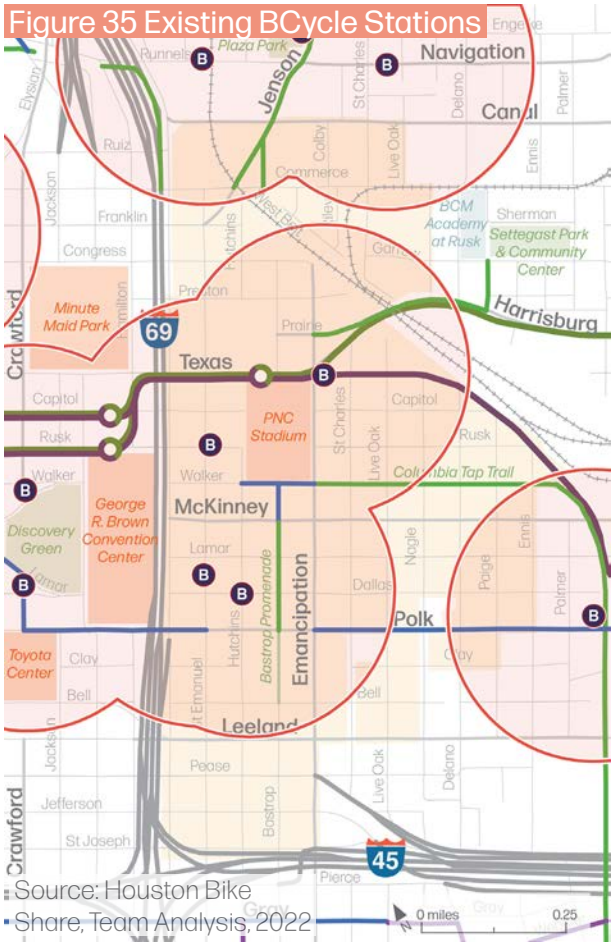
Importance of Bike Share Density

Houston Bike Share ridership data shows that bike share usage increases when an area has a concentration of stations that connect to multiple destinations in one community. Multiple stations allow users to select an ideal pick-up and drop-off location and offer nearby options if a given station is empty at pick-up or full at drop-off.

Figures 35 shows existing East Downtown BCycle stations with a quarter-mile buffer indicating station access. Figure 36 recommends 16 new stations in the area and highlights how they interact with the project recommendations that include bikeways.

#	Recommended Station
1	St. Charles Street @ Canal Street
2	Colby Street @ Commerce Street
3	Delano Street @ BCM Academy at Rusk
4	Sherman Street @ Settegast Park
5	Hutchins Street @ Commerce Street
6	St. Emanuel Street @ Future Cap Trail
7	Hutchins Street @ PNC Stadium
8	Capitol Street @ Paige Street
9	St. Charles Street @ Columbia Tap Trail
10	Hutchins Street @ McKinney Street
11	Nagle Street @ McKinney Street
12	Polk Street @ Live Oak Street
13	Bastrop Promenade @ Bell Street
14	Hutchins Street @ Leeland Street
15	Leeland Street @ Live Oak Street

Figure 35 Existing BCycle Stations



Source: Houston Bike Share, Team Analysis, 2022

Figure 36 Proposed BCycle Stations

Source: Houston Bike Share, Team Analysis, 2022

Existing BCycle Station (B)

Proposed BCycle Station (#)

1/4-mile Buffer from BCycle Station

	Existing	Programmed	Recommended
Dedicated On-Street Bikeway	———	- - -	·····
Off-Street Bikeway	———	- - -	·····
Neighborhood Safe Street	———	- - -	·····

Program: Continue Streetscape Enhancements

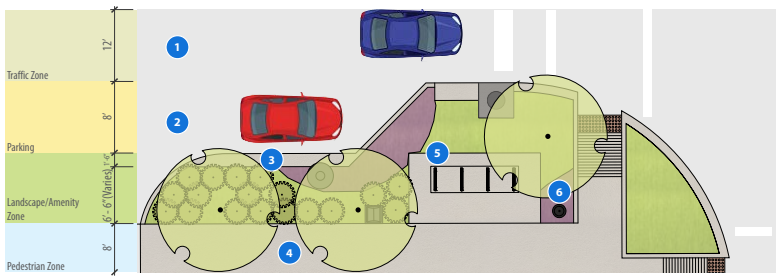
Identify places to invest in new amenities to the East Downtown streetscape in keeping with the Zone's Public Improvements Guide.

Invest in Quality of Life in East Downtown

The TIRZ has incorporated new amenities in recent projects like its "Amenity Overlay - Phase 1" and improvements along Columbia Tap Trail. These investments are informed by the Public Improvements Guide and add to the impact of street and drainage projects by improving the quality of life for people in East Downtown. The TIRZ should continue this practice of investing in amenities for the project recommendations in this plan.

Amenities as Mobility Investments

Many of the recommended amenities in the Public Improvements Guide are also important to encouraging multimodal mobility in East Downtown. Features like bike parking, benches, shade, and lighting make walking and biking more enjoyable. They also make walking and biking safe by providing lights at night, shade on hot days, and rest areas for people who need them. This is particularly important in the Zone where less than 10% of the area has tree canopy cover according to the non-profit American Forests.



PLAN

Four additional bicycle spaces may be added to reduce one parking space requirement. The maximum reduction in the number of parking spaces shall be 10 percent of the number of parking spaces required per City of Houston Code, Chapter 26, Sec 26-497.

Application

The plan above illustrates the location of the pedestrian and landscape/amenity zones. Within each zone, the recommended location and minimum spacing of the concrete pad for the bicycle racks is illustrated.

Mounting should be dependent on location. Possible mounting options should be verified by a Root Lab's (supplier) representative prior to design or installation.

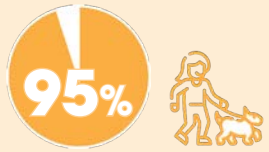
LEGEND

1. Street
2. Parking
3. Curb
4. Sidewalk
5. Bicycle Rack
6. Pedestrian Lighting

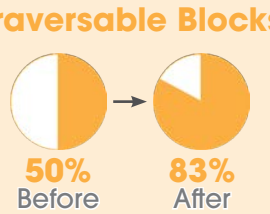
TIRZ 15 Mobility Plan Recommendation Impacts

The recommended projects will reshape the nature of mobility in East Downtown and provide a springboard for redevelopment of the Zone's remaining vacant and underdeveloped parcels.

Walkability Impacts

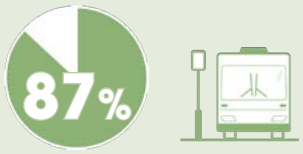


95% of survey respondents said that the network of street improvements would/ definitely would **make them feel safer walking** around East Downtown.



The recommended projects would bring the percentage of **fully-traversable blocks** in the Zone from **50% to 83%**.

Transit Access Impacts

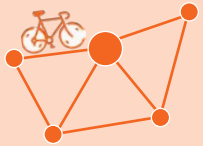


87% of survey respondents said that the recommended projects would **make it easier for them to access destinations by transit**.

Recommended Transit Enhancement projects would bring **every street segment in the Zone within 1/4 mile of a transit stop or station**.

Bikeway Connectivity Impacts

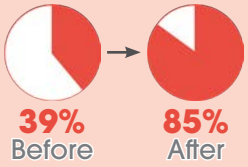
91% of survey respondents said that the recommended bikeway network would **make them feel safer biking** to and through East Downtown.



The recommended projects would create the **first connected network of high-comfort bikeways** connecting destinations within and outside of the Zone.

Recommended investments in bike share would bring **all areas in the Zone within 1/4 mile of at least two bike share stations**.

Intersection Safety Impacts



The recommended projects would bring the **share of accessible intersections** in the Zone from **39% to 85%**.

Completing the Sidewalk Network

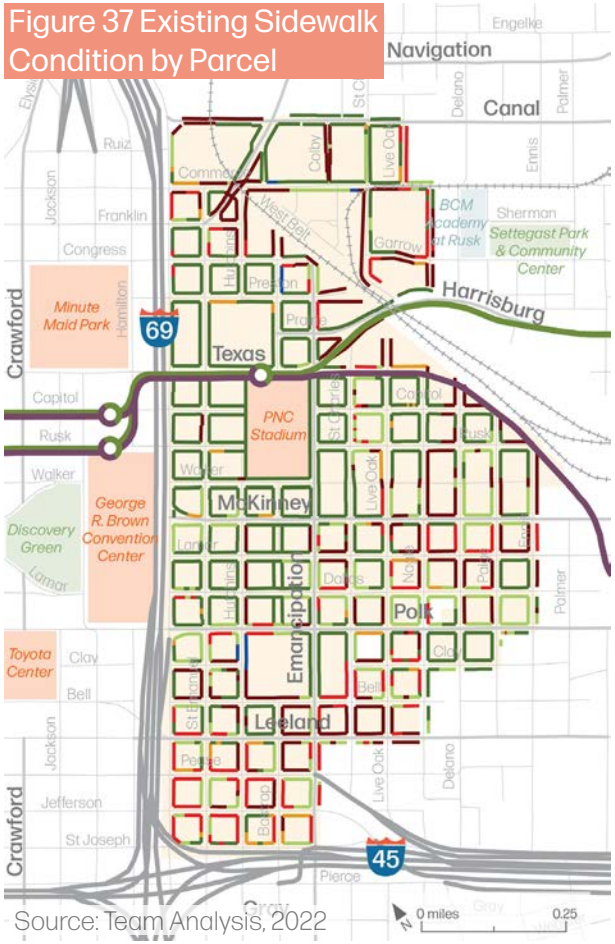
Addressing Gaps in Walkability

Although TIRZ 15 has areas with uninterrupted walkable sidewalks, 50% of all blocks have at least one segment of sidewalk that is missing or in poor condition. Poor-quality or missing sidewalks are especially concentrated in the areas south of Polk Street, east of Live Oak Street, and north of Congress Street as seen in Figure 37.

Implementing the Full Network of recommendations will have a big impact on the sidewalk network and bring the share of fully-passable blocks from 50% to 83%. Recommended projects will provide a significant improvement for the areas of the TIRZ south of Polk Street and east of Emancipation Avenue in particular.

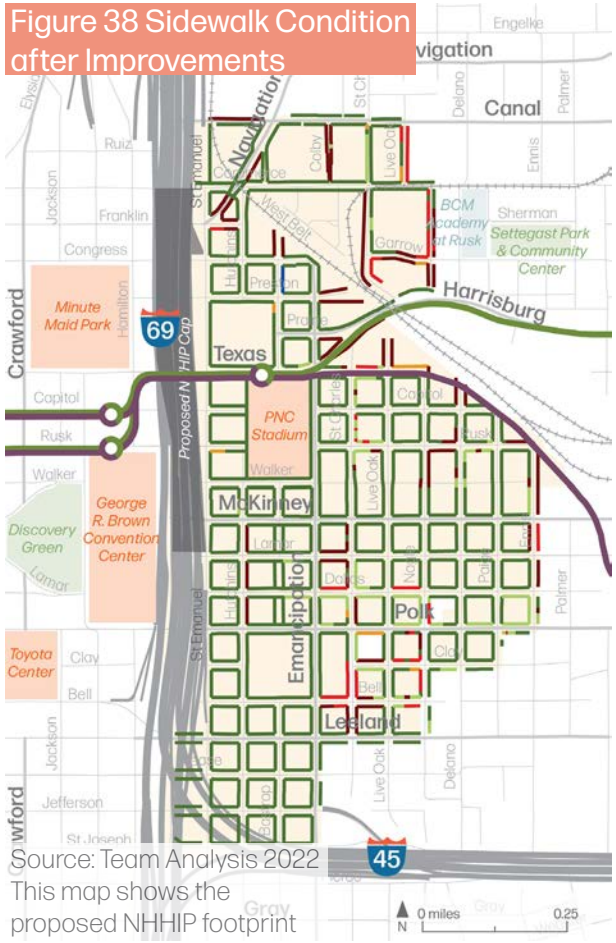
Many of the remaining gaps in fully accessible blocks of sidewalk can be addressed through the TIRZ 15 Sidewalk Safety Program, see pages 54 and 55. The resulting sidewalk network will enable pedestrians to more safely reach their destinations and transit stops.

Figure 37 Existing Sidewalk Condition by Parcel



Source: Team Analysis, 2022

Figure 38 Sidewalk Condition after Improvements



Source: Team Analysis 2022
This map shows the proposed NHHIP footprint

A — Flat - 5'+

B — Flat - Less than 5'

C — Poor Condition - 5'+

D — Poor Condition - Less than 5'

E — No Sidewalk Present

Under Construction

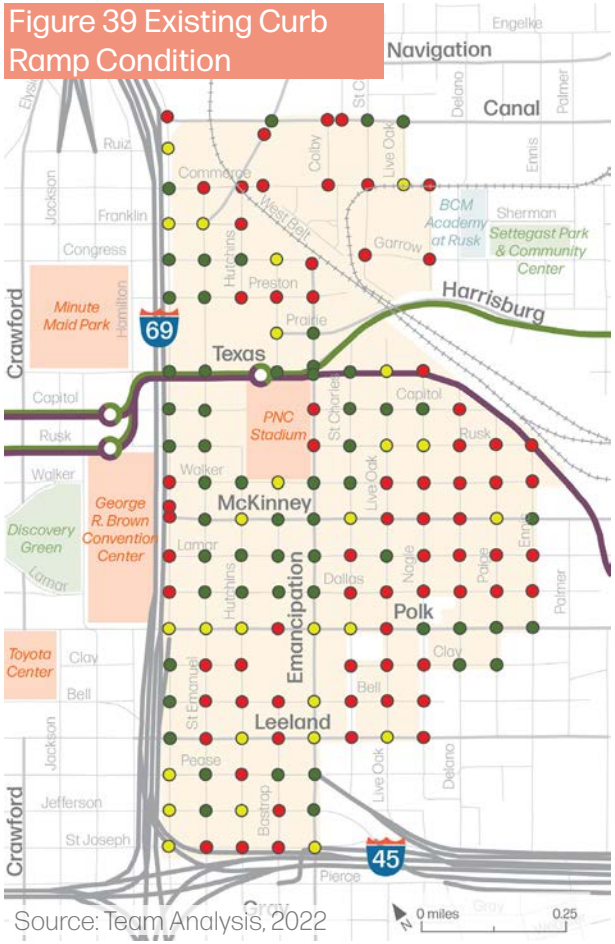
Prioritizing Safe Crossings

Improving Curb Ramps for Intersection Walkability

Safe intersection crossings with accessible curb ramps are critical for creating an accessible TIRZ 15 sidewalk network. Most intersections are currently inaccessible for pedestrians: nearly two thirds (61%) of intersections have 2 or more impassable curb ramps. Inaccessible intersections are particularly concentrated in the areas east of Emancipation Avenue, south of Dallas Street, and north of Texas Avenue.

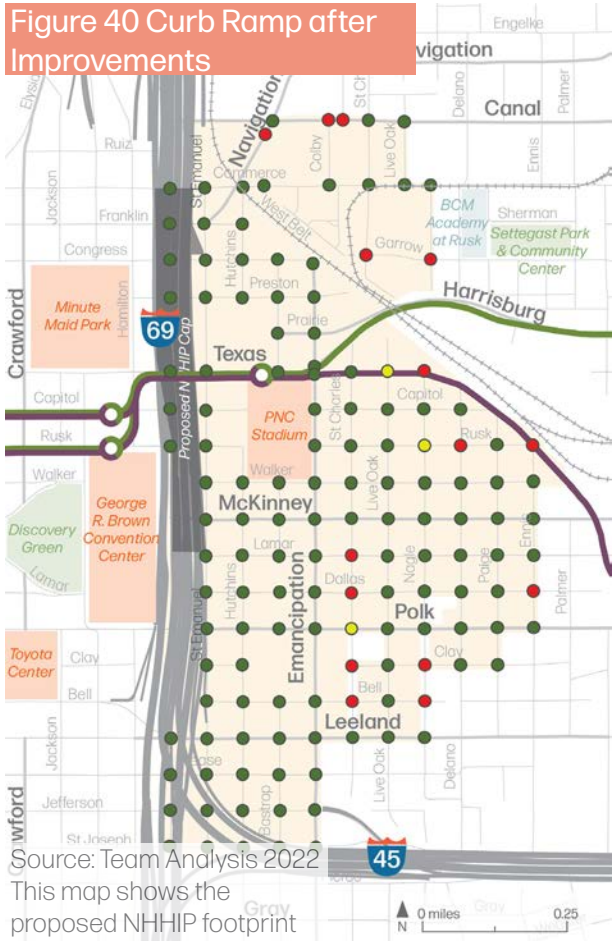
After implementing the Full Network of recommendations, the share of accessible intersections increases from less than two in every five (39%) intersections to more than five in six (85%). The improved network of accessible intersections will link blocks of accessible sidewalk to create a fully navigable pedestrian network in the Zone.

Figure 39 Existing Curb Ramp Condition



Source: Team Analysis, 2022

Figure 40 Curb Ramp after Improvements



Source: Team Analysis 2022
This map shows the proposed NHHIP footprint

0-1 Impassable Ramps 2 Impassable Ramps 3-8 Impassable Ramps

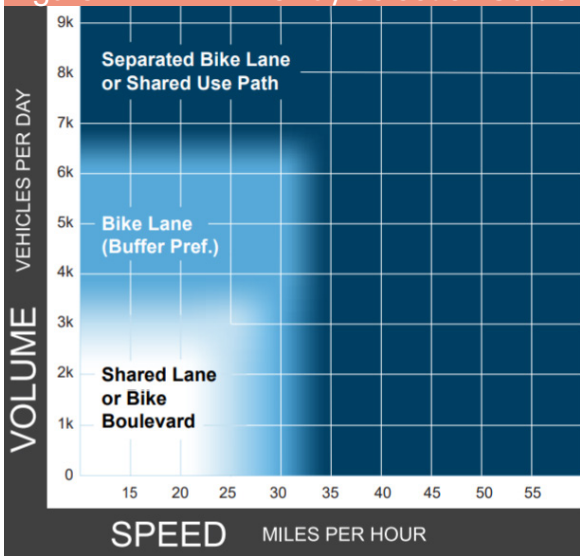
Building High-Comfort Bikeways & Trails

Designing a Bike Network for All Ages & Abilities

It is important to ensure infrastructure serves all people interested in bicycling and design a bike facilities that can be used by everyone in the community, regardless of their age, ability, or experience biking. Bikeways in East Downtown should be designed to be high-comfort.

Designing for high comfort means providing protection and separation from vehicle travel lanes on streets with higher vehicle speeds and volumes. Figure 41 shows how the Federal Highway Administration uses vehicle speeds and volumes as an input for selecting the appropriate bike facility.

Figure 41 FHWA Bikeway Selection Guide



Source: FHWA, 2019

Bikeway Facility Types

The TIRZ can utilize a variety of bikeway designs depending on roadway and land use context. Bikeway selection should consider the feasibility of different bikeway types, based on right-of-way width, pavement width, existing/future transit service, parking and driveways, among other variables. The Houston Bike Plan categorizes bikeways into three types: Dedicated On-Street, Shared-Street, and Off-Street. Find a description of each type below.

Dedicated On-Street bikeways (also called separated or protected bikeways) are within the curb and provide a separate bicycle facility that is protected from vehicle traffic with a barrier such as concrete curbs, planters, etc. This design is preferred on streets with higher vehicle speeds and volumes that do not have space behind the curb for a bikeway.

Off-Street bikeways (also called trails, side-paths, and shared-use paths) are bikeways behind a street curb, separated from vehicle traffic. These facilities can be bike-only or wide enough to accommodate people walking and biking. This design is preferred on streets with high vehicle speeds and volumes and/or in places with sufficient space behind the curb.

Shared-Street bikeways (also referred to as Neighborhood Safe Streets) are streets where bicycles and vehicles share a lane. Design includes safety features like mini-traffic circles, speed cushions, curb extensions, signage, and other strategies to encourage responsible vehicle speeds. This design is preferred on slower neighborhood streets with less traffic.

Making New Bikeway Connections

Filling Gaps in the Network

East Downtown already features several great bikeways such as Polk Street and the Columbia Tap Trail that offer comfort and safety for people biking. However, the bikeway network in the Zone remains disconnected and does not cross some of the neighborhood's tough barriers. Similarly, the bikeways do not fully connect East Downtown to nearby neighborhoods and destinations.

Figure 42 shows the existing bikeway facilities and highlights opportunities for connections in the network. The northern portion of the Zone lacks a safe east-west corridor to access Downtown and the East End. The area east of Emancipation Avenue does not have a north-south corridor to link existing parts of the network. Finally, the Bastrop Promenade and Walker Street in the core of East Downtown do not extend north and south to meet the City's growing network of high-comfort bikeways and trails.

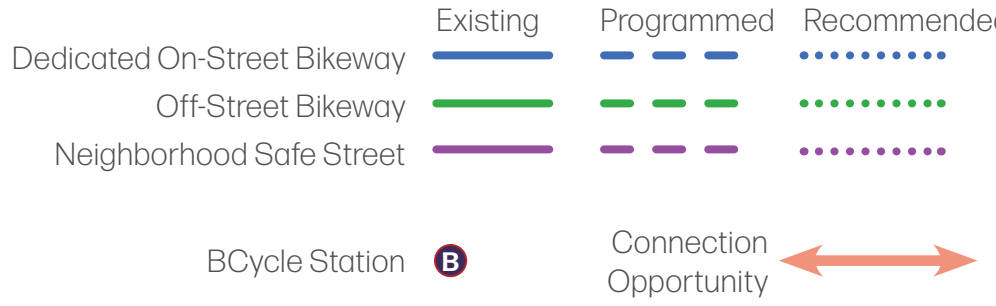
The Full Network of recommendations include multiple projects that add or extend bikeways and trails in East Downtown. These projects combine to create a fully connected network of high-comfort bikeways. Figure 43 shows the streets with a recommended bikeway. These bikeways fill the gaps highlighted in Figure 42 to ensure that people biking can safely reach destinations in and around East Downtown.

Figure 42 Existing Bikways & Connection Opportunities

Source: City of Houston, Team Analysis, 2022

Figure 43 Bikeway Network after Improvements

Source: City of Houston, Team Analysis 2022



Aligning with the Houston Bike Plan

East Downtown as a Critical Hub in Houston's Network

The City of Houston adopted a bike plan in 2017 to identify streets that could create a citywide high-comfort bike network. Figure 44 shows the existing and proposed bikeways in East Downtown as set forth in the Houston Bike Plan. The TIRZ's recommended projects add to this network to provide much-needed connectivity between East Downtown and the growing network of bikeways in Downtown, East End, Midtown, and the Third Ward.

Most of the recommendations for the TIRZ align with the Houston Bike Plan, including the projects along Commerce Street, Live Oak Street, and Leeland Street. Where recommendations do not fully align, the proposed routes offer alternatives that take into account recent or future changes such as NHHIP.

Alternative Recommendations to the Houston Bike Plan

1 Houston Bike Plan Emancipation Avenue & Hutchins Street

The Houston Bike Plan proposes a dedicated on-street bikeway along Emancipation Avenue and a shared-street bikeway on Hutchins Street.

Recommendation Bastrop Promenade Extensions

The Bastrop Promenade Extension offers a more direct extension of the existing promenade south to Third Ward and north toward Buffalo Bayou. Relying on Bastrop Street also allows more room on Emancipation Avenue to widen sidewalks and build bus stops for potential future transit service. This Plan also proposes another north-south bikeway connection along St. Emanuel Street south of Walker Street.

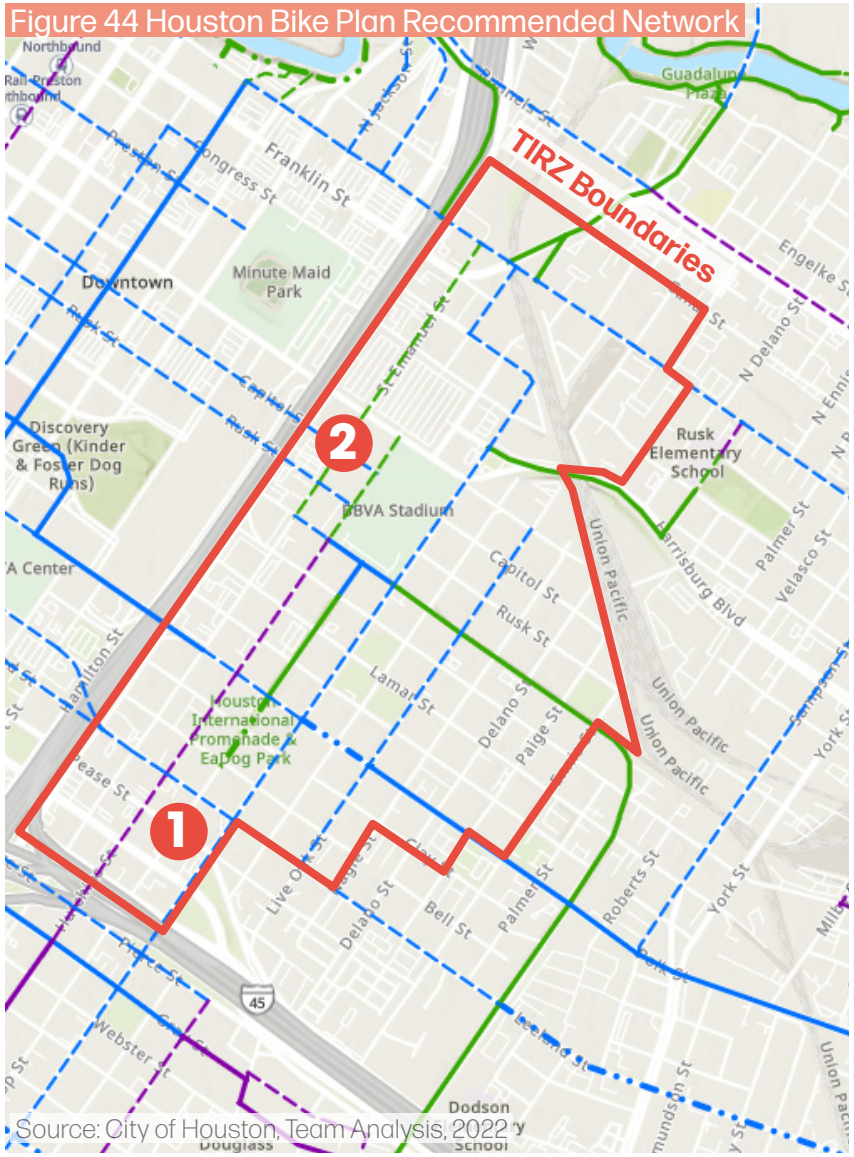
2 Houston Bike Plan St. Emanuel Street

The Houston Bike Plan recommends an off-street trail along St. Emanuel Street north of Walker Street.

Recommendation Walker Street Cap Trail

This Plan still supports a bikeway along St. Emanuel Street south of Walker Street but proposes crossing the bikeway to the future concrete highway cap to reach Commerce Street and connect to east-west crossings to Downtown. In the event that the concrete cap is not completed, the full length of St. Emanuel Street should be reconstructed with a dedicated bikeway or shared use path to Commerce Street.

Figure 44 Houston Bike Plan Recommended Network



Source: City of Houston, Team Analysis, 2022

	Existing	Programmed
Dedicated On-Street Bikeway	———	- - -
Off-Street Bikeway	———	- - -
Neighborhood Safe Street	———	- - -

Expanding Access to High-Quality Transit

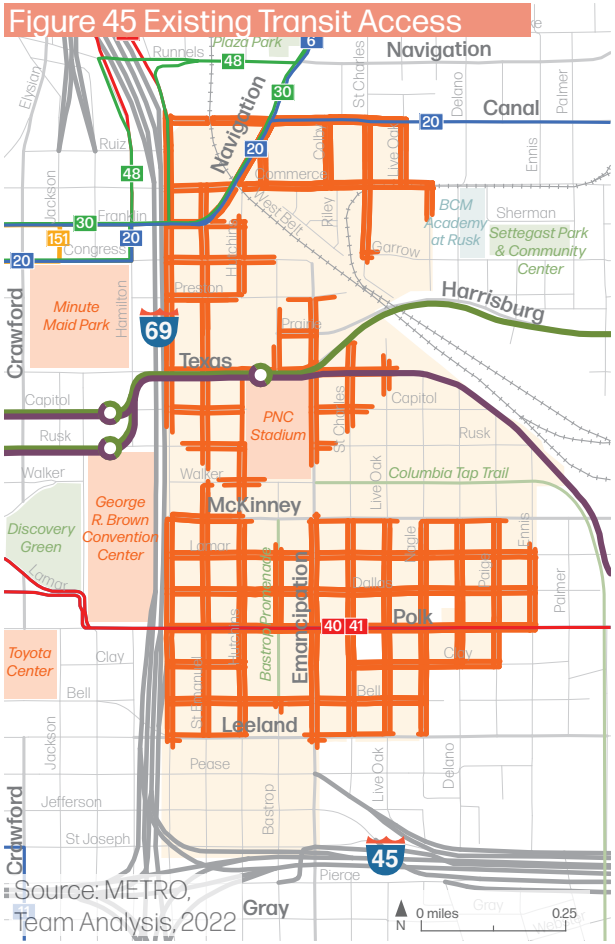
Filling Gaps in Transit Access

The Zone has a strong existing backbone of frequent transit, anchored by the 40/41 bus routes along Polk Street and the Purple and Green Light Rail Lines on Texas Avenue. However, several access gaps remain. In contrast to the existing frequent east-west service, the Zone lacks frequent north-south transit service.

Around 44% of the TIRZ 15 street network is farther than a 1/4-mile walk from a transit stop, as seen in Figure 45. Access gaps are particularly concentrated north of Preston Street, northeast of the Columbia Tap Trail, and south of Leeland Street.

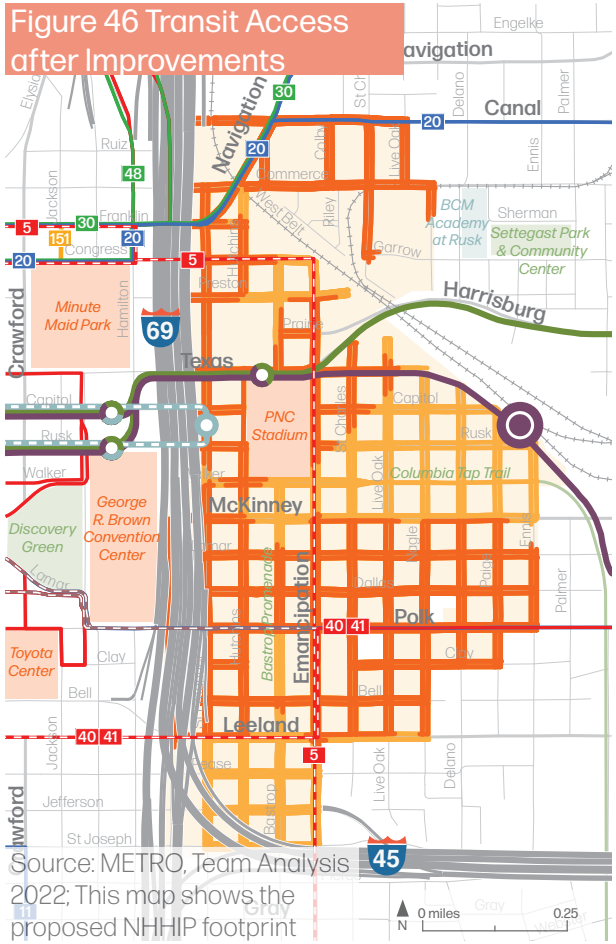
After implementing the Full Network of recommendations shown in Figure 46, 90% of the TIRZ 15 street network will be within a 1/4-mile walk of a high-frequent transit stop. The recommended station on the eastern side of the Zone will fill access gaps near the Columbia Tap Trail east of Emancipation Avenue. Meanwhile, the proposed extension of a local METRO bus route along Emancipation Avenue and Congress Street expands access south of Leeland, near PNC Stadium, and north of Preston Street. These expansions to transit access will allow TIRZ 15 residents, workers, and visitors to more quickly reach destinations within and outside of the Zone.

Figure 45 Existing Transit Access



Source: METRO, Team Analysis, 2022

Figure 46 Transit Access after Improvements



Source: METRO, Team Analysis 2022; This map shows the proposed NHHIP footprint

Bus Route Frequencies

- 15 minutes or better
- 20 or 30 minutes
- 60 minutes
- Weekday peak periods only

Transit Improvements

- Proposed Inner Katy Bus Rapid Transit
- Proposed Transit Enhancements

Access Impacts

- Within 1/4-mile walk of an existing transit stop
- Within 1/4-mile walk of a future transit stop

Safe Crossings Expand Access to Destinations

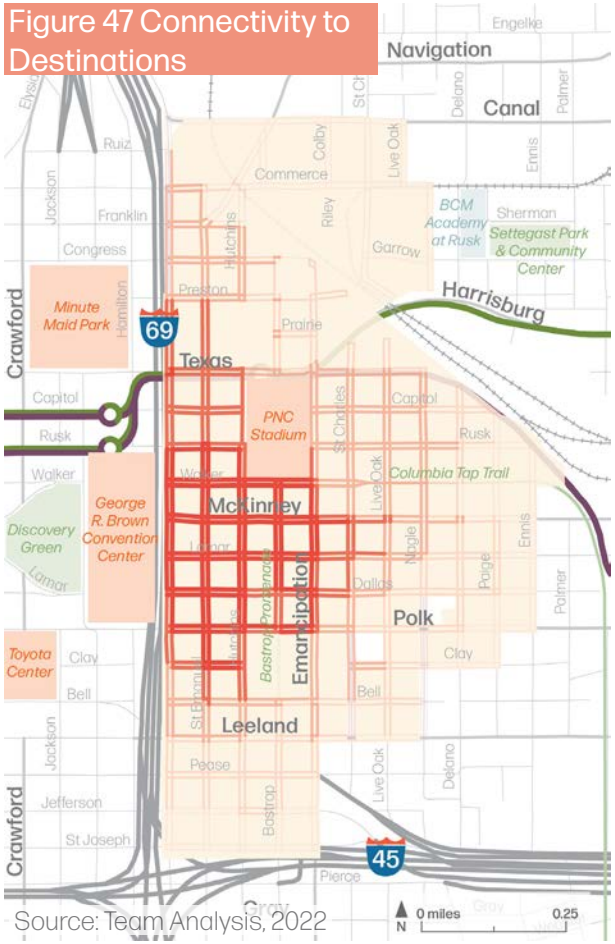
Maximizing the Grid

East Downtown is a destination-rich neighborhood that attracts visitors from across the region for food, drinks, comedy, music, sports, and much more. Visitors and residents alike depend on the street grid to walk to destinations – whether it's from their house to a concert or from bar to bar.

The recommended projects will redesign many of the Zone's unsafe intersections to make it safe and convenient for people to cross the street. Figures 47 and 48 show each block's access to destinations before and after recommended project improvements. The darker the street, the more destinations that block can safely access. The darkest blocks in both maps center around the destination-rich portion of the Zone along streets like St. Emanuel Street.

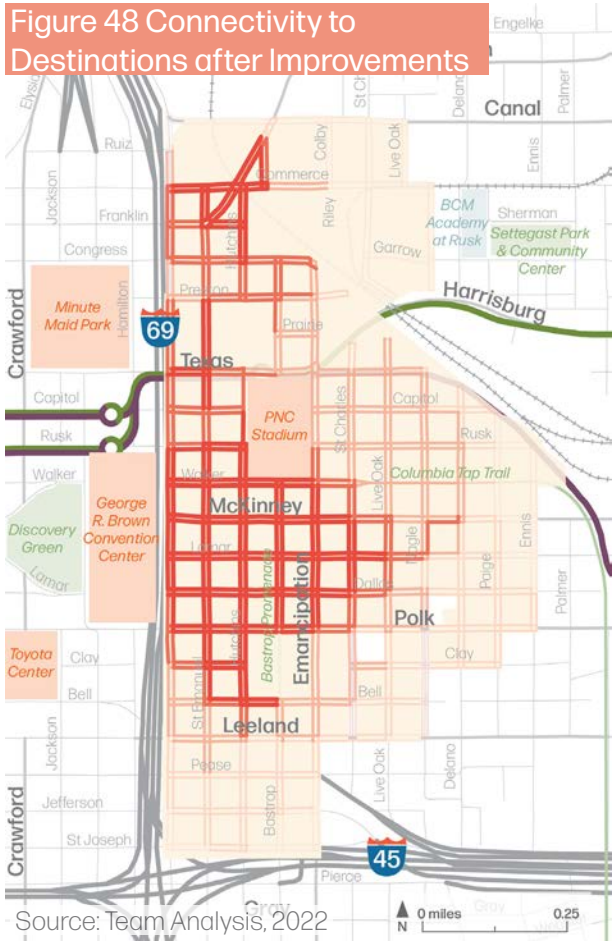
The existing state of unsafe crossings means that someone walking or using a wheelchair would have to take a circuitous route to get to their destination. By improving intersections throughout the Zone, the TIRZ can unlock the potential of the gridded streets and ensure that the most direct route has safe crossings that make walking a convenient choice.

Figure 47 Connectivity to Destinations



Source: Team Analysis, 2022

Figure 48 Connectivity to Destinations after Improvements



Source: Team Analysis, 2022

- Access to 55 or more destinations
- Access to 45-54 destinations
- Access to 35-44 destinations
- Access to 25-34 destinations
- Access to 0-24 destinations

Action Plan

Strategies for Implementation

Implementing the Network

To build the recommended projects and programs, the TIRZ should think carefully about street design, leverage partnerships with other agencies, and consider project phasing to maximize the impact of its investments.

Corridor Typologies Page 73

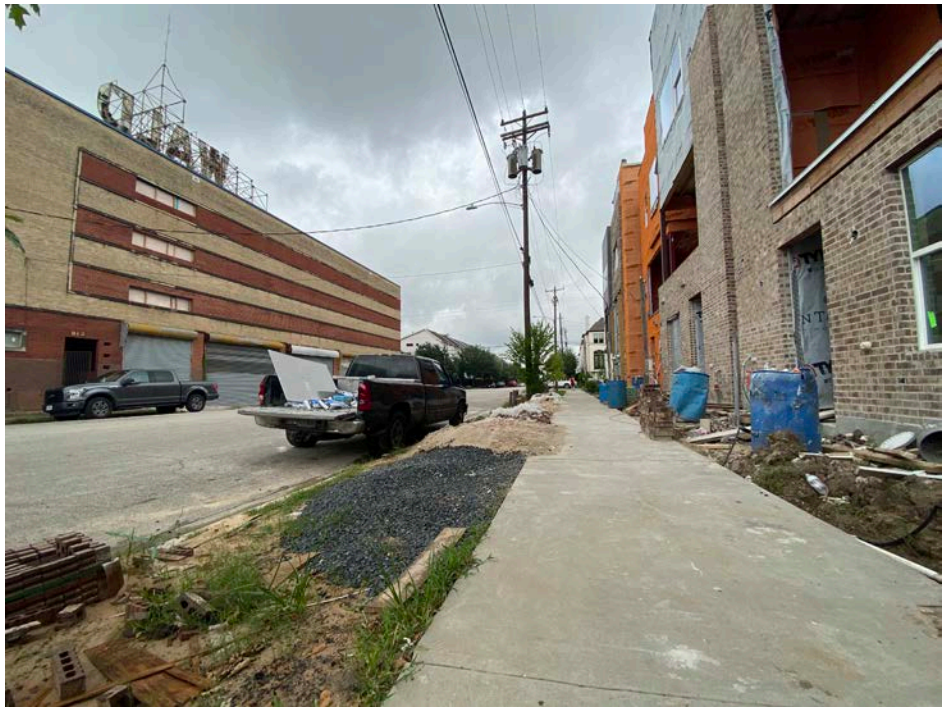
The TIRZ has embraced forward-thinking multimodal design principles in its recent CIP projects like "Phase 1 - Roadway and Utility Reconstruction," "Walker Street Roadway Rehabilitation," and "Columbia Tap Improvements." This chapter assigns each recommended project to a corridor Typology that further advances the TIRZ's vision for safe and inviting street designs. The Typologies offer design considerations specific to a street's context.

Phasing Implementation Page 88

The next decade will bring historic changes to East Downtown that impact the way the TIRZ can schedule project implementation. In particular, the NHHIP will impact some recommendations more than others and require careful thought about which projects should come first. The order of projects may also be impacted by the goals of other agencies like METRO and the availability of funds for the TIRZ to spend on projects in the near term.

Funding & Partnerships Page 91

The TIRZ's primary funding strategy for projects is to incorporate them into the CIP for design and funding over time. While this will work for many projects, opportunities also exist to leverage funding by forging partnerships with agencies that share similar goals. These partnerships have the potential to produce better design outcomes for East Downtown streets and create win-wins for the TIRZ and its partners.



Streets Designed for East Downtown

Recommended projects should be designed to meet the expressed needs of East Downtown residents, businesses, and visitors. Project designs can be guided by best practices in street safety and connectivity, and by community input from this plan and other engagement efforts. The Mobility Opportunities also offer guiding principles for approaching project design.

Leverage Unique Strengths

As one of the City's oldest neighborhoods and a former industrial hub in Houston, East Downtown has unusually wide, gridded streets with plenty of opportunity to reallocate space to better serve all users.

Provide Multimodal Choices

Responses from the community survey indicate a clear desire for East Downtown to be one of Houston's premier walkable and bikeable neighborhoods. When asked "What would make travel easier and more enjoyable for you?" top responses were: (1) create safe places to bike, (2) improve sidewalk conditions, and (3) provide safe ways to cross streets. Every project should be designed to expand the multimodal options available in the Zone while also maintaining and enhancing the street grid to support vehicle access to destinations.

Prioritize Safety

Community feedback also pointed to traffic safety concerns in the Zone, underscored by data from the Fact Book showing a high number of crashes on wide, high-speed streets. Project designs should prioritize safety in East Downtown by including elements that encourage responsible speeds and make it comfortable for people walking and biking to cross streets.

Mobility Opportunities Guiding Project Design

- **Optimize excess pavement width** to improve safety, increase multimodal options, and dedicate curb space for priority uses.
- Continue the TIRZ practice of **designing streets to prioritize safety and connectivity** for all users.
- Develop a fully connected sidewalk grid where a **safe crossing is never more than one block away**.
- Build a **full network of high-comfort bikeways** across the Zone, prioritizing north-south connectivity.
- Leverage the NHHIP to **maintain or improve connectivity across IH-69 and IH-45**, especially for people walking, biking, and riding transit.

See all Mobility Opportunities on page 74.

Typologies of East Downtown Streets

Five Typologies describe the distinct needs and set a vision for redesigning streets throughout East Downtown. Each recommended project is categorized into one of the five Typologies based on its existing condition and the role that the project plays in the Zone's broader network.

The five Typologies include Greenway, Multimodal Thoroughfare, Downtown Gateway, Neighborhood Spine, and Neighborhood Slow Street. Profiles and maps for each Typology can be found on the next few pages. The profiles provide design guidance and considerations specific to the street's context.

Key factors determining Typologies include a street's pavement width, available right-of-way, current vehicle volumes, connection to other neighborhoods and destinations, surrounding land use, and the demand for multimodal options like walking, biking, and riding transit. Profiles highlight how each Typology helps re-imaging the nature of mobility in the Zone to create a truly multimodal network.

Intersections

The Typology profiles primarily outline design considerations for the cross section of the street but the design of intersections and crossings are vital to creating a safe and comfortable experience for people walking and biking.

Guidance for intersection design can be found on page 87. Several of the crossing design recommendations there apply broadly across typologies and should be applied on an crossing-by-crossing basis.

Greenway

Greenways provide a safe and comfortable path for people walking and biking through East Downtown and are a critical part of the Zone's high-comfort bikeway network. Find the Greenway Typology profile on pages 75-76.

Multimodal Thoroughfare

Multimodal Thoroughfares connect East Downtown to surrounding neighborhoods and serve as the primary corridors for moving people to and through the Zone. Find the Multimodal Thoroughfare Typology profile on pages 77-79.

Downtown Gateway

Downtown Gateways are in the southern section of the Zone and link Downtown to IH-45. Prioritizing safety along these streets may spark private investment and build cohesion with Downtown. Find the Downtown Gateway Typology profile on pages 80-81.

Neighborhood Spine

Neighborhood Spines are safe multimodal corridors connecting residential areas to busier thoroughfares in the Zone. These streets provide dedicated space for all users. Find the Neighbohrood Spine Typology profile on pages 82-83.

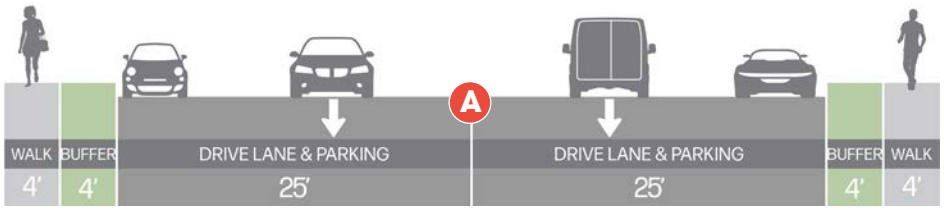
Neighborhood Slow Street

Neighborhood Slow Streets are mostly residential streets that serve as gathering places for the community. These streets are designed to encourage responsible vehicle speeds through neighborhoods. Find the Neighborhood Slow Street Typology profile on pages 84-86.

Typology: Greenway

Typical Existing Condition, Figure 49

Wide, undivided streets with low vehicle volumes and/or excess pavement width for the current traffic volume

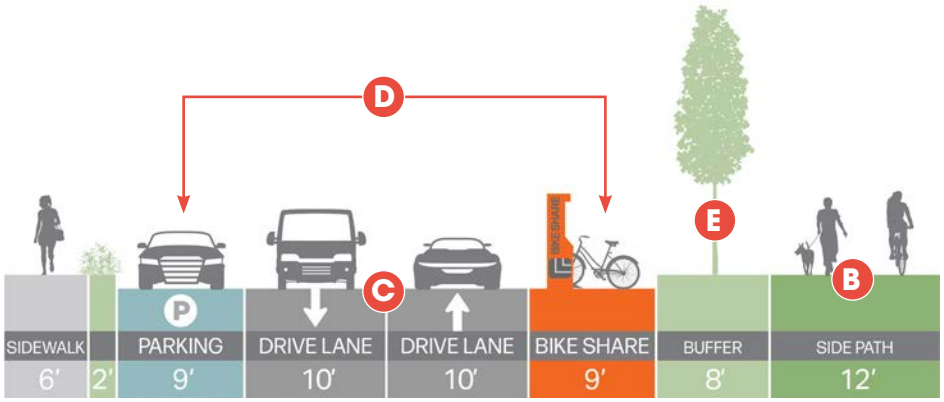


Greenways provide a wide space in the right-of-way for people to walk and bike. This can be a wide side path, median-running trail, or separate bikeways and sidewalks. These types of treatments can be used to converting existing streets into walking and biking spines through East Downtown. Ideal streets for a Greenway design currently have excess pavement width for the vehicle volumes carried but have insufficient facilities that do not meet the demand for people walking and biking.

Project Types Reconstruction Projects | NHHIP Impact Projects

Precedent
Spring Street in Old First Ward, Houston
Bagby Street in Downtown, Houston

Example Cross Section, Figure 50



Design Considerations

A Designs with a wide side path or trail typically require full street reconstruction to create sufficient space behind the curb or along a median. Several streets in East Downtown have excess pavement width that could make this possible.

B The preferred width of wide side paths and trails is 12 feet to accommodate enough room for people walking and biking to safely and comfortably share space. Where necessary, the path can be as narrow as eight feet at choke points.

C Reconstructing the street offers an opportunity reduce travel lane widths to ten feet, City of Houston standard.

D Curb space can be optimized to provide formalized/metered parking, dedicated drop off and delivery areas, and important mobility amenities like bike share stations.

E Reconstruction may create additional green space in landscaped buffers to help with stormwater mitigation through with native plants and other low-impact development techniques like swales.

Typology: Greenway

Several projects in the Zone can be designed as Greenways. The projects shown as Greenways fall under three main recommendations.

Commerce Street

As proposed in other plans like the East End Bike Plan, Commerce Street can be reconstructed with a wide side path connecting the East End to Downtown via East Downtown.

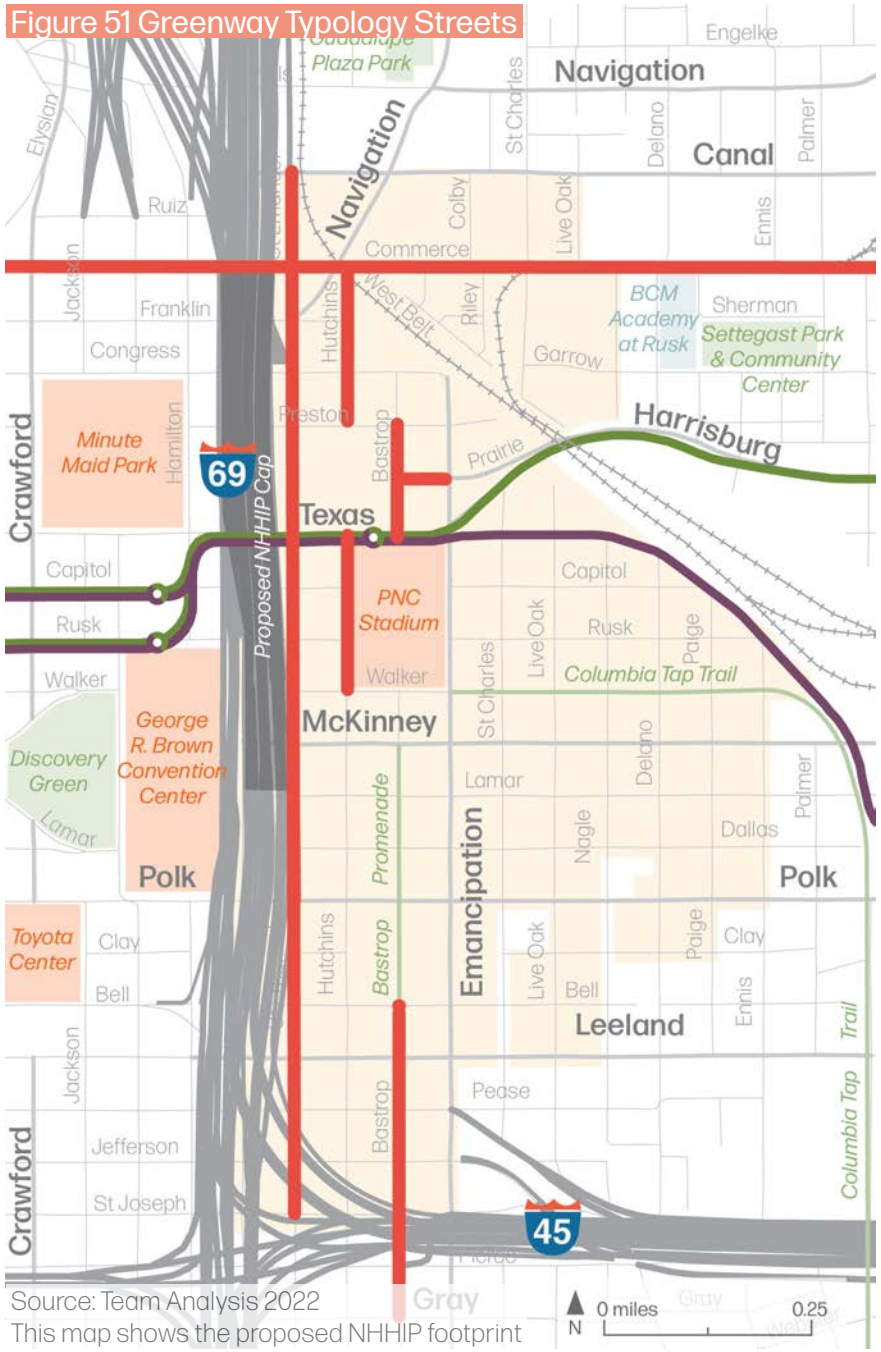
Bastrop Promenade Extensions

As the primary north-south greenway in the Zone with eventual connections to Buffalo Bayou, the extension of the Bastrop Promenade both north and south would benefit from a Greenway design. This includes Bastrop Street in the south and a set of streets in the northern portion of the Zone connecting toward Buffalo Bayou.

St. Emanuel Street

TxDOT's most recent design renderings for the NHHIP project include sufficient space on the eastern side of the street for a wide side path or separated walking and biking facilities. See page 75 for cross sections specific to St. Emanuel Street.

Figure 51 Greenway Typology Streets

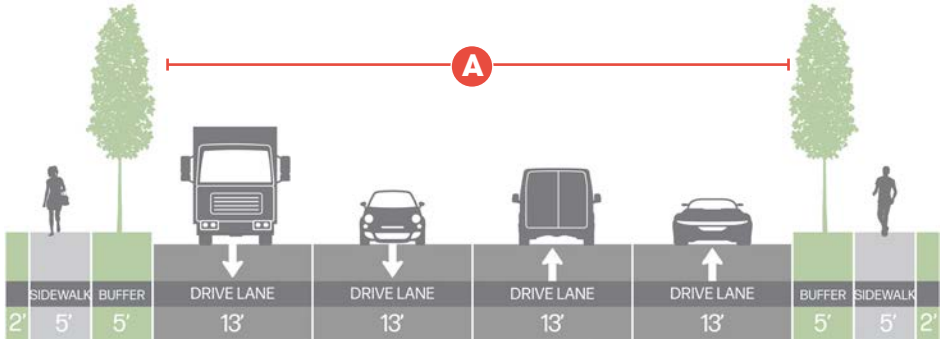


Source: Team Analysis 2022
This map shows the proposed NHHIP footprint

Typology: Multimodal Thoroughfare (Rehabilitation)

Typical Existing Condition, Figure 52

Four-lane undivided streets with high vehicle speeds, wide intersections and insufficient space for people walking or biking

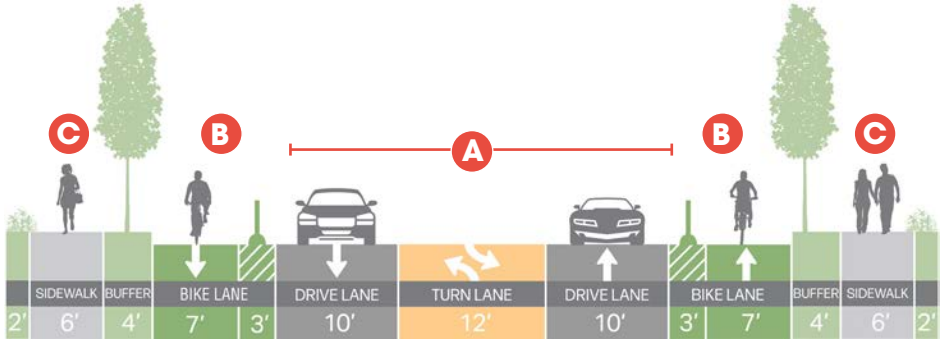


Multimodal Thoroughfares are critical spines in the Zone's network and serve all types of users – people walking, biking, riding transit, and driving – because they connect to nearby neighborhoods like East End, Downtown, and Third Ward. Rehabilitating these thoroughfares on streets with excess pavement width can expand mobility options for residents, visitors, and workers in East Downtown and better link the Zone to major destinations across the City.

Project Types Multimodal Corridor Improvements

Precedent Waugh Drive & Commonwealth Street in Montrose, Houston
Polk Street in East Downtown, Houston

Example Cross Section, Figure 53



Design Considerations

A Thoroughfares in the Zone tend to have more travel lanes than needed for existing or expected vehicle volumes. Rehabilitating the street can reallocate that excess space from four lanes to two lanes and a center turn lane to maintain capacity. A redesign also offers an opportunity to encourage responsible driving speeds by reducing travel lane widths to ten feet, City of Houston standard.

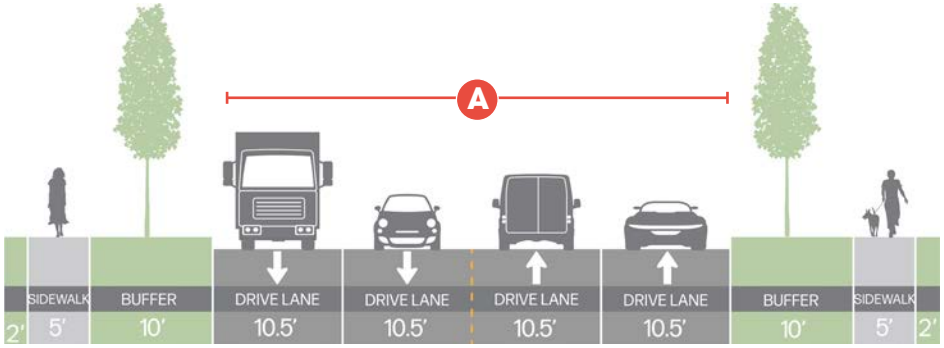
B The additional space gained from the travel lane changes can be used for high-comfort bike lanes or other mobility uses. Thoroughfares typically have higher vehicle speeds and volumes so bikeways should be protected. The example cross section shows seven-foot protected bike lanes with a vertical barrier like concrete curbs with flex posts.

C Rehabilitating the thoroughfares offers an opportunity to build missing sidewalks and repair poor-quality sidewalks and curb ramps. Six-foot wide sidewalks standard for areas with Walkable Places Designation.

Typology: Multimodal Thoroughfare (Reconstruction)

Typical Existing Condition, Figure 54

Four-lane undivided streets with high vehicle speeds, wide intersections and insufficient space for people walking or biking



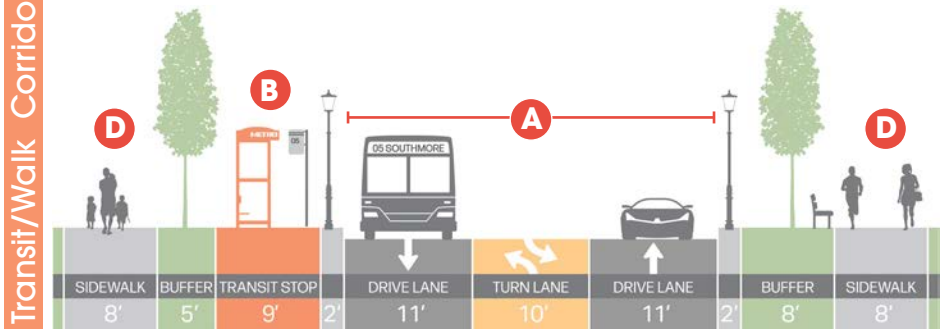
Multimodal Thoroughfares are critical spines in the Zone's network and serve all types of users – people walking, biking, riding transit, and driving – because they connect to nearby neighborhoods like East End, Downtown, and Third Ward. Reconstructing thoroughfares can expand mobility options for residents, visitors, and workers in East Downtown and better link the Zone to major destinations across the City.

Project Types Reconstruction Projects | Transit Enhancements

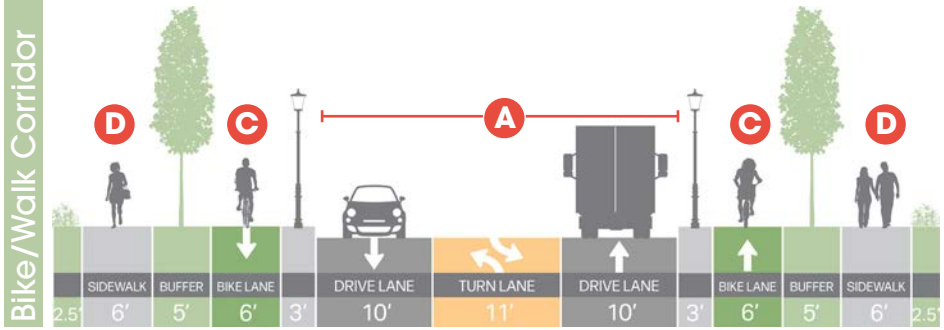
Precedent Bagby Street in Downtown Houston
Cleburne Street in Third Ward, Houston

Example Cross Sections, Figure 55

Transit/Walk Corridor



Bike/Walk Corridor



Design Considerations

A Thoroughfares in the Zone tend to have more travel lanes than needed for existing or expected vehicle volumes. Reconstructing the street creates an opportunity to design for community needs. For East Downtown, this can be accomplished with two vehicle travel lanes and a center turn lane.

B The additional width in the right-of-way can be reallocated to meet the specific needs of each street. For transit corridors, well-designed transit stops with upgraded amenities like benches, shade, and real-time information make riding transit safer and more comfortable.

C For reconstructed bikeway corridors, bike lanes (minimum 6-foot width) can be built behind the curb to separate people biking from high vehicle volumes and to reduce maintenance costs.

D For all reconstruction projects, the Zone can enhance the pedestrian realm behind the curb with designs that promote the walkability of East Downtown. This includes wide sidewalks, lighting, landscaping, and stormwater mitigation efforts like swales.

Typology: Multimodal Thoroughfare

The Multimodal Thoroughfares in the Zone include Emancipation Avenue and Congress Street, Leeland Street, McKinney Street, and Preston Street.

Emancipation Avenue & Congress Street

Emancipation Avenue and Congress Street should be designed as a Multimodal Thoroughfare that prioritizes transit movement and walkability. This project should include consideration of converting Congress Street to a two-way street within the TIRZ.

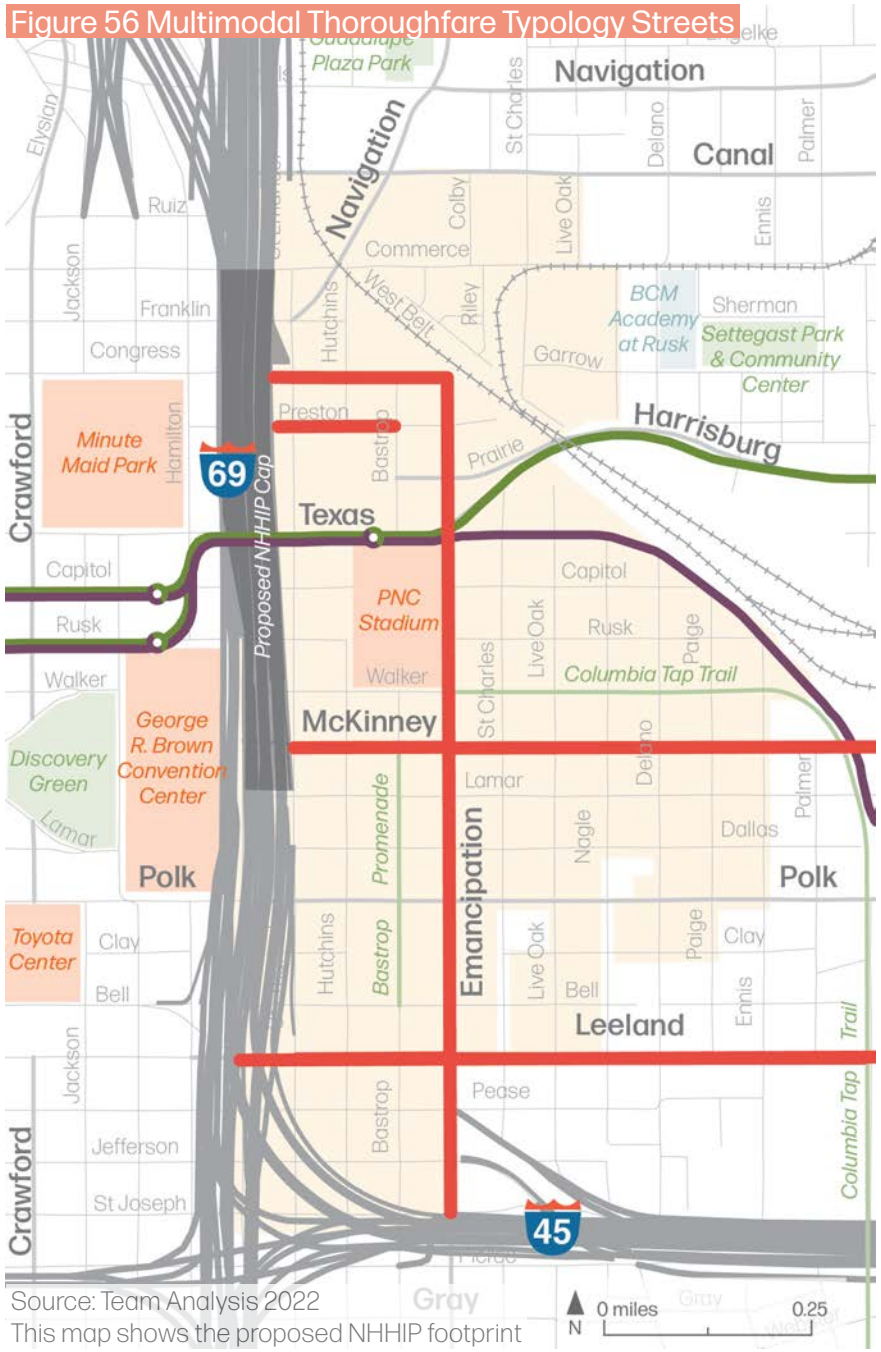
Leeland Street

A redesign of Leeland Street should consider the impact of the NHHIP with Leeland Street likely accommodating more traffic as Polk Street becomes disconnected. This will require reconstructing Leeland as a Multimodal Thoroughfare that includes enough space for a comfortable walking and biking experience. If the METRO Routes 40/41 are re-aligned along Leeland Street, the segment from Emancipation Avenue to St. Emanuel Street should be designed as a transit corridor as well.

McKinney Street

McKinney Street is the only project recommended as a Multimodal Thoroughfare rehabilitation. A redesign can reallocate vehicle travel lanes along the corridor to protected bike lanes that connect to the East End.

Figure 56 Multimodal Thoroughfare Typology Streets

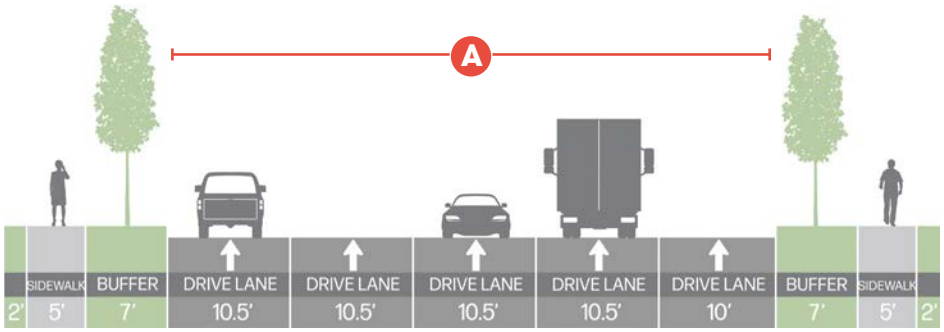


Source: Team Analysis 2022
This map shows the proposed NHHIP footprint

Typology: Downtown Gateway Streets

Typical Existing Condition, Figure 57

Five-lane one-way streets with high vehicle speeds and limited space for people walking and biking

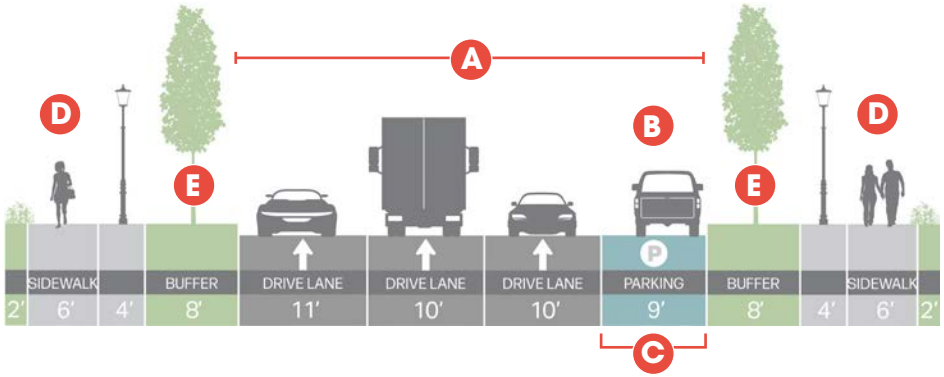


Downtown Gateway Streets offer a direct connection from IH-45 through East Downtown and into Downtown. In their current design, these streets have among the highest crash rates in the Zone due to high vehicle speeds and wide intersections that are difficult to cross. Reconstructing these streets can place a priority on safety and re-imagine the southern portion of the Zone as an extension of the walkable, destination-rich character of East Downtown.

Project Types Reconstruction Projects | NHHIP Impact Projects

Precedent Louisiana Street in southern Midtown, Houston

Example Cross Section, Figure 58



Design Considerations

A The Downtown Gateway Streets have five vehicle lanes, more than currently needed to support existing volumes. Reconstruction can reduce the number of travel lanes to two or three with targeted turn lanes as needed.

B Additional space from reducing vehicle lanes can be allocated to other uses of the curb like formalized/metered parking, dedicated drop-off or delivery space, landscaping, or other amenities like bike share stations.

C At intersections, curb extensions with landscaping can improve safety for people using the crossings.

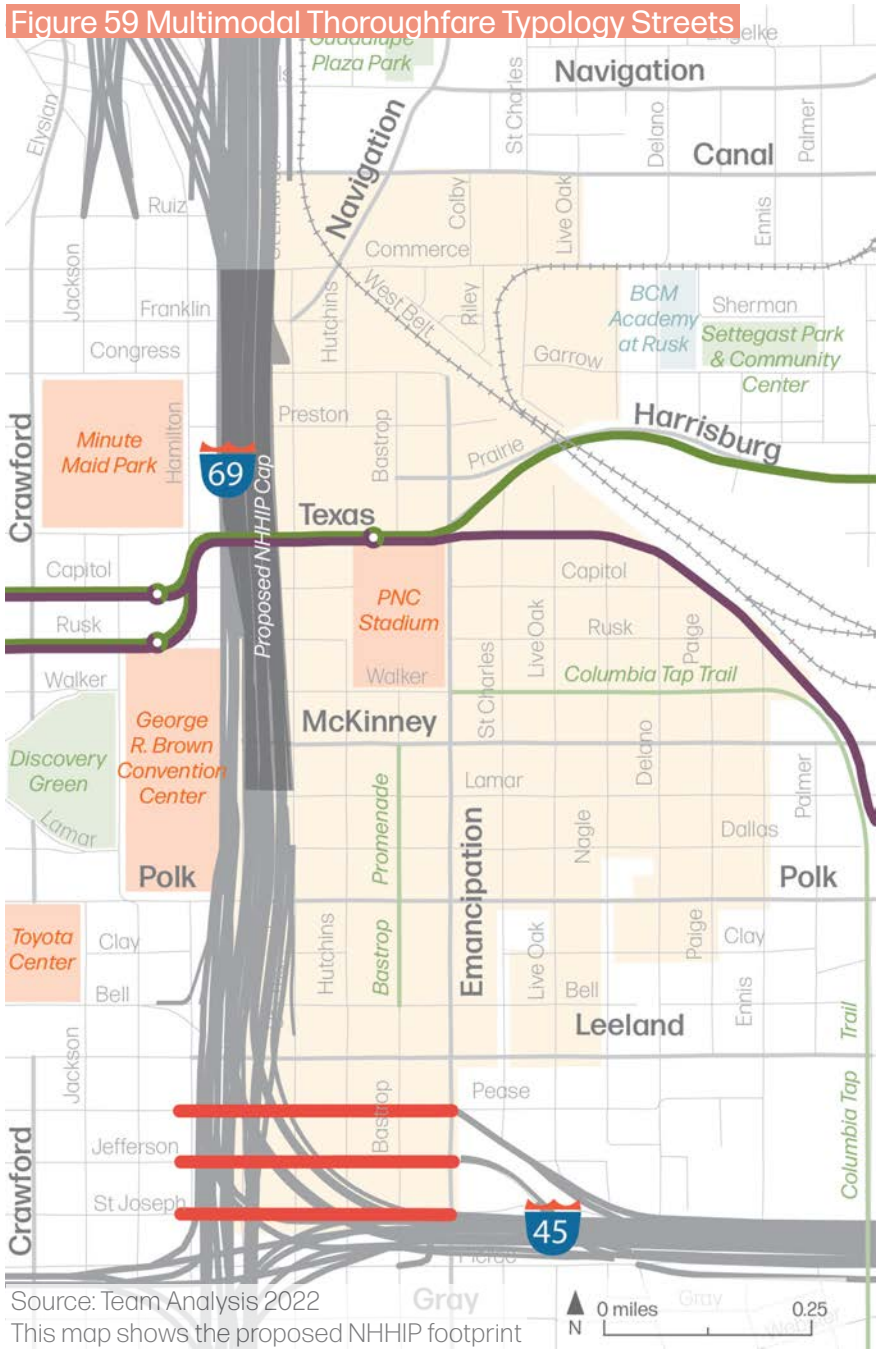
D Reconstruction should include building missing sidewalks and repairing poor-quality sidewalks and curb ramps. Six-foot wide sidewalks are preferred on busy roadways.

E Reconstruction may create additional green space in landscaped buffers to help with stormwater mitigation through with native plants and other low-impact development techniques like swales.

Typology: Downtown Gateway Streets

Downtown Gateway Streets are all located south of Leeland Street because they connect into IH-45. Pease Street, Jefferson Street, and St. Joseph Parkway can all be reconstructed by the TIRZ, partners, and/or TxDOT to encourage safe speeds and provide a welcoming and multimodal approach into and out of East Downtown. Similarly, the TIRZ should coordinate with TxDOT, the City of Houston, and TIRZ 7 to determine the appropriate design treatment for Pierce Street. The TIRZ should work with the City of Houston to signalize more intersections to create safe crossings and better integrate this portion of the Zone's network with the Downtown street grid.

Figure 59 Multimodal Thoroughfare Typology Streets

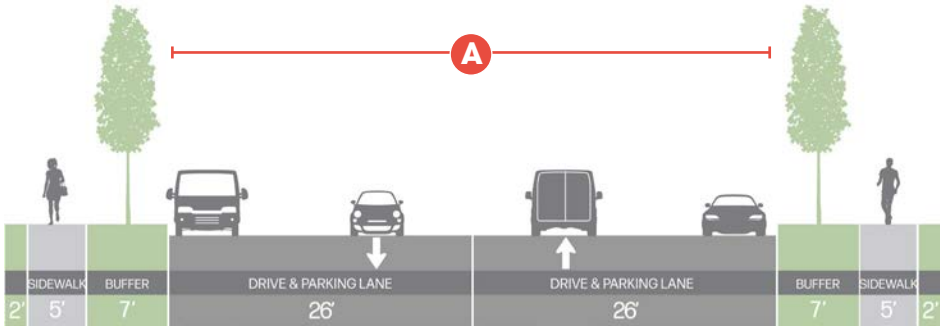


Source: Team Analysis 2022
This map shows the proposed NHHIP footprint

Typology: Neighborhood Spine

Typical Existing Condition, Figure 60

Wide, mostly residential streets with very low vehicle volumes and missing or poor-quality sidewalks

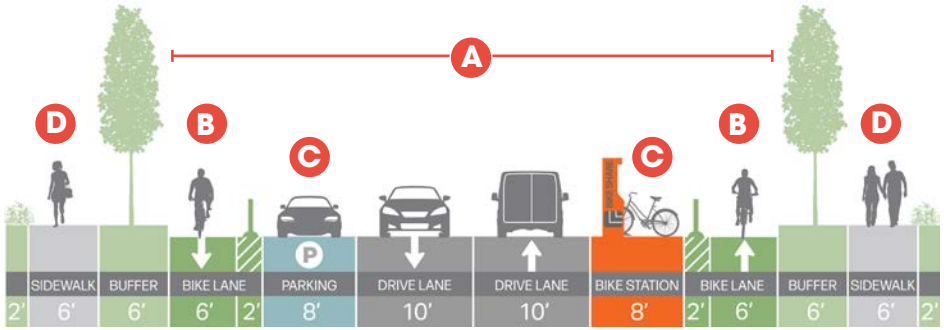


Neighborhood Spines provide high-comfort mobility options within the residential core of East Downtown. These mobility options include better sidewalks, bikeways, and safer street designs that connect to large parts of the Zone. These designs can also include amenities to serve residents

Project Types Multimodal Corridor Improvements

Precedent Austin Street in Midtown, Houston

Example Cross Section, Figure 61



Design Considerations

A Neighborhood Spine improvements take advantage of the overly-wide residential streets throughout East Downtown to reallocate space to serve people walking and biking in their neighborhoods. This includes designing vehicle lanes to meet City of Houston standards at ten feet.

B Right-sizing the vehicle travel lanes offers room for high-comfort bikeways. The protected bike lane shown in the example cross section includes a six-foot lane and a vertical barrier like pre-cast concrete curbs with flex posts.

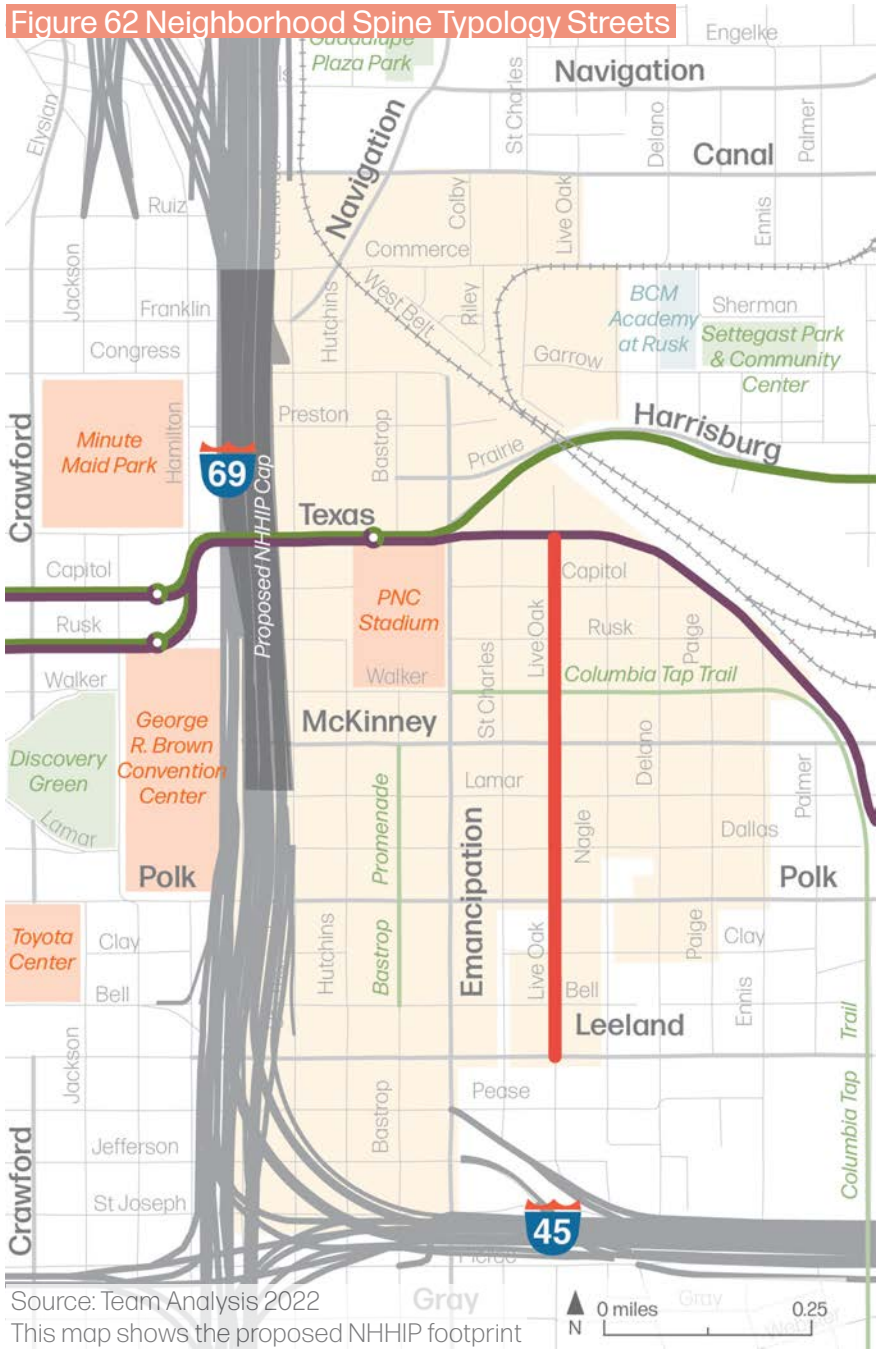
C These designs can make better use of curb space. Neighborhood Spines can include clearly marked parking, dedicated drop off and delivery areas, and other community amenities like bike share stations. Some of this additional space can be used for extra landscaping to help with stormwater mitigation.

D Projects should take the opportunity to build missing sidewalks and repair poor-quality sidewalks and curb ramps. Six-foot wide sidewalks are preferred.

Typology: Neighborhood Spine

Live Oak Street is the only project recommended as a Neighborhood Spine in this plan. Its extra-wide pavement has plenty of room to accommodate a protected bikeway, parking, and other amenities that serve the residential areas east of Emancipation Avenue. Future mobility planning for the TIRZ may identify other local streets that could fit in the Neighborhood Spine category.

Figure 62 Neighborhood Spine Typology Streets

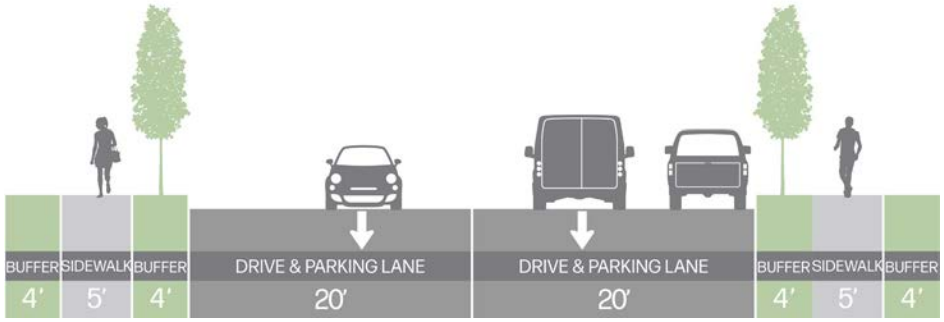


Source: Team Analysis 2022
This map shows the proposed NHHIP footprint

Typology: Neighborhood Slow Street

Typical Existing Condition, Figure 63

Wide, mostly residential streets with very low vehicle volumes and missing or poor-quality sidewalks



Neighborhood Slow Streets are designed with safe, responsible vehicle speeds in mind. Typically in residential areas, these streets can serve as gathering places for neighbors. Activities like walking a dog, gardening, learning to ride a bike for the first time, pick up basketball games, and others take place on Neighborhood Slow Streets.

Project Types Multimodal Corridor Improvements

Precedent Woodhead Street in Montrose, Houston

Example Design Components, Figure 64

Design Considerations

A. A main principle of Neighborhood Slow Street design is to encourage responsible vehicle speeds. Speed cushions, chicanes, and curb extensions at intersections are all great strategies that help remind drivers stay within the speed limit.

B. Designs should include clear signage indicating that bikes share the road with cars. This can include "sharrows" painted on streets to alert drivers to the presence of people biking.

C. Projects should take the opportunity to build missing sidewalks and repair poor-quality sidewalks and curb ramps. Six-foot wide sidewalks are the standard in areas with Walkable Places designation.

D. Where useful, landscaping with native plans and amenities like bicycle parking can add to quality of life for residents using the Neighborhood Slow Streets.

Typology: Neighborhood Slow Street

Neighborhood Slow Streets in the Zone are located across the Zone and can foster more comfortable walking and biking environments for residents.

Hutchins Street

Hutchins Street south of Leeland Street can be rehabilitated to repair sidewalks and re-design the intersections with Pease Street, Jefferson Street and St. Joseph Parkway to have shorter, clearly marked, and safer crossings.

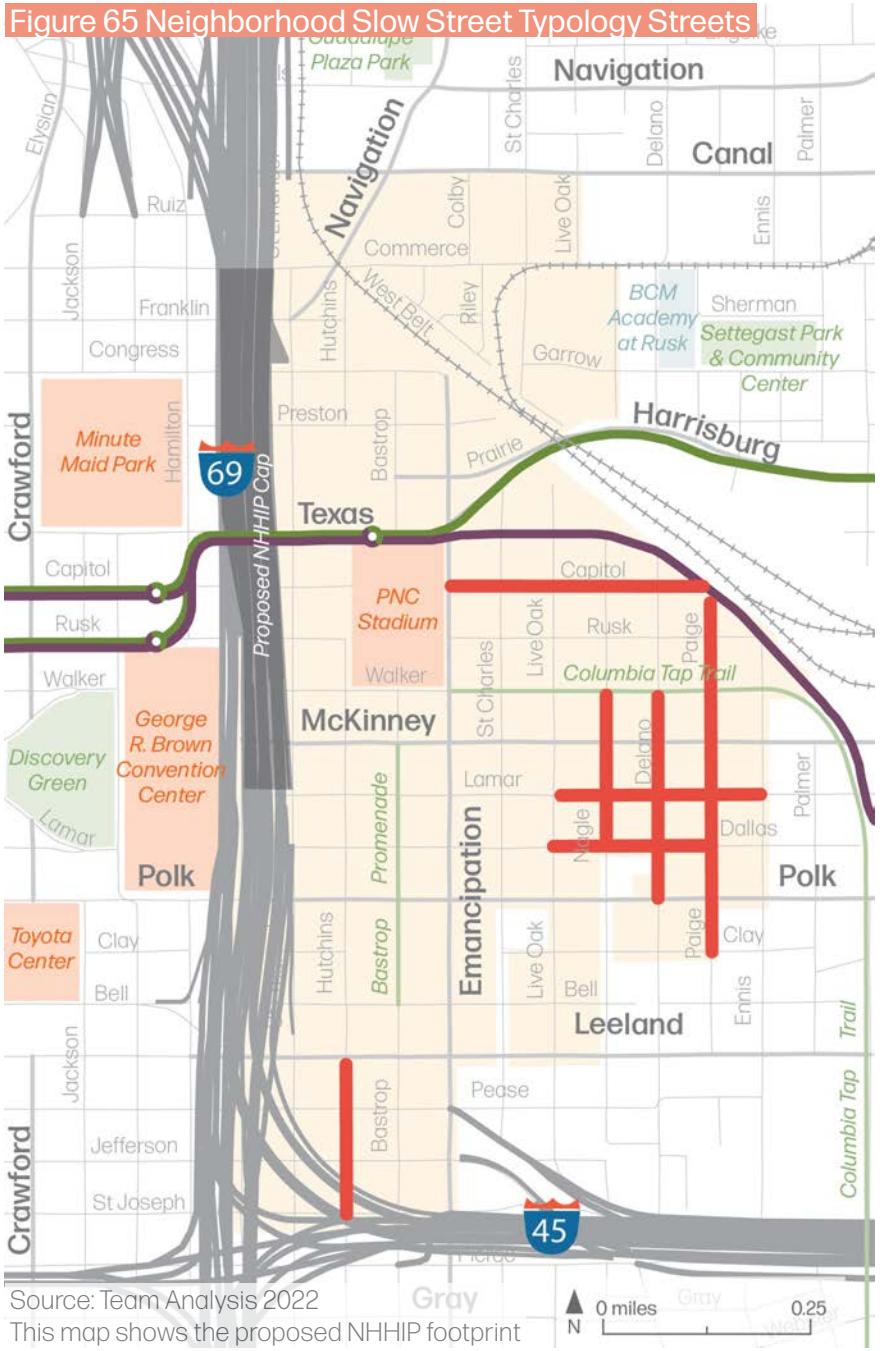
Eastern Zone Safety & Crossing Improvements

This project is located in a part of the Zone with many missing or poor-quality sidewalks. Improvements on this set of streets should include safer crossings, sidewalk repairs, and new sidewalks.

Capitol Street & Paige Street

Both of these streets will help connect the neighborhood to the recommended new METRORail Purple Line station. A rehabilitation should include safe crossing designs that make walking and biking more comfortable, and repair and replacement of sidewalks to ensure high-quality connections to transit.

Figure 65 Neighborhood Slow Street Typology Streets



Source: Team Analysis 2022
This map shows the proposed NHHIP footprint

Typology: Neighborhood Slow Streets

Designing for Safety

Neighborhood Slow Street designs can incorporate a variety of design components and strategies along the streets and at crossings and intersections. The diagram below outlines a range of design components that the TIRZ could deploy for any Neighborhood Slow Street rehabilitation project.

A **Marked Crosswalks** add visibility for people walking through an intersection and can be applied where Neighborhood Slow Streets intersect with higher volume streets or near major destinations that produce a lot of foot traffic like schools.

B **Curb Extensions**, shorten the crossing distance for people walking across an intersection, reducing their exposure to vehicle traffic. Paint, pre-cast concrete curbs, and flex posts can be used to create effective low-cost curb extensions on these streets.

C **Mini Traffic Circles** encourage responsible speeds for vehicles and can add to the character of a neighborhood if they are used for native plant landscaping.

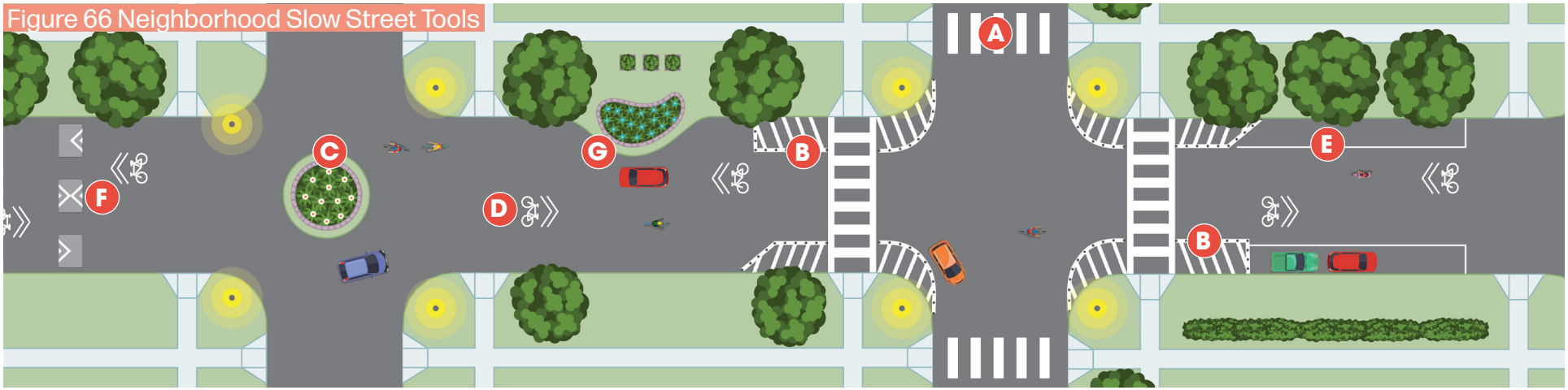
D **Bike Sharrows** encourage safer speeds by alerting drivers to the presence of people biking on the street.

E **Marked Parking** helps delineate which parts of the road are intended for vehicle travel versus parking and visually narrows the roadway to encourage slower speeds.

F **Speed Cushions** encourage drivers to use responsible speeds when traveling through a neighborhood and allow bicyclists to navigate between them.

G **Chicanes & Gateways** reconstruct the curb line to extend it into the street. This narrows the width of the street to encourage slower speeds and can create space for landscaping.

Figure 66 Neighborhood Slow Street Tools



Designing Safe Crossings for All Streets

Figure 67 Intersection Tools

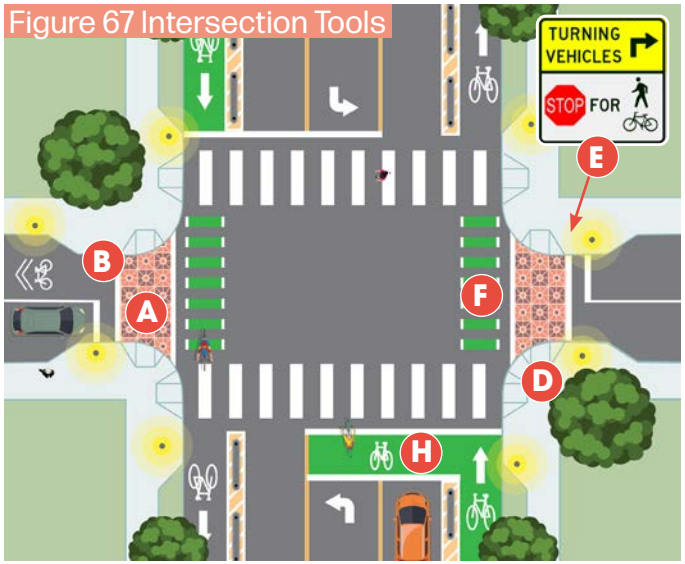
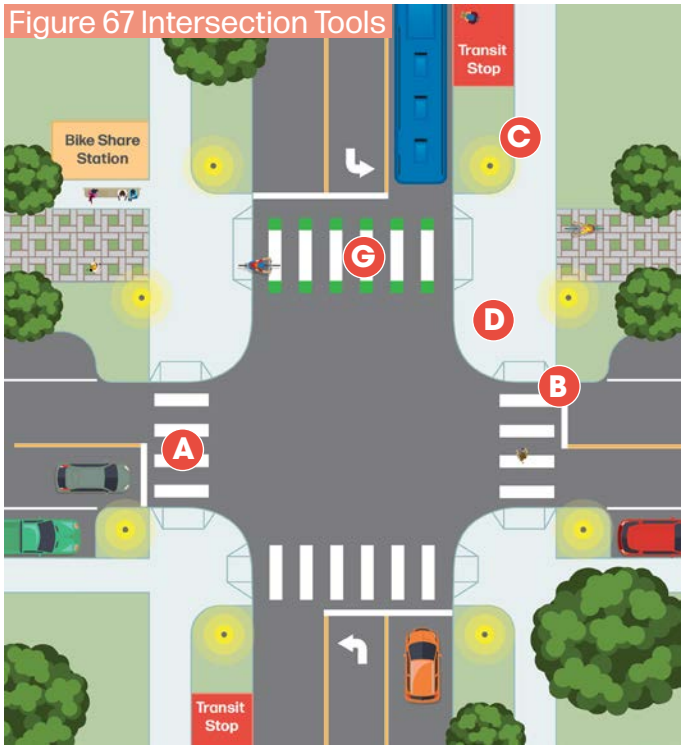


Figure 67 Intersection Tools



East Downtown's street network can only be multimodal if intersections and crossings are designed with safety of all users in mind. Design treatments at intersections and crossings will differ depending on the context of the crossing , including typologies of intersecting streets, whether the intersection is signalized, and other factors.

In general, safe crossings (1) ensure that all users are visible as they approach and cross through the intersection, (2) clearly communicate to all users where and when to cross, and (3) encourage slow speeds as people approach the intersection. The following design elements contribute to safe design and should be applied by the TIRZ where appropriate.

A **Marked Crosswalks** add visibility for people walking through an intersection and can be painted or built with special pavement to add visibility and character.

B **Curb Extensions**, sometimes called bulb-outs, shorten the crossing distance for people walking across an intersection, reducing their exposure to vehicle traffic.

C **Lighting** at crossings and intersections makes it easier for people walking, biking, and driving to be seen at dawn, dusk, and night.

D **Directional Curb Ramps** make intersections more easily navigated for people with mobility challenges – such as people using wheelchairs or with limited sight.

E **Signage** alerts drivers and communicates when to stop or yield to people walking or biking through an intersection.

F **Bikeway Conflict Markings**, like crosswalks add visibility for people biking through and intersection and give drivers a visual cue to expect people biking on the street.

G **Trail Conflict Markings** function like marked crosswalks but are typically wider and include green tips to indicate that both pedestrians and bicyclists may be crossing.

H **Bike Boxes** dedicate space for bicyclists to wait before making a left turn from a protected bikeway. Drivers are expected to stop behind the bike boxes to allow sufficient room for people to position their bikes for a turn.

Prioritizing Projects

Strategic Approach to Implementation

Designing and building a comprehensive multimodal network will require a careful approach to prioritizing projects. The TIRZ will need to develop a strategy for incorporating recommended projects into their CIP for implementation over time. Major factors influencing project prioritization and selection are feasible project timelines (phasing), partnerships for implementation, and the approach to funding sources.

This section outlines considerations for each of these three factors and provides general priorities for the recommended projects.

Phasing Considerations

Project sequence can be impacted by a variety of factors including available budget, other project timelines, or community and TIRZ Board input about the importance of specific projects.

Partnership Considerations

The TIRZ can partner with several agencies on any given project. Partnerships will depend on the project type, location, and availability of resources from the TIRZ and the partner.

Funding Considerations

The TIRZ can pursue creative funding strategies for projects, including their own CIP, partnerships, state and federal grants, or a mix of all three. Funding considerations for each project may depend on the size of the budget, project type, and funding timelines.

Phasing Considerations

Prioritizing Community Input

Community input is key for identifying project priorities in the TIRZ because support of residents and businesses can add urgency to project design and construction.

The community shared their priority streets for project improvements in the Recommendations Survey. Based on their answers, the priority streets include:

Walkability Improvement Priorities

Emancipation Avenue, McKinney Street, Polk Street, Commerce Street

Bikeway Improvement Priorities

McKinney Street, Polk Street, Commerce Street, Leeland Street

Transit Improvement Priorities

Emancipation Avenue Transit Corridor, METRO 40/41 Connectivity

Preparing for NHHIP

NHHIP will have significant influence on East Downtown during construction and once the project is finished. Projects may be impacted by NHHIP in three ways:

Part of NHHIP

Several streets will be reconstructed as part of NHHIP and their phasing will depend on TxDOT's construction schedule for the project.

Preparation for NHHIP

Some projects will help the TIRZ prepare for NHHIP by improving key connections to surrounding areas that will become important links for East Downtown during project construction.

Intersect NHHIP

Projects that connect to NHHIP in some way but are not part of the project itself. Final project design and extent will need to consider impacts from NHHIP construction and implementation.

Expand on Existing Strengths

Where possible, the TIRZ should build on its existing and programmed projects to magnify the impact of recent investments. This may be extending improvements of an existing street or building a project that links current projects.

Although all projects will ultimately connect to create a full network, these streets can play an early role in building the framework for that network.

The Implementation Table on page 92 outlines the Phasing Considerations for each project.

Partnership Considerations

Piecing It Together

The TIRZ can leverage partnership to maximize the impact of its CIP. Many local agencies that fund and build mobility projects share similar values found in the TIRZ's Mobility Opportunities and its broad goal to create a fully-connected, multimodal network. The TIRZ can work with partners to identify where project priorities align and stitch together a funding, design, and construction strategy that relies on the strengths of each agency.

Where the TIRZ Can Support

For some projects, the TIRZ is in a better position to support project implementation. This is particularly true with Transit Enhancements and NHHIP Impact Projects where the TIRZ is relying on METRO and TxDOT for implementing a new service or constructing a project.

Transit Projects

For transit projects, the TIRZ can support METRO by collaborating on street design and implementation that supports high-quality transit service.

NHHIP

For the NHHIP project, the TIRZ can coordinate efforts to cultivate alignment and proactive engagement with TxDOT by sharing community input and priorities about street design. The TIRZ can work with other local agenies to ensure that the project promotes connectivity and safety and that businesses, residents, and land owners are informed and engaged with the project.

Key Priorities for Others

The TIRZ may also play a supportive role when a project is a major priority by another agency or when a project has only a small segment inside the TIRZ such as Commerce Street.

Where the TIRZ Can Lead

The TIRZ should play a lead role in implementing many of the recommended projects. Leading a project will require convening partners, facilitating conversations about project roles, and ensuring that the project progresses. The TIRZ will typically take a lead on projects that are entirely or mostly within the Zone.

The Implementation Table on page 92 outlines the Partnership Considerations for each project.

Funding

Local Funding

TIRZ CIP Funds

The CIP is the TIRZ's most important funding tool. With bonding authority, the TIRZ is able to schedule out key mobility investments in the CIP. The TIRZ should pace large investments so as not to over commit funding in any given year.

The TIRZ has more flexibility with CIP funds and should deploy them when it makes sense for funding a full project. However, CIP dollars can also be used as leverage for state and federal grants that may require a certain amount of local match to be eligible.

H-GAC TIP Funds

The TIRZ can also apply for Transportation Improvement Program funds from the Houston-Galveston Area Council (H-GAC). Applications for these funds take place every two years and require a 20% local match for the cost of the project. Ideal projects for these funds are ones that can demonstrate clear safety, emissions, and congestion benefits.

State Funding

TxDOT conducts annual calls for local mobility projects. The TIRZ can take advantage of Highway Safety Improvement Program (HSIP) dollars for safety improvements on local streets. The City of Houston has recent experience with HSIP funds and is a logical TIRZ partner for collaboration.

Additional state funds are occasionally available for active transportation projects in large urban areas. The recent Infrastructure Investment and Jobs Act (IIJA) has also expanded the amount of mobility project dollars available for state-level grant programs.

Federal Funding

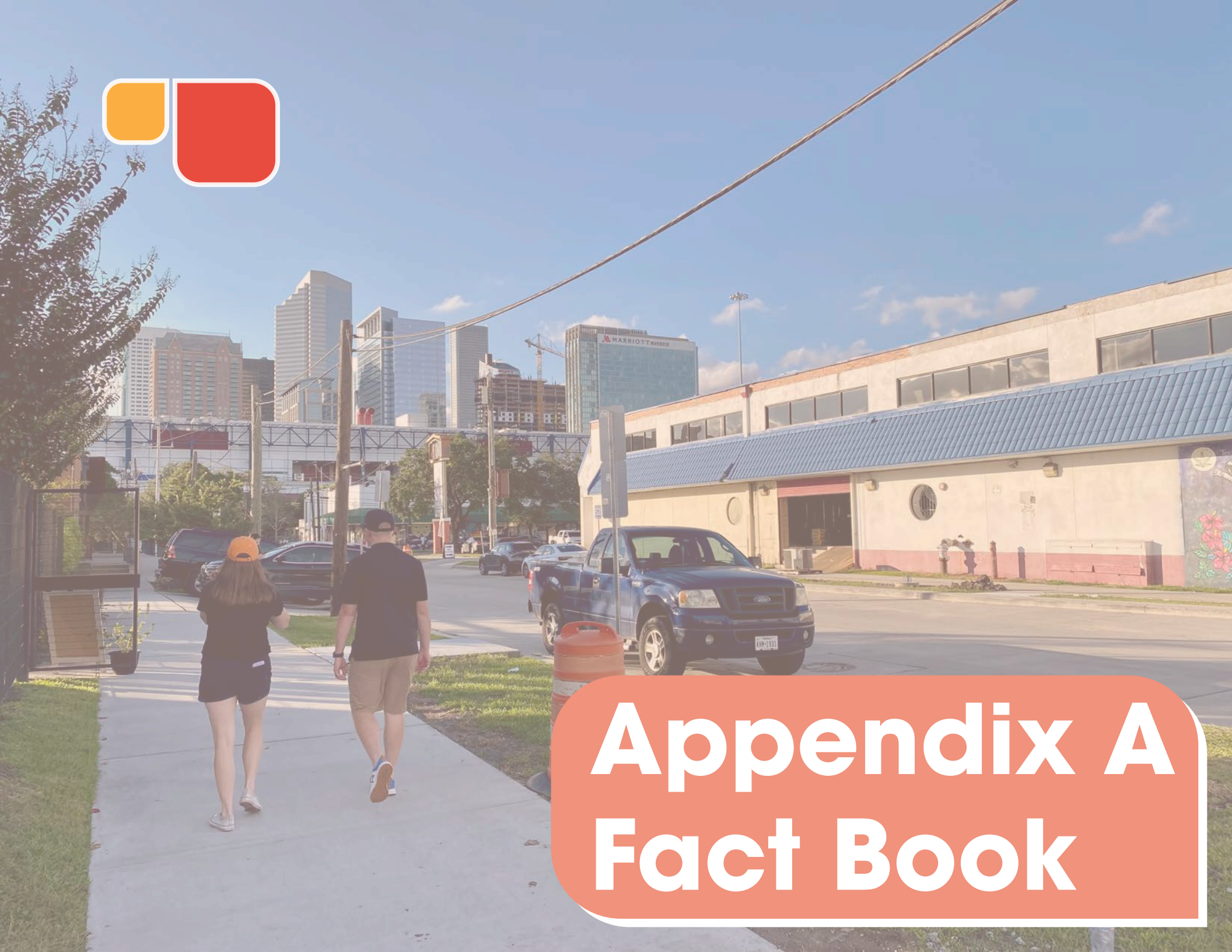
Federal funds are available for large projects that can demonstrate clear, out-sized benefits to the community. Projects with important transit, active transportation, and safety components are often competitive for federal funding.

The IIJA expanded existing federal funds and created new federal mobility grants like the Safe Streets for All program. The TIRZ should strategize to identify which projects could be eligible for the various federal grant buckets.

The Implementation Table on page 92 outlines the Funding Considerations for each project.

Implementation Table

		Project Name	Phasing Considerations: Community Priorities: Walkability	Community Priorities: Bikeways	Community Priorities: Transit	NHHIP Impacts: Part of NHHIP	NHHIP Impacts: Prep for NHHIP	NHHIP Impacts: Intersects NHHIP	Expand Network	Potential Partners
Reconstruction Projects	R1	Commerce Street Reconstruction	■	■				■		East End District, Harris County Precinct 2, TIRZ 23, Downtown District, City of Houston
	R2	Bastrop Promenade North Extension						■	■	METRO, East End District, TxDOT, City of Houston, Harris County Precinct One
	R3	Eastern Zone Safety & Crossing Improvements								City of Houston, Harris County Precinct One
	R4	Leeland Street Reconstruction		■				■	■	METRO, TIRZ 23, City of Houston, Harris County Precinct One, Downtown District
	R5	Bastrop Promenade & Southern Zone Safety Improvements					■	■	■	TIRZ 7, TxDOT, City of Houston, Harris County Precinct One
Multimodal Corridor Improvements	M1	McKinney Street Improvements	■	■					■	TIRZ 23, City of Houston, Harris County Precinct One
	M2	Hutchins Street & Southern Zone Safety Improvements					■	■	■	TIRZ 7, TxDOT, City of Houston, Harris County Precinct One
	M3	Live Oak Street Improvements								City of Houston, Harris County Precinct One
Transit Enhancements	T1	Emancipation Avenue Transit Corridor	■		■			■		METRO, City of Houston, Harris County Precinct One, TIRZ 7, East Downtown Mgmt. District, Downtown District
	T2	Purple Line Station & Connectivity			■					METRO, City of Houston, Harris County Precinct One, East Downtown Management District
	T3	METRO 40/41 Connectivity			■	■		■		METRO, City of Houston, Harris County Precinct One, East Downtown Management District, Downtown District



Appendix A
Fact Book

Fact Book Contents

The TIRZ 15 Mobility Plan Fact Book gathers existing demographic and mobility data together to establish a baseline set of conditions for the study area. The chapter is divided into five sections, each answering a question to inform the plan and ultimate recommendations.

Fact Book Section	Page (click to visit page)
What is the Study Area?	**4**
Who uses the East Downtown mobility network?	**10**
Where are people going and how do they get there?	**14**
What is the state of the mobility network?	**17**
What mobility projects are underway or planned?	**49**

Case for Action Insights

The information gathered from the Fact Book's demographic and mobility analysis culminates in a Case for Action.

The Case for Action is split into five distinct categories with insight statements that highlight the key mobility challenges and opportunities facing the TIRZ. The five categories are Streets & Safety, Walkability & Sidewalks, Bikeway Connectivity, Transit Access, and NHHIP Impacts. These insights will be used to inform the plan's strategies and recommendations.

Streets & Safety, page 18

The Zone has a **strong street grid** that can support a range of mobility network improvements.

Many corridors in the Zone have **excess roadway pavement width** that can be reallocated to expand mobility opportunities to uses like safer walking and biking, or streetscape improvements.

Crashes in the Zone occur predominately on **wide, high-speed streets** and intersections of two wide streets.

Walkability & Sidewalks, page 29

The TIRZ has had a **positive impact on safety for people walking in the Zone's central core** but some sidewalk gaps and inaccessible intersections remain.

Beyond the walkable core, connections to Downtown and other neighborhoods are difficult due to **wide, fast streets with limited safe crossing locations** and limited crossing points of the West Belt Subdivision freight rail line.

Bikeway Connectivity, page 37

The Zone **lacks a connected network** of high-comfort bikeways serving many destinations, especially for north-south connections to Third Ward, the East End, or Buffalo Bayou.

The Zone is **crossed by some high-comfort bikeway corridors** that can be improved.

Transit Access, page 40

Though served by two METRORail lines and a high-frequency bus corridor, **the Zone lacks north-south transit access** and pockets of the area are isolated from METRO service.

NHHIP Impacts, page 44

The North Houston Highway Improvement Project will have **profound impacts on mobility and land use** in the Zone by changing the design and context of major streets and altering connectivity across IH-69 & IH-45.

What is the study area?

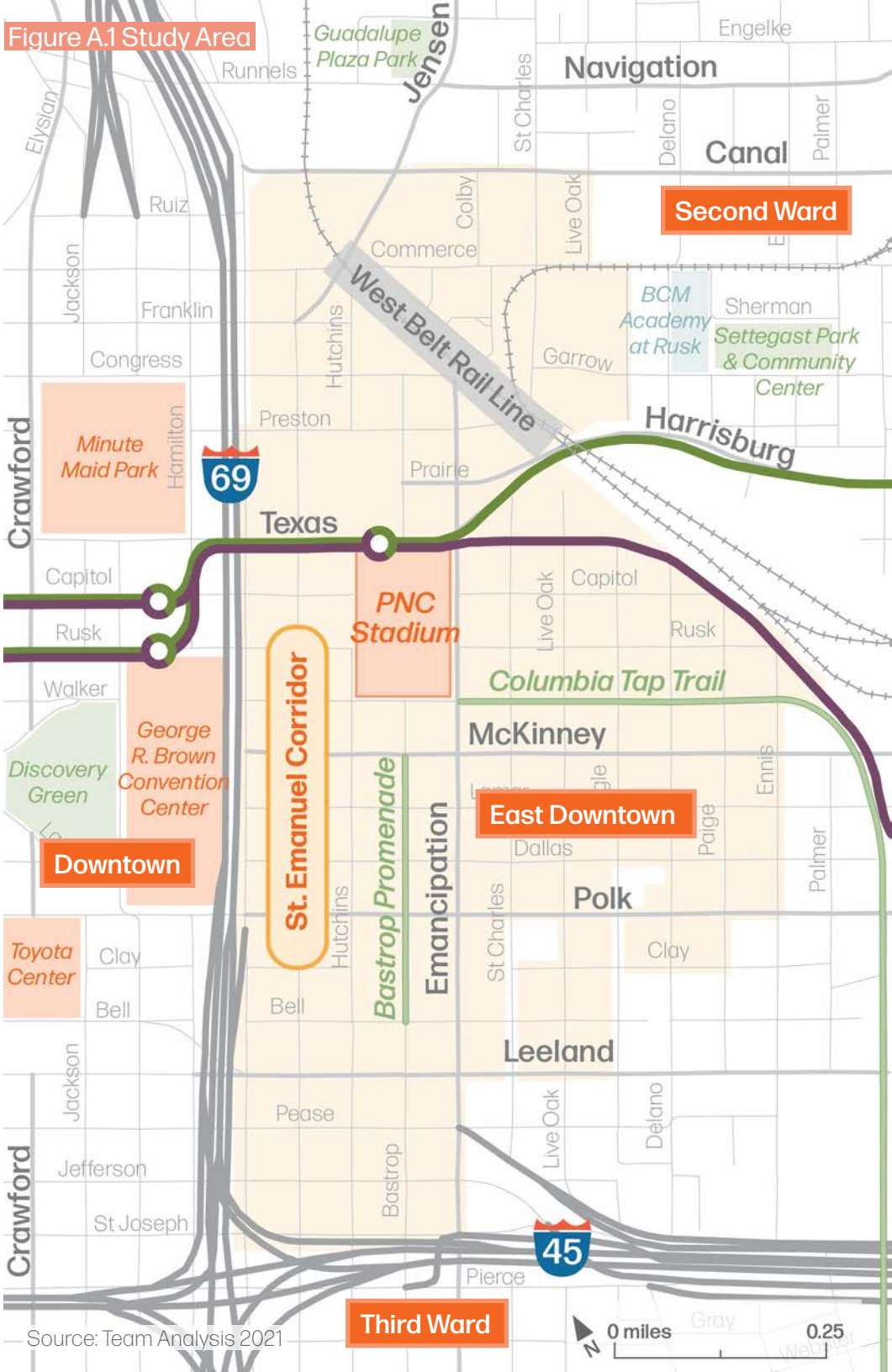
The Study Area

The study area (the Zone) is defined by the boundaries of TIRZ 15 and is located in the heart of the City of Houston, adjacent to Downtown, (see Figure A.1). The area is part of a historic industrial neighborhood due to its proximity to the Houston Ship Channel and Downtown. In recent years, many of the older industrial lots have been converted to residential development and a growing entertainment hub composed of PNC Stadium, multiple concert venues and breweries, and popular bars and restaurants, particularly along St. Emanuel Street.

Vibrant neighborhoods like Downtown, Second Ward, Third Ward, and Midtown all border the Zone and connect to its street grid. Although these neighborhoods are close, the Zone is surrounded by barriers like IH-69/US-59, IH-45, and the West Belt Rail Line.

Aside from these barriers, the Zone enjoys an intact street grid that allows great connectivity within the study area. The METRORail Purple and Green Lines cross the heart of the Zone near PNC Stadium and popular bikeways along the Columbia Tap Trail and Polk Street offer high-comfort routes to bike east-west within the Zone.

Figure A.1 Study Area



School
Park
Major Destinations
METRORail Lines & Stations
Freight Rail Lines
TIRZ Boundaries

Source: Team Analysis 2021

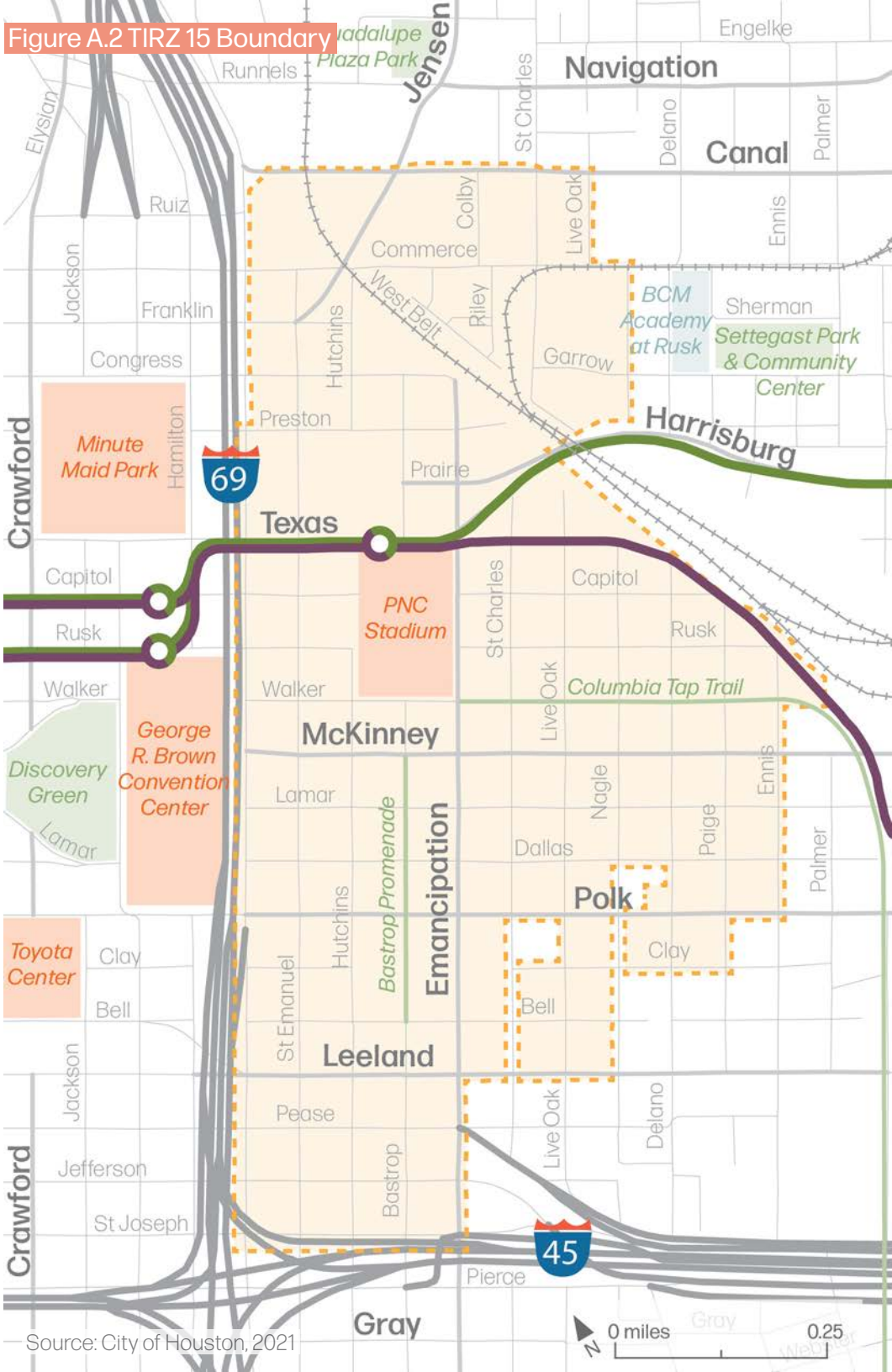
The East Downtown Redevelopment Authority

The City of Houston created the East Downtown Redevelopment Authority (EDRA) in 1999 to invest in mobility, drainage, and utility projects that encourage redevelopment in the East Downtown neighborhood. The EDRA, also known as TIRZ 15, established a set of goals for their investments that include building "pedestrian-friendly environments" and "complementing revitalization activities along METRO corridors" among other mobility priorities.

What is a TIRZ?

The EDRA is a **Tax Increment Reinvestment Zone**, or TIRZ. TIRZs use the increase in tax revenue from rising property values to pay for infrastructure improvements like **mobility and drainage projects**. These projects are intended to **spur additional private development** within the TIRZ boundaries. Since the EDRA was the 15th TIRZ created by the City of Houston, it is also known as TIRZ 15.

Figure A.2 TIRZ 15 Boundary



School
Park
Major Destinations
METRORail Lines & Stations
Freight Rail Lines
TIRZ Boundaries

Source: City of Houston, 2021

Neighbors & Partners

Harris County Precincts

The TIRZ 15 boundaries straddle Harris County Precinct 1 (Commissioner Rodney Ellis) and Precinct 2 (Commissioner Adrian Garcia). The Precincts have capital funds for mobiltiy project and may partner with the TIRZ on projects where goals align. Both commissioners have demonstrated commitments to improving mobility for all users, such as in Precinct 2's East End Bike Plan.

Houston City Council Districts

TIRZ 15 is located mostly within City of Houston Council District I (Councilmember Robert Gallegos) with a small portion in Distrct H (Councilmember Karla Cisneros). Directly south of the TIRZ 15 boundary is District D (Councilmember Carolyn Evans-Shabazz). In addition, TIRZ 15 can coordinate with City Council At-Large representatives to build synergy and momentum for projects in the Zone.

Management Districts

Most of TIRZ 15 is located within the East Downtown (or EaDo) Management District boundaries; the northern portion of the TIRZ is in the East End District. The TIRZ coordinates with both entities to support economic development and quality of life investments in the Zone. Unlike the TIRZ, the management districts are able to pay for infrastructure maintenance for projects constructed by the TIRZ or others.

Source: City of Houston, Harris County, 2021

History of East Downtown

East Downtown has played a prominent role in the history and growth of Houston since its founding. The neighborhood sits between Downtown and the Houston Ship Channel and was an early hub of industrial activity as the City became a key southern trading port.

In its early days, ship repair and maintenance facilities, textile factories, and cement manufacturers set up shop in East Downtown. In the early 1850s, a boom of railroad construction connected the industry of East Downtown to Galveston's port and rural farmlands to the west.

As industry thrived in Houston so did East Downtown. By the 1930s bakeries, restaurants, and other local shops were serving a growing Cantonese population that established roots in the neighborhood. TxDOT constructed IH-45 along the southern border of East Downtown in the early 1970s and the area remained Houston's Asiatown until the 1980s when most of the area's Chinese and Vietnamese businesses and institutions moved out to Bellaire Boulevard.

Remanants of East Downtown's industrial and Asiatown history remain, but large warehouses and tracts of vacant land have been recently converted to entertainment venues, breweries, and new housing.

Former Schlumberger headquarters in East Downtown; Source: David Denenberg


East end of the Buffalo Bayou turning basin in 1898; Source: J. W. Hill/Houston Chronicle

Gulf Freeway in construction through East Downtown, 1955; Source: Houston Chronicle

Mobility over the Years

Gridded Streets 1836

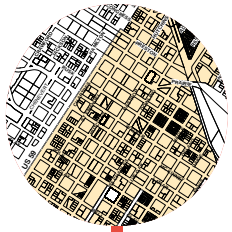
Gail Borden designs Houston's streets at 80' wide, with the first east to west street known as Texas Avenue

Houston constructed its first railroad known as the Buffalo Bayou, Brazos and Colorado Railway (B.B.B. & C)

1853 Rail Construction

Highways 1961

East Downtown's border highway (US-59/IH-69) was completed in 1961; IH-45 was completed in 1971



The City of Houston votes to create TIRZ 15 as a tax increment reinvestment zone for the East Downtown neighborhood

1999 TIRZ 15 Created

Columbia Tap Trail 2009

City of Houston built the Columbia Tap Trail in the alignment of the former Houston Tap & Brazoria Railway, connecting the Zone to Third Ward

The City of Houston and Houston Dynamo FC completed the construction of the soccer stadium, solidifying East Downtown as an entertainment hub

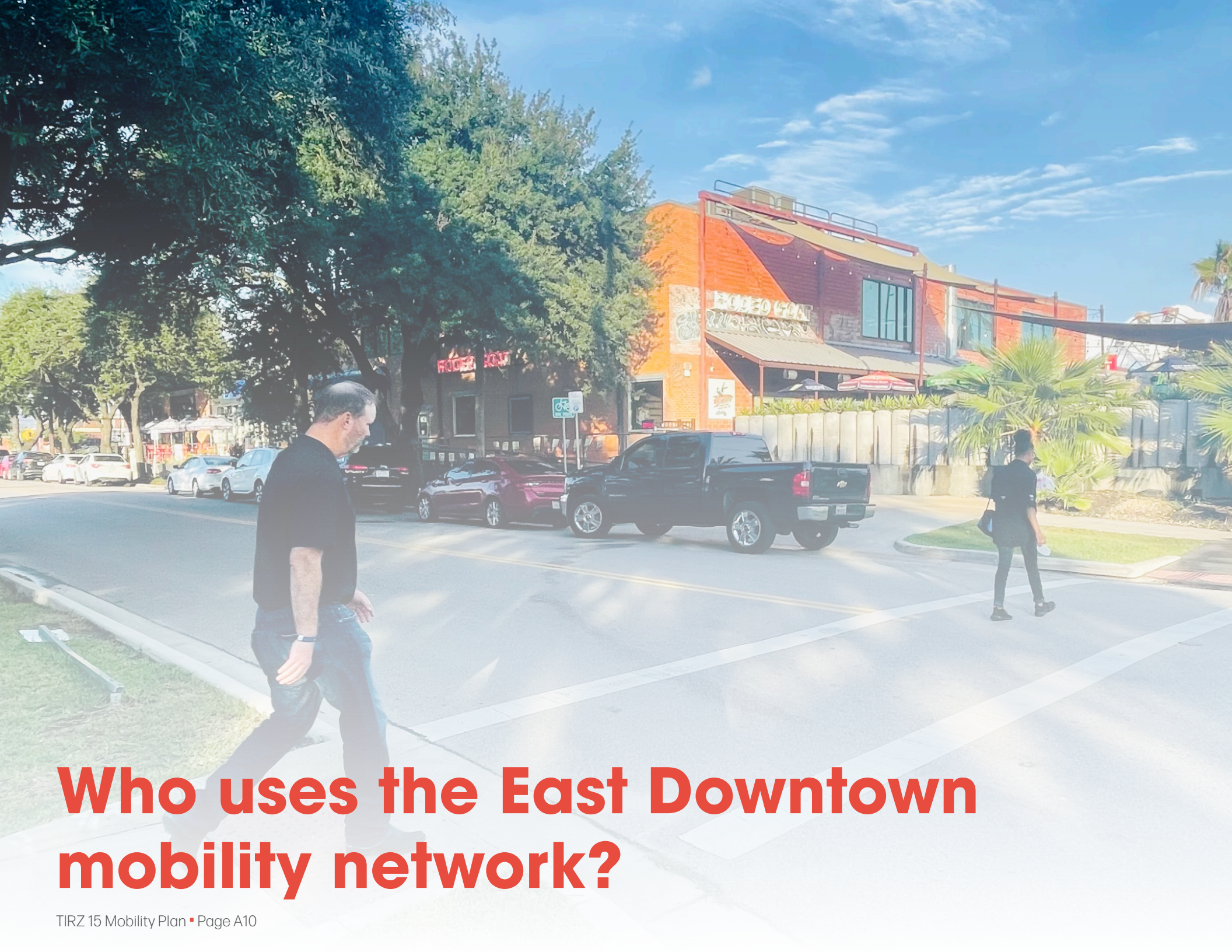
2012 PNC Stadium

Bastrop Promenade 2013

The TIRZ built the first pieces of the Bastrop Promenade along a former San Antonio & Aransas Pass rail line in the heart of East Downtown

The Green and Purple METRORail lines first ran on May 23, 2015, serving East Downtown with one station

2015 METRORail Lines



Who uses the East Downtown mobility network?

Demographics

Age

Compared to Harris County as a whole, East Downtown* has a much lower percentage of children under the age of 18. This is counterbalanced by a greater share of residents ages 25-39.

Households in Poverty

The poverty rate in the study area is 50% higher than the average in Harris County.

Means of Transportation

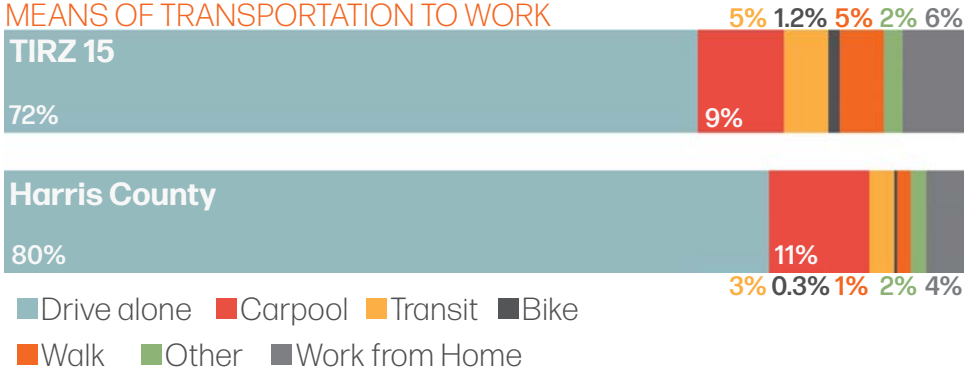
Compared to the County at large, a larger share of commutes in the Zone are multimodal. A higher percentage of people in the Zone take transit, walk, and bike to work than in the County, indicating a demand for safety and connectivity for all modes.

Travel Time

Nearly half of residents in the Zone take less than 20 minutes to get to work compared to only one-third in the County as a whole. This is due, in part, to the Zone's proximity to major employment centers, particularly Downtown. Shorter overall commute times present opportunities for workers to walk, bike, or take transit to work.

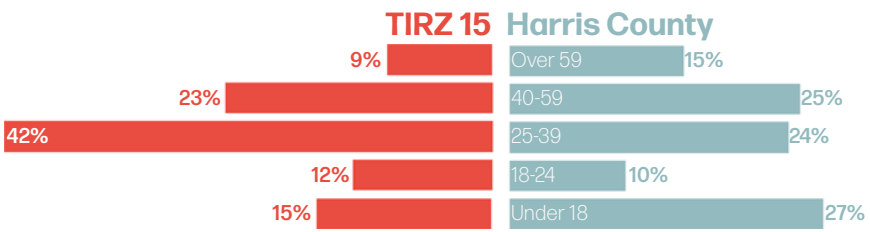
*Census data for the Zone does not align perfectly with Zone boundaries and includes sections north of Canal Street to Buffalo Bayou and east of Ennis Street to Drennan Street and Milby Street (Census Tracts 3101 and 3102).

MEANS OF TRANSPORTATION TO WORK

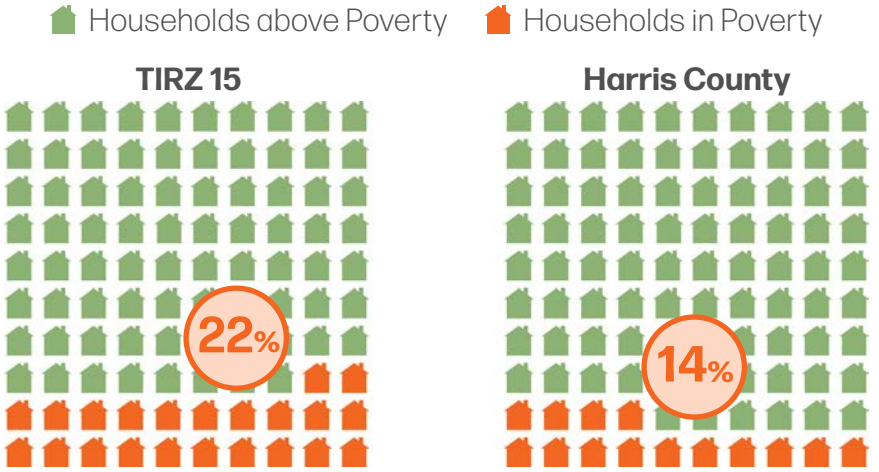


Source: U.S. Census Bureau American Community Survey 2015-2019

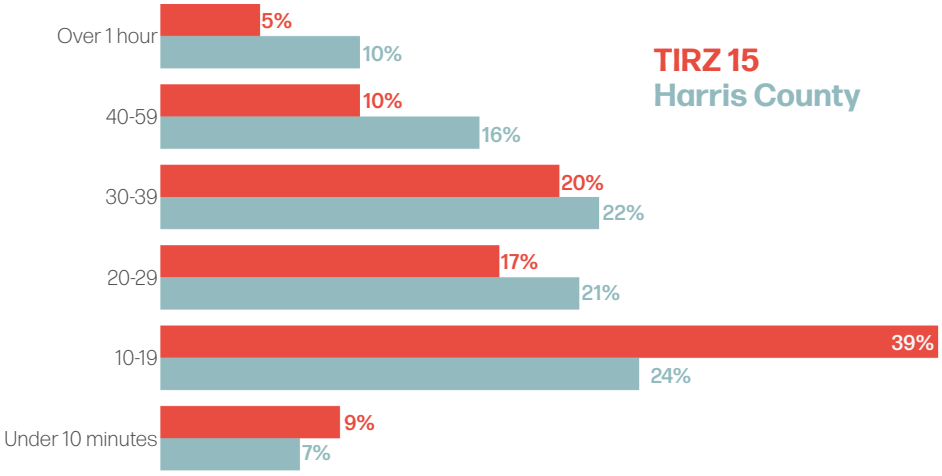
RESIDENT AGE



HOUSEHOLDS IN POVERTY



TRAVEL TIME TO WORK



Population Density Today

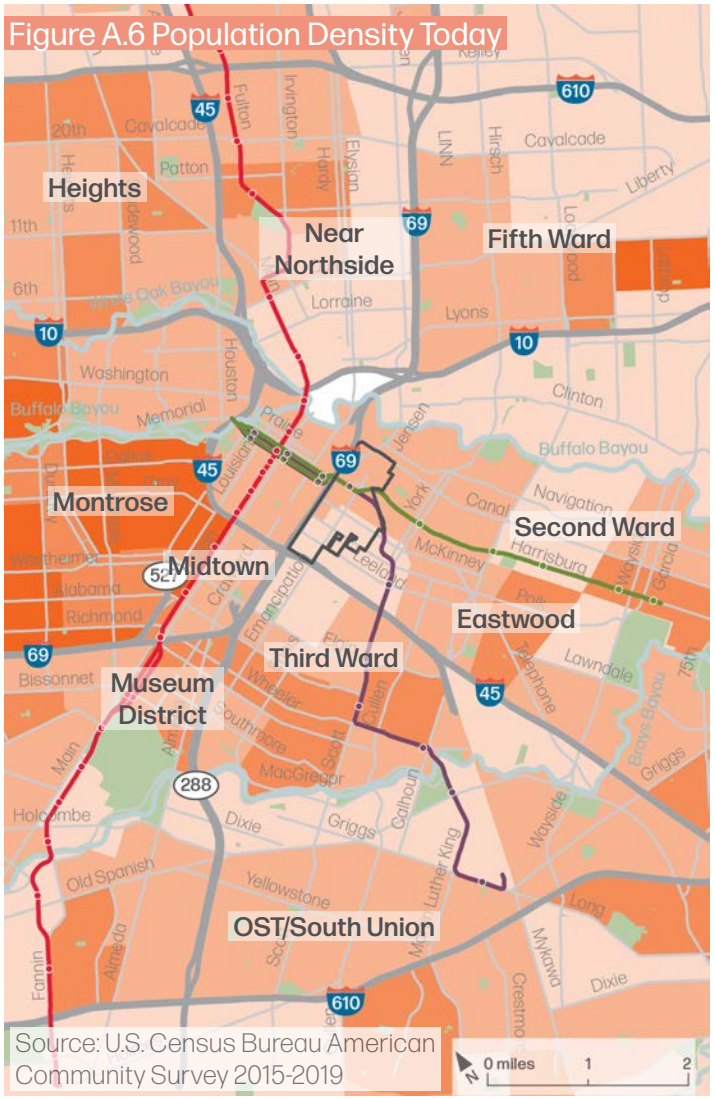


Figure A.6 Population Density Today

Population Density 2045

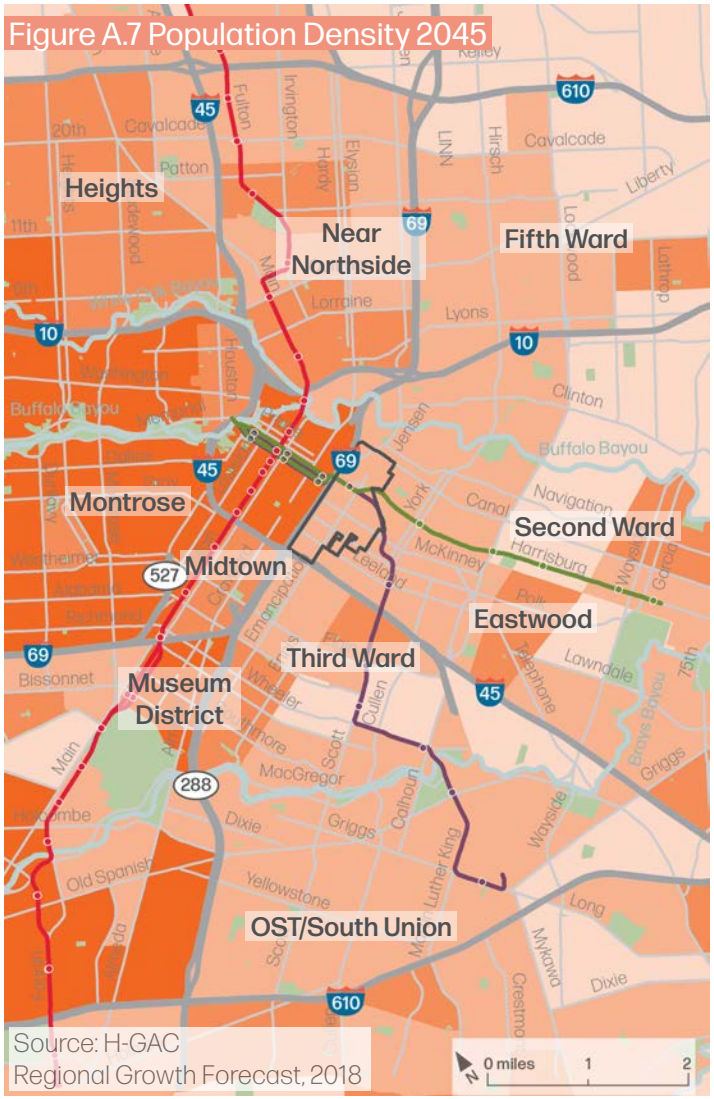


Figure A.7 Population Density 2045

East Downtown is located in Houston's central core but has a relatively low population density, particularly south of McKinney Street (see Figure A.6). Vacant and older industrial parcels in the Zone continue to redevelop and by 2045 the Zone is projected to have more than 4,000 residents per square mile (see Figure A.7). As a regional destination for bars, restaurants, and entertainment, the Zone will serve neighborhoods like Downtown, Second Ward, Third Ward, Midtown, and Montrose which also show projected increases in population density by 2045.

Residents per Square Mile

- 0 to 4,000
- 4,001 to 6,500
- 6,501 to 10,000
- More than 10,000

- Highway
- Major Road
- TIRZ Boundaries
- Park
- METRORail Lines & Stations
- Bayou

Job Density Today

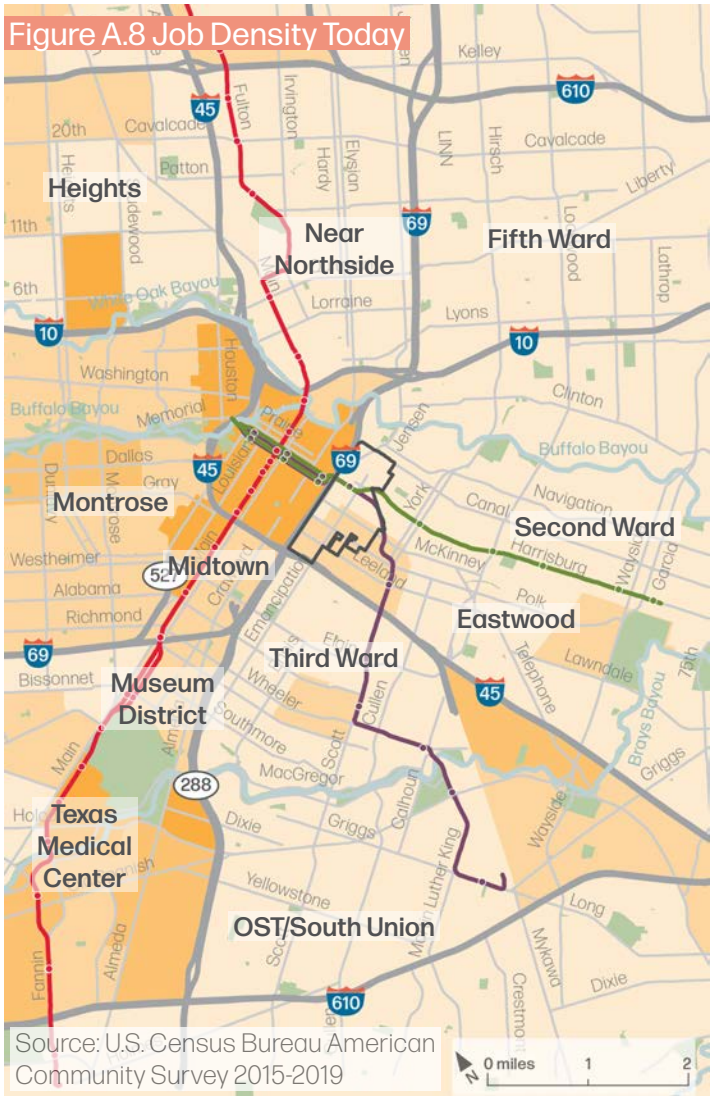


Figure A.8 Job Density Today

Job Density 2045

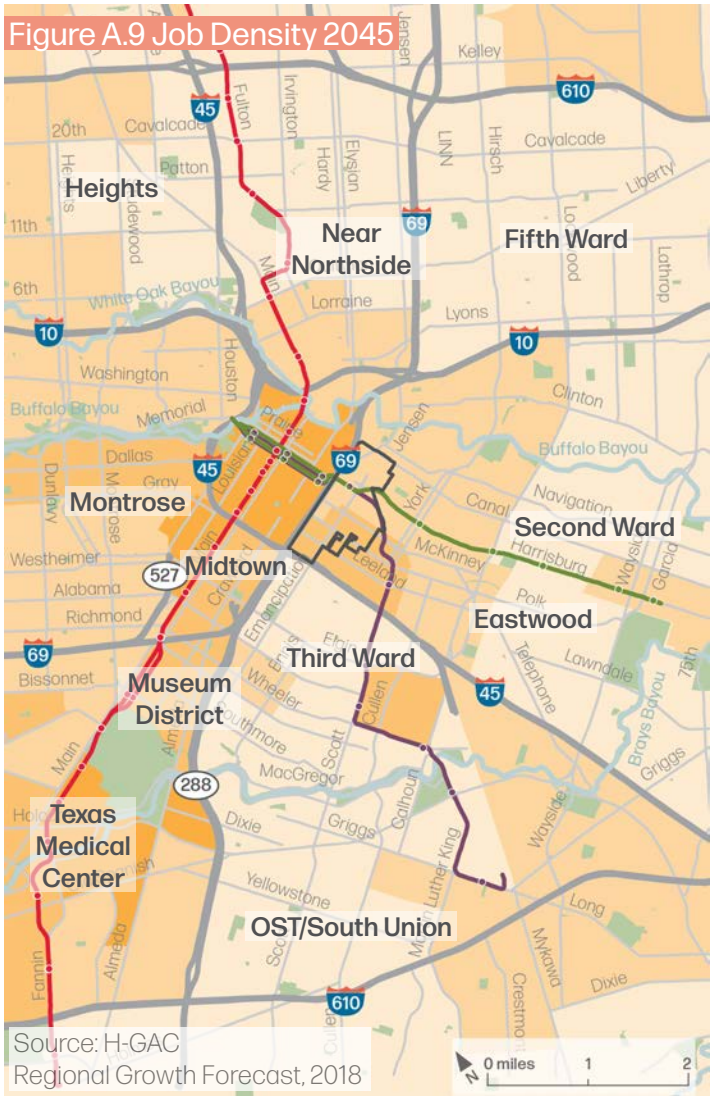


Figure A.9 Job Density 2045

East Downtown is near several of Houston's employment centers (see Figure A.8). Downtown Houston and the Texas Medical Center both have more than 18,000 jobs per square mile with additional employment at Texas Southern University and the University of Houston in the Third Ward.

By 2045, these employment centers are expected to grow further with even more concentration of jobs around Downtown in neighborhoods like Midtown, Near Northwise, Fifth Ward, and even East Downtown (see Figure A.9).

Workers per Square Mile

- 0 to 3,000
- 3,001 to 9,000
- 9,001 to 18,000
- More than 18,000

- Highway
- Major Road
- TIRZ Boundaries
- Park
- METRORail Lines & Stations
- Bayou

Source: U.S. Census Bureau LEHD, 2018

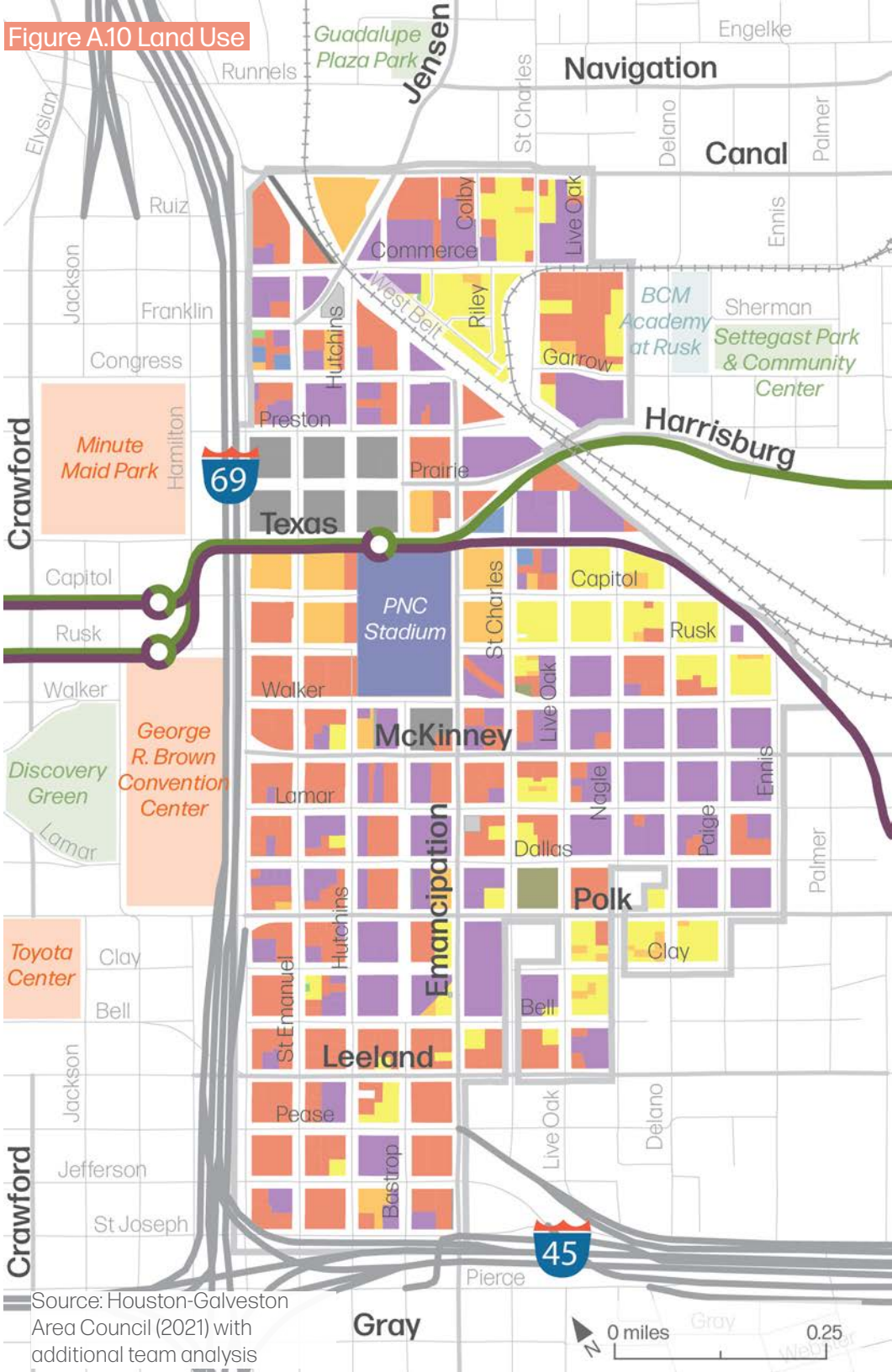
Where are people going and how do they get there?

Land Use

Land use in East Downtown is diverse with clusters of commercial, industrial, multi-family, and single-family residential around the Zone (see Figure A.10). Consistent with land use trends in recent decades, the Zone continues transitioning from an industrial hub to an area with new residential development and commercial corridors with lots of entertainment venues.

The Zone's existing industrial land use (purple on the map) is primarily located east of Emancipation Avenue, south of Walker Street, and near the West Belt rail line. St. Emanuel Street and portions of Leeland Street and Emancipation Avenue serve as the Zone's core commercial corridors (red on the map). The Zone's residential areas include a concentration of multi-family buildings around PNC Stadium and a growing number of single-family residential developments built on former industrial parcels, particularly east of PNC Stadium.

Figure A.10 Land Use



Source: Houston-Galveston Area Council (2021) with additional team analysis

- Commercial/Retail
- Multi-Family Residential
- Single-Family Residential
- Industrial
- Civil/Institutional/Educational
- Transportation/Utility
- Unknown/Vacant
- School
- Park
- Major Destinations
- METRORail Lines & Stations
- Freight Rail Lines
- TIRZ Boundaries

Local & Regional Destinations

The Zone is home to destinations that attract people from across the region. PNC Stadium serves as one of East Downtown's key anchor points and is home to the Houston Dynamo and Houston Dash, the city's two professional soccer teams.

Along with Minute Maid Park and the Toyota Center on the other side of IH-69/US-59, PNC Stadium fuels the cluster of East Downtown's restaurants and bars along St. Emanuel Street. The St. Emanuel Street corridor draws large crowds during sporting events and includes other entertainment-based destinations like concert venues and breweries.

Existing mobility investments in the Zone also serve as destinations unto themselves. The East Downtown segment of the Columbia Tap Trail is a well-shaded trail for recreation like riding a bike or walking a dog. The Bastrop Promenade includes public art that attracts folks from across the city.

Figure A.11 Destinations

Source: Team Analysis 2021

- Major Trail
- School
- Park
- Major Destinations
- METRORail Lines & Stations
- Freight Rail Lines
- TIRZ Boundaries

What is the state of the mobility network?

Streets & Safety

Insights

The Zone has a **strong street grid** that can support a range of mobility network improvements.

Many corridors in the Zone have **excess roadway pavement width** that can be reallocated to expand mobility opportunities to uses like safer walking and biking, or streetscape improvements.

Crashes in the Zone occur predominately on **wide, high-speed streets** and intersections of two wide streets.

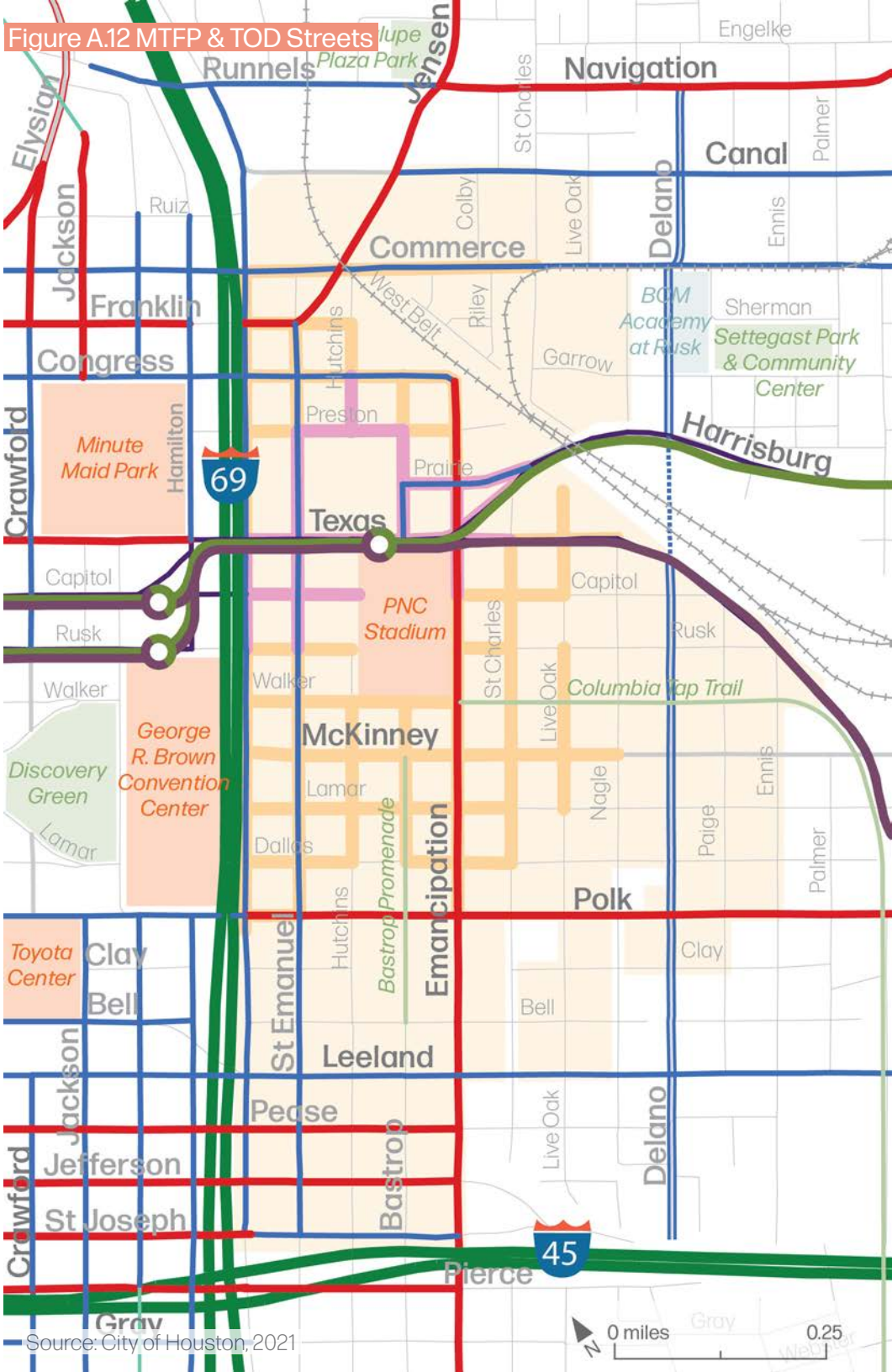
Streets in East Downtown

East Downtown has an intact street grid with most block faces measuring approximately 300 feet long. The grid offers some connectivity to nearby neighborhoods but is restricted by barriers on the west (IH-69) south (IH-45) and north/east (West Belt Subdivision freight rail line).

Figure A.12 shows the designated Major Thoroughfare & Freeway Plan (MTFP) and Transit Oriented Development (TOD) streets in the Zone. Together, these designations outline the existing City of Houston vision for East Downtown's roadway network. The MTFP defines which streets are expected to carry a larger volume of vehicles and play a role in connecting communities to one another. The MTFP also identifies which streets should be widened or extended. In the Zone, only Delano Street includes plans for widening with a proposed bridge (dotted blue line) over the existing rail yard.

TOD streets were designated by the City in 2020 and establish a set of streetscape and building design standards for areas near METRORail stops. These standards are intended to encourage development that is pedestrian-friendly. The TOD streets in the Zone are clustered around the EaDo Stadium Station but reach south to Dallas Street. and east to Nagle Street.

Figure A.12 MTFP & TOD Streets



Source: City of Houston, 2021

Existing / To be Widened / Proposed

- Freeway/Tollway
- Major Thoroughfare
- Major Collector
- Transit Corridor
- Minor Collector
- Primary TOD Street
- Secondary TOD Street
- School
- Park
- Major Destinations
- METRORail Lines & Stations
- Freight Rail Lines
- TIRZ Boundaries

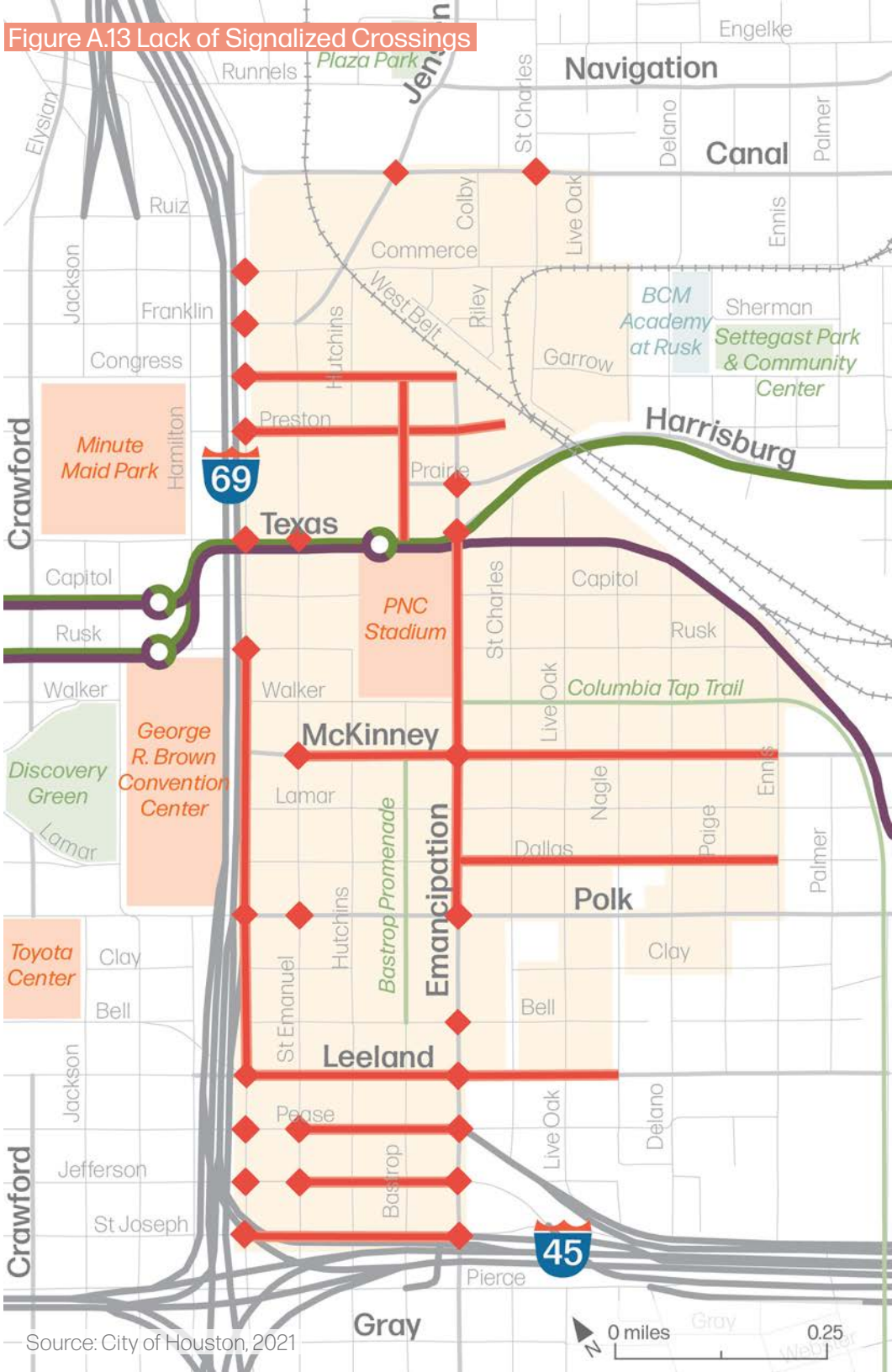
Crossings & Intersections

The Zone's street grid includes a range of crossing types from Columbia Tap Trail crossings at streets like Nagle Street to signalized crossings at intersections of major streets like Emancipation Avenue and St. Joseph Parkway. Signalized crossings at intersections of wide streets are one important way to provide safe crossings for people walking and biking.

Figure A.13 shows the signalized crossings in the Zone (in red diamonds) and highlights the sections of streets with four or more lanes that have at least three block faces without a signalized crossing (in red lines).

Streets like Chartres Street, McKinney Street, Emancipation Avenue, Dallas Street, and Leeland Street all have long stretches without a safe signalized intersection. The east-west streets south of Bell Street all have spans without safe crossings as well.

Figure A.13 Lack of Signalized Crossings



Source: City of Houston, 2021

- Signalized Crossing
- Street segment with >900 feet (3 blocks) between signalized crossings (for streets with more than 3 travel lanes)
- School
- Park
- Major Destinations
- METRORail Lines & Stations
- Freight Rail Lines
- TIRZ Boundaries

Excess Roadway Width

Historically, East Downtown's street grid was built to accommodate the needs of area industries. This required wide roadways to serve high volumes of large freight vehicles. The layout and width of many streets in the Zone have not yet adapted to changes in land use and mobility patterns over time. As a result, many streets in East Downtown are wider than necessary to serve existing vehicle volumes. These wide streets can encourage faster vehicle speeds and are often difficult to cross for people walking, biking, and rolling.

The figures to the right illustrate the amount of excess pavement on these wide streets in the Zone. McKinney Street and Bell Street are both 52 feet wide. Both streets are currently designed to have two vehicle travel lanes (in gold) and two additional lanes for on-street parking (in blue). Using the City of Houston's current standards for travel lane width (10 feet) and parking lane width (9 feet), the street only needs to be 38 feet wide, leaving 14 extra feet that could be reallocated for other uses (shown in red).

Travel Lane Space

Parking Space

Excess Pavement Width

Bell Street 52' of pavement

McKinney Street 52' of pavement

Current Design	Space Used	Space Needed	Excess Pavement
Two travel lanes	26 feet	20 feet	6 feet
Two parking lanes	26 feet	18 feet	8 feet

14 additional feet

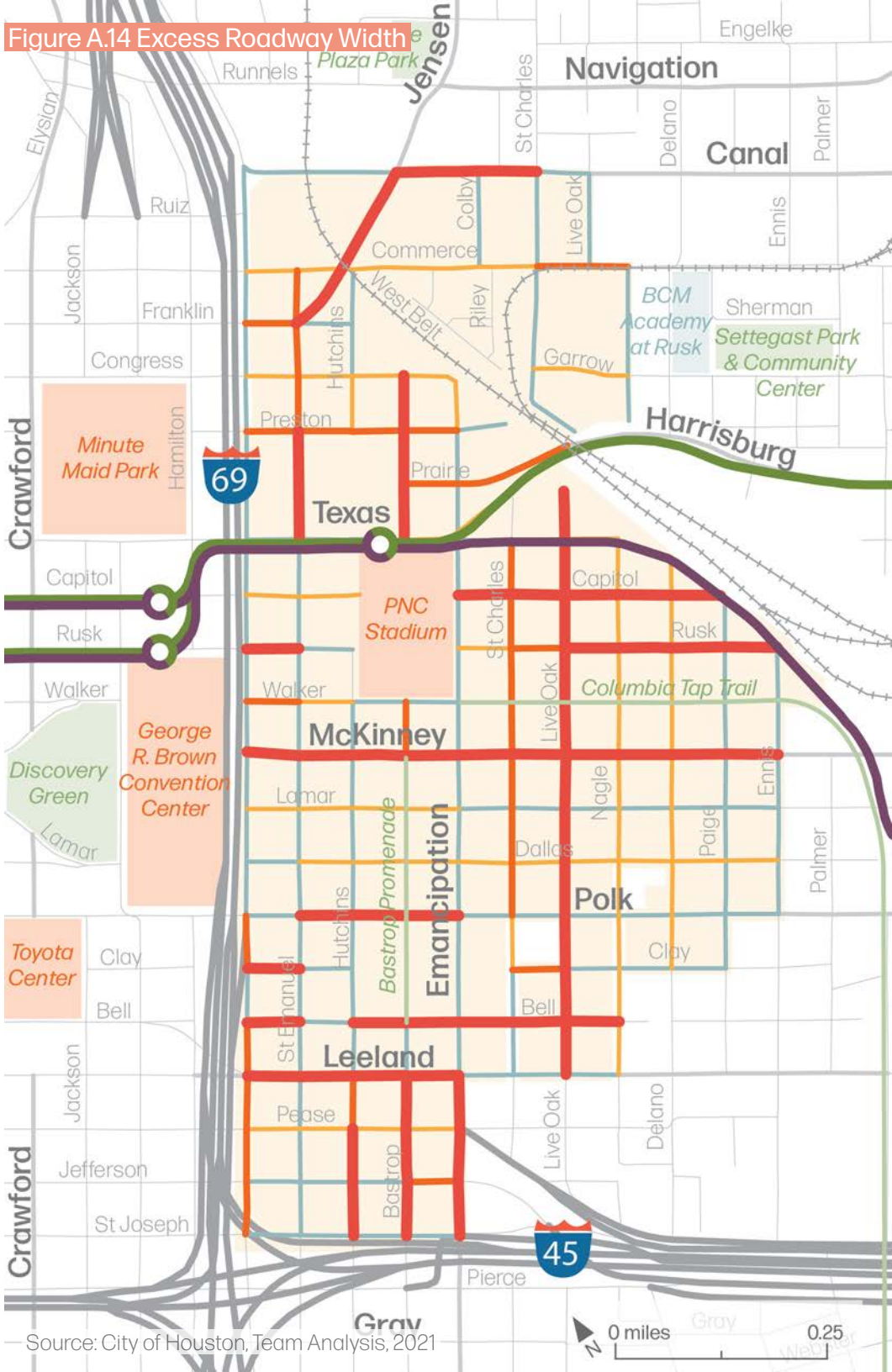
Table A.1 Excess Pavement Width

Excess Roadway Width

FIgure A.14 shows the excess pavement width for all streets in the Zone based on their current design. Some streets (in blue) have little or no additional pavement width with their current design. Other streets (shown in orange and red) have plenty of available pavement that could be reallocated to improve mobility in other ways like wide sidewalks and new bikeways or to add amenities like lighting, seating, trees, or public art.

Streets with a significant amount of roadway width include McKinney Street, Live Oak Street, Capitol Street, Leeland Street, Canal Street, and Bell Street.

Figure A.14 Excess Roadway Width



Source: City of Houston, Team Analysis, 2021

- Little to No Excess Pavement (0-3 feet)
- Some Excess Pavement (4-8 feet)
- Sufficient Excess Pavement (9-14 feet)
- Significant Excess Pavement (15-24 feet)
- School
- Park
- Major Destinations
- METRORail Lines & Stations
- Freight Rail Lines
- TIRZ Boundaries

Vehicle Volumes

The City of Houston has conducted vehicle volume counts for some of the larger streets in the study area. Only Franklin Street near US-59/IH-69 has been observed to carry more than 10,000 vehicles per day. The existing vehicle volumes on most streets support reallocating pavement width for other uses. Some of the widest streets – McKinney Street and Leeland Street – have volumes that do not match their current design. Wide streets paired with low volumes can encourage people to drive faster, creating safety issues for people in East Downtown.

Figure A.15 Vehicle Volumes

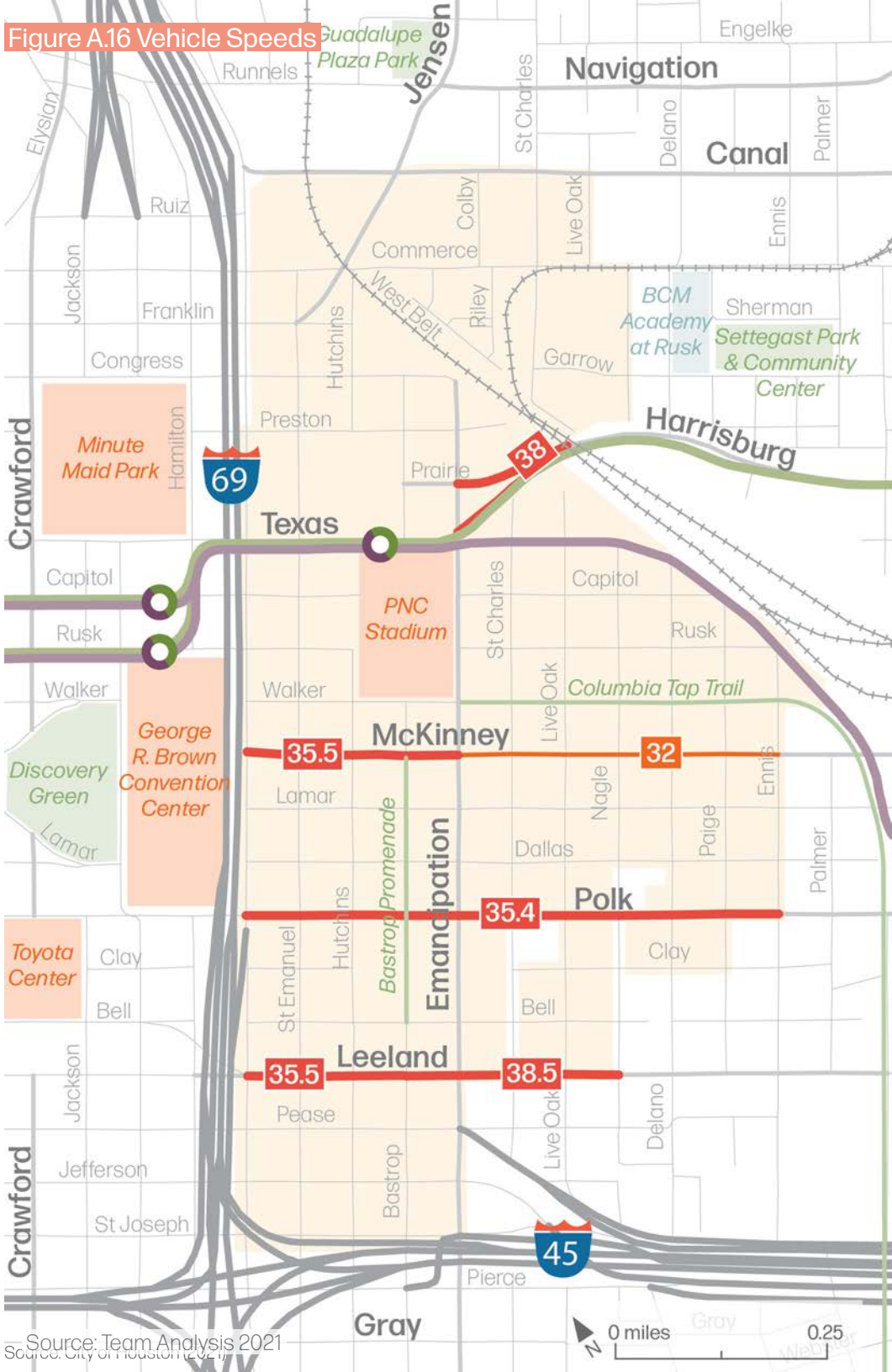
Source: City of Houston, 2021

- Under 3,000 vehicles per day
- 3,000 to 6,000 vehicles per day
- More than 6,000 vehicles per day
- Over 10,000 vehicles per day
- School
- Park
- Major Destinations
- METRORail Lines & Stations
- Freight Rail Lines
- TIRZ Boundaries

Vehicle Speeds

The City of Houston has collected 85th percentile speeds for some streets in the Zone. The 85th percentile speed is the speed at or below which 85 percent of vehicles travel on a particular street. The speed limit for all streets in the Zone is 30 miles per hour. Speed data for streets in the Zone show that drivers are regularly traveling over the speed limit, and often more than 35 miles an hour, which can be dangerous for other drivers and people walking or biking in East Downtown.

Figure A.16 Vehicle Speeds



- Under 35 miles per hour
- 35 miles per hour or greater
- School
- Park
- Major Destinations
- METRORail Lines & Stations
- Freight Rail Lines
- TIRZ Boundaries

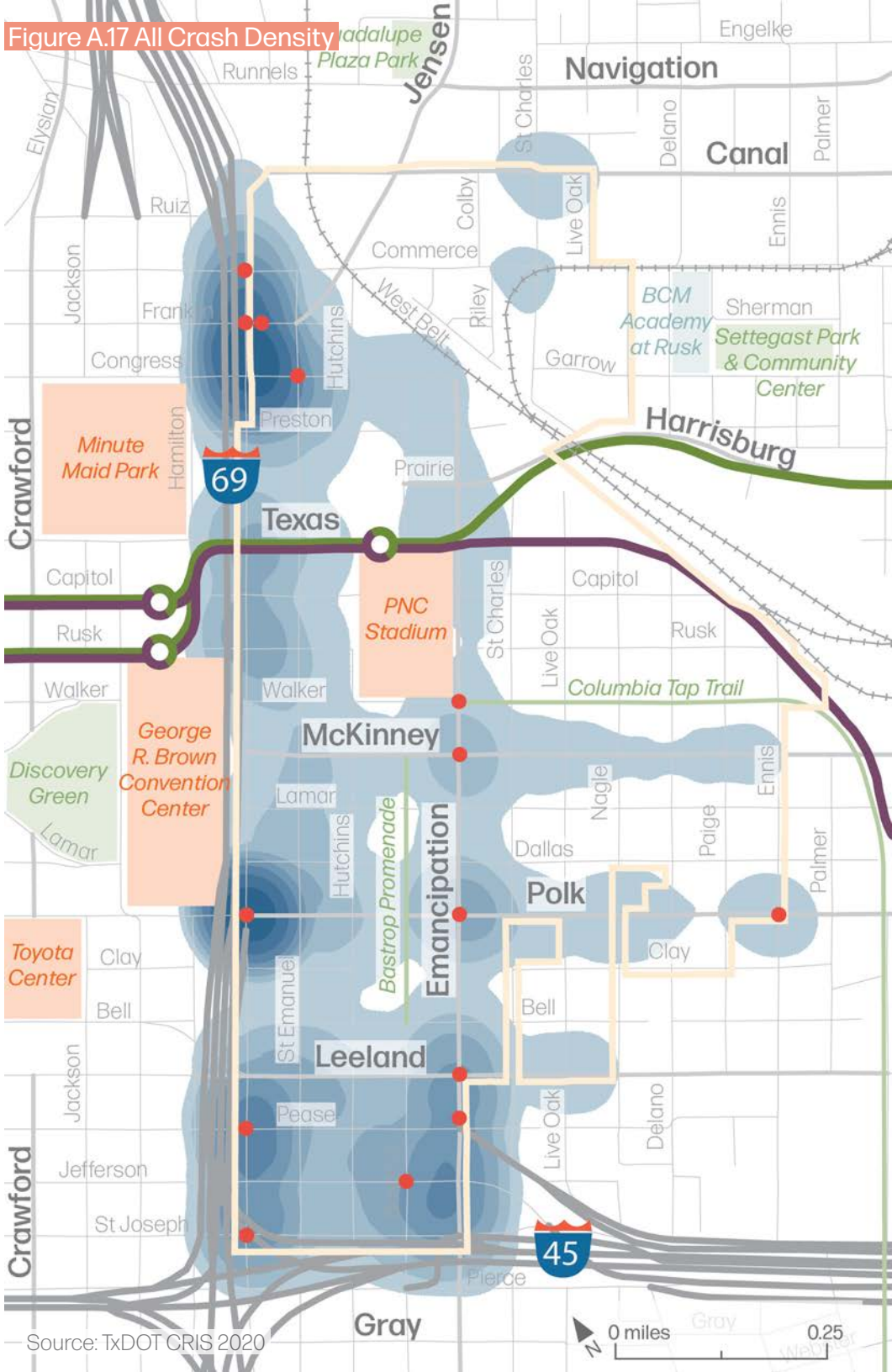
Source: Team Analysis 2021

Density - All Crashes

Crashes in the Zone occur predominately on wide, high-speed streets and at intersections of two wide streets. The map to the right shows the concentration of crashes in the Zone (from 2015 to 2019) in blue. Severe crashes resulting in a serious injury or fatality are indicated with red dots on the map. The crash hot spots in East Downtown are along Chartres Street, Emancipation Avenue, and Polk Street*, and in the southern part of the Zone from IH-45 to Leeland Street.

*These data were collected prior to the Polk Street redesign with the separated bikeway, improved sidewalks, and reduced widths on vehicle travel lanes.

Figure A.17 All Crash Density



Source: TxDOT CRIS 2020

Severe Crashes

More Crashes

Fewer Crashes

School

Park

Major Destinations

METRORail Lines & Stations

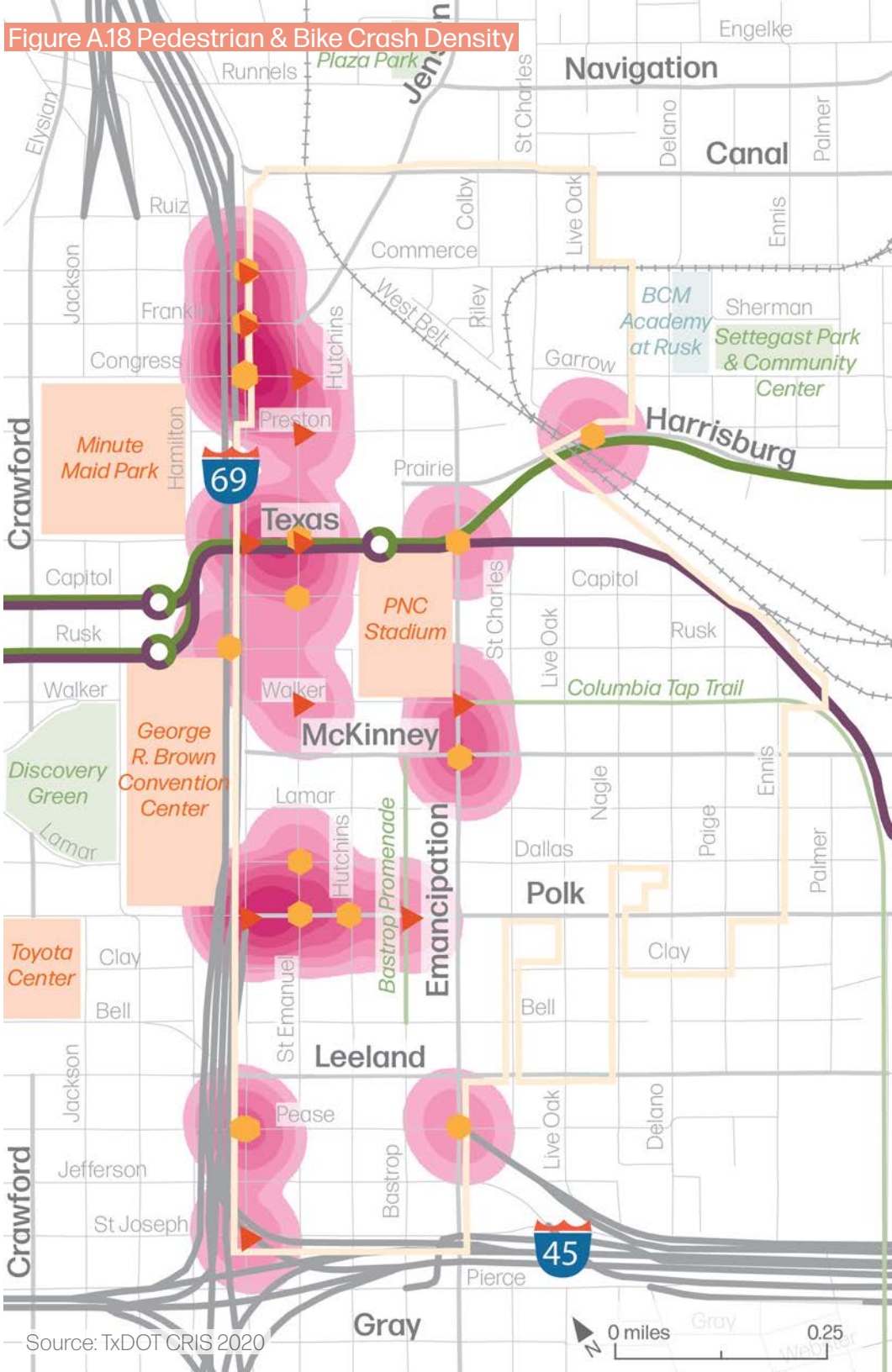
Freight Rail Lines

TIRZ Boundaries

Density - Crashes Involving a Person Walking or Biking

Similar to overall crashes, crashes involving people walking and biking in the Zone occur mainly on wide, high-speed streets like Chartres Street, Emancipation Avenue, and Polk Street (prior to reconstruction). The map shows the concentration of crashes involving people walking and biking (in pink), crashes involving a person walking (indicated by the golden hexagon) and crashes involving a bicycle (indicated by the red triangle).

Figure A.18 Pedestrian & Bike Crash Density



Source: TxDOT CRIS 2020

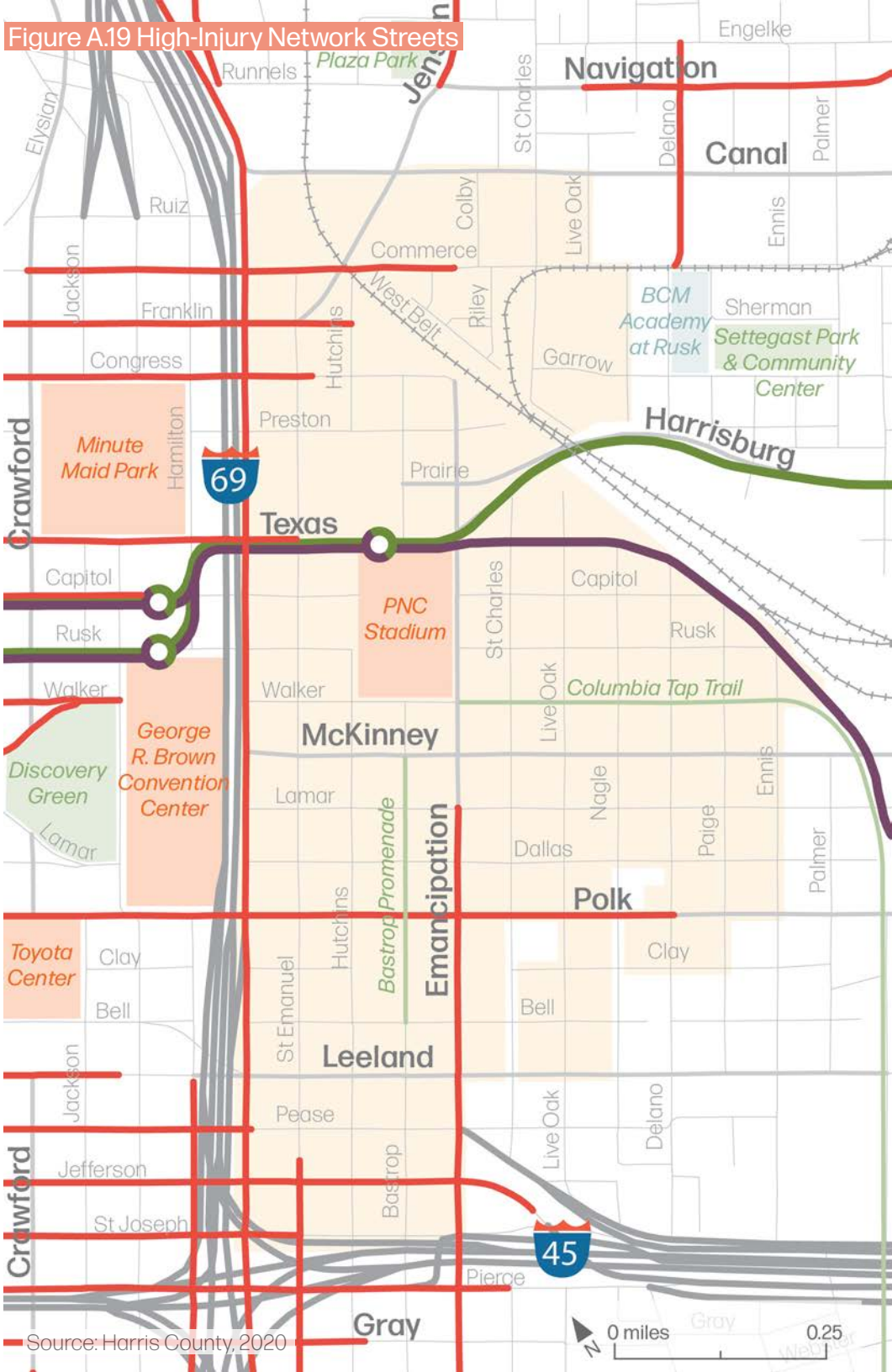
- Pedestrian Crashes
- Bicycle Crashes
- More Crashes
- Fewer Crashes
- School
- Park
- Major Destinations
- METRORail Lines & Stations
- Freight Rail Lines
- TIRZ Boundaries

High-Injury Network Streets

Harris County and the City of Houston recently completed Vision Zero Action Plans to develop strategies for reducing the incidence of fatal and serious crashes to zero. The plans included a map of streets on the high-injury network, representing the 6% of streets that account for 60% of serious and fatal crashes in the County. In East Downtown, those streets closely mirror the crash density maps and include Emancipation Avenue, Polk Street (prior to reconstruction), Chartres Street, Commerce Street, and Jefferson Street.

Recommendations from the City of Houston Vision Zero action plan include evaluating reconstruction projects for multimodal safety needs, performing a systematic review of all trail and street crossings for recommended safety improvements, enhancing transit stops to increase safety and comfort, and establishing criteria for regularly spaced safe street crossings, among other actions.

Figure A.19 High-Injury Network Streets



High-Injury Network Streets
School
Park
Major Destinations
METRORail Lines & Stations
Freight Rail Lines
TIRZ Boundaries

Source: Harris County, 2020

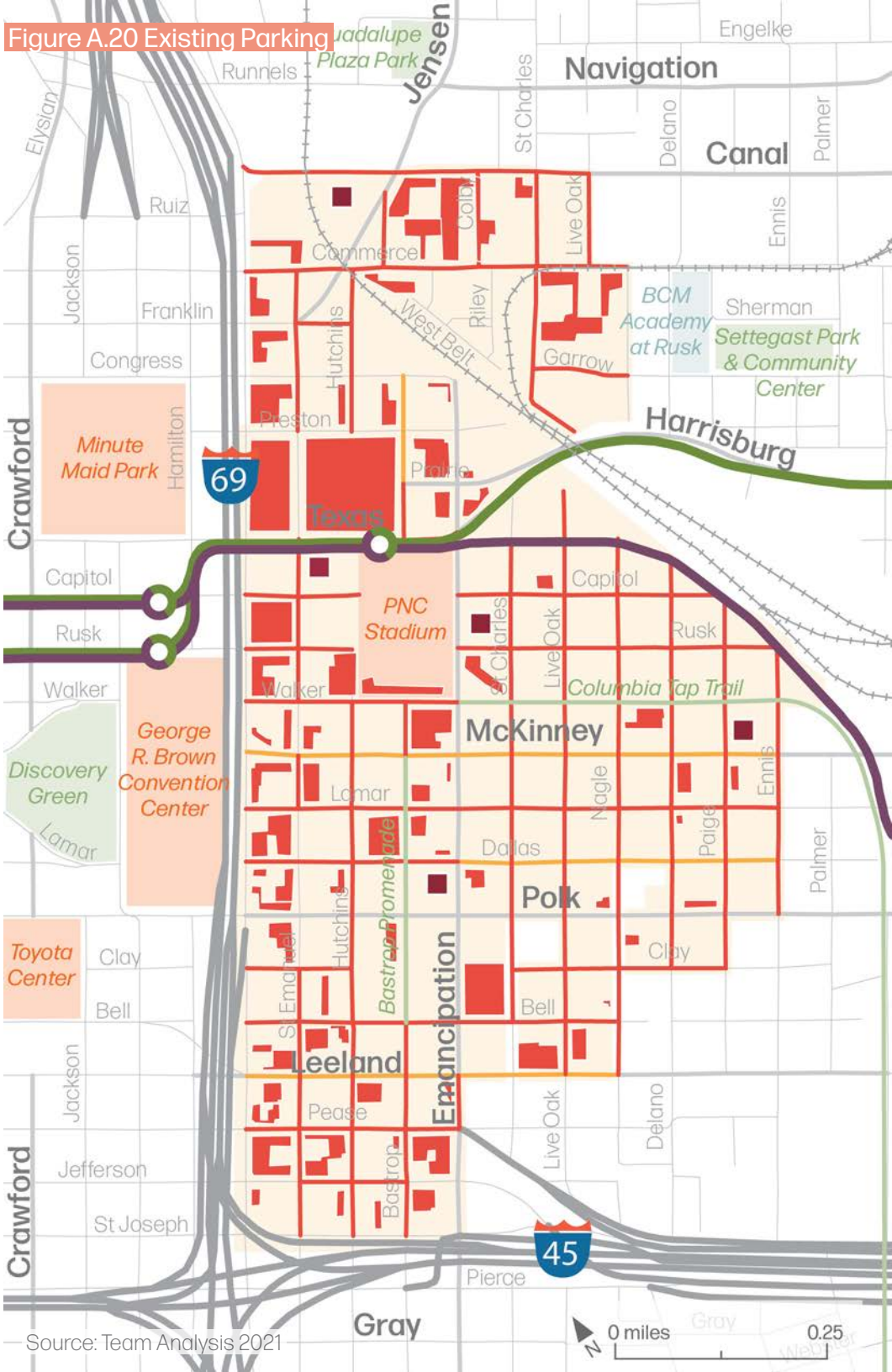
Parking Availability

East Downtown has abundant parking opportunities for people who live in and visit the area. Around 70% of all street miles in the Zone allow parking at all times (red lines on the map) or certain times (red lines on Figure A.20).

The Zone also has parking garages (shown in maroon boxes) and a large number of surface parking lots (shown in red boxes) that include the large parking lots between Texas Street and Preston Street that serve PNC Stadium and Minute Maid Park. Many of these garages and lots are restricted to private use for retail and residential developments and are not available for public use.

In 2019 the City of Houston extended their Market-Based Parking area to include all of the Zone west and south of the West Belt Rail Line. This designation exempts property owners from providing a minimum number of parking spaces for new developments. This change in local parking regulations, combined with the large amount of available parking, makes parking management even more important in Zone.

Figure A.20 Existing Parking



Source: Team Analysis 2021

- Parking Permitted during Specific Hours
- Parking Permitted
- Parking Lot
- Parking Garage
- School
- Park
- Major Destinations
- METRORail Lines & Stations
- Freight Rail Lines
- TIRZ Boundaries

Walkability & Sidewalks

Insights

The TIRZ has had a **positive impact on safety for people walking in the Zone's central core** but some sidewalk gaps and inaccessible intersections remain.

Beyond the walkable core, connections to Downtown and other neighborhoods are difficult due to **wide, fast streets with limited safe crossing locations** and limited crossing points of the West Belt Subdivision freight rail line.

Sidewalk Condition Classifications

FIVE CLASSIFICATIONS OF SIDEWALK CONDITION

CONDITION A

FLAT AND 5+ FEET WIDE

These sidewalks are flat (traversable) and allow people to walk side-by-side. This is the current minimum city standard with wider sidewalks required or encouraged along major streets and near transit.

CONDITION B

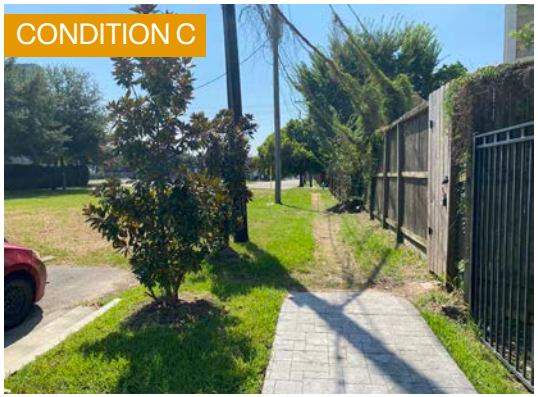
FLAT AND LESS THAN 5 FEET WIDE

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

CONDITION C

POOR CONDITION AND 5+ FEET WIDE

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



CONDITION D

POOR CONDITION AND LESS THAN 5 FEET

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

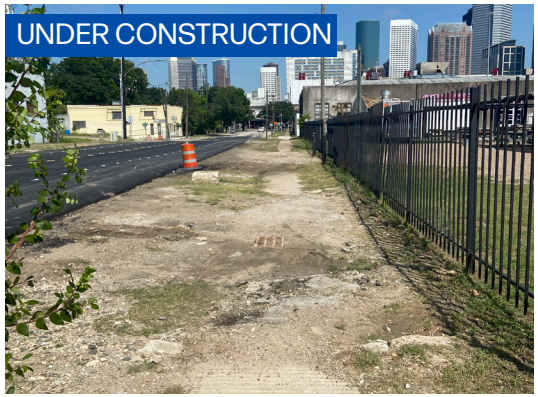
CONDITION E

NO SIDEWALK PRESENT

While not common in TIRZ 15, segments with no sidewalk create major barriers to connectivity. Often "goat tracks" are present along these parcels where people walk in the grass.

UNDER CONSTRUCTION

Some parcels include sidewalks under construction. Data was collected between July and September 2021. Parcels that were under construction were not assessed for condition.



Ramp Condition Classifications

A DETAILED ASSESSMENT OF RAMPS FOR ALL INTERSECTIONS

For every intersection within the study area, existing conditions were assessed for all ramps. Assessment was based on City of Houston (COH) and American with Disabilities Act (ADA) curb ramp standards.

DIRECTIONAL VS DIAGONAL

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

Diagonal ramps are shared by two converging sidewalks and typically require a change of direction to follow the crosswalk. At one point, these ramps were standard, and they are therefore prevalent around TIRZ 15. They also typically cost less to construct than directional ramps. Ideally, diagonal ramps should only be used in areas where physical constraints make a directional ramp infeasible.

RAMP CONDITION

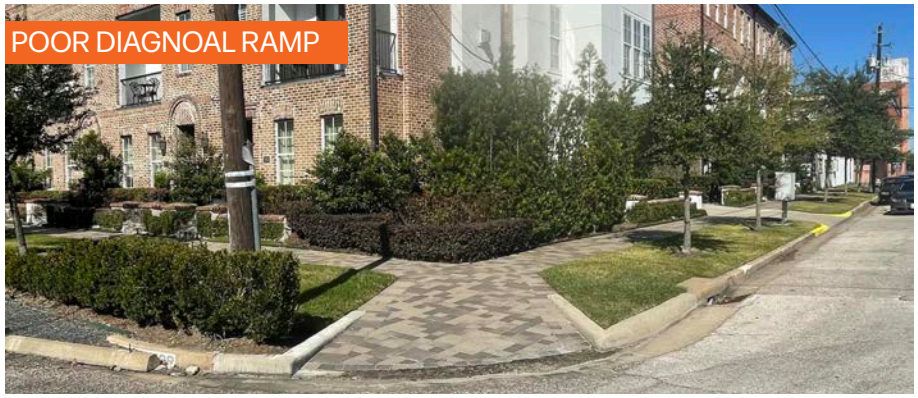
Ramps are defined by three condition categories: good, poor, and no ramp. While slopes were not measured for each ramp, COH slope standards for ramps were used as general guidelines for visual inspection.

A Good Ramp had a perceived slope that matched COH standards, indicating it would be comfortable to traverse by a person rolling. COH standards requires a detectable warning surface for all curb ramps; for this assessment a ramp could still be classified as good even without detectable warning.

A Poor Ramp has a slope that is not to COH standard or is unsafe or inaccessible for people with mobility challenges.

No Ramp classifications includes corners where there is no ramp and there is no contiguous sidewalks to the curb resulting in a lack of connectivity from the edge of sidewalk to the curb.


GOOD DIRECTIONAL RAMPS


POOR DIAGNOAL RAMP


GOOD DIRECTIONAL RAMP & MISSING DIRECTIONAL RAMP

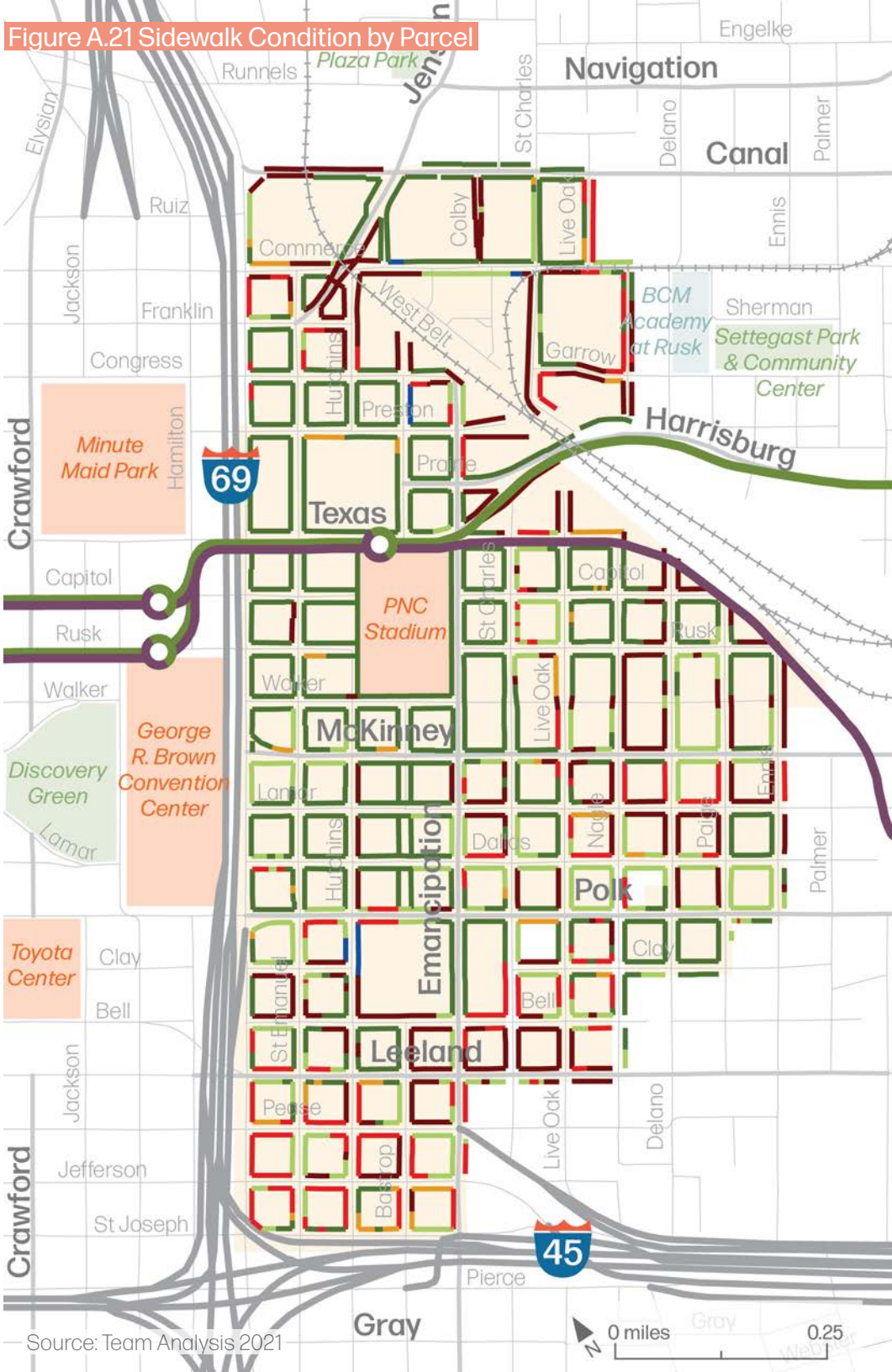
Sidewalk Condition by Parcel

Figure A.21 on the right shows condition of sidewalks for each parcel in the Zone. Dark green lines show sidewalks that are in good condition and meet the City of Houston minimum width of 5 feet. Lighter green lines are in decent condition but are less than 5 feet wide. Lines that are orange, red, or dark red are mark sidewalks that either in poor condition or do not exist.

As the map shows, sidewalk condition varies depending on the location in the Zone. In the last decade, the TIRZ invested strategically in street and sidewalk improvements in the center of the Zone, particularly around PNC Stadium, St. Emanuel Street and its cross streets west of Emancipation Avenue.

However, large sections of the Zone still have poor sidewalk coverage. The blocks south of Polk Street and some sections east of Emancipation Avenue have several blocks of sidewalks that are missing or in poor condition. Similarly, large sections of sidewalks are missing in the northern end of the Zone where the West Belt rail line crosses its boundaries.

Figure A.21 Sidewalk Condition by Parcel



Source: Team Analysis 2021

A — Flat - 5'+

B — Flat - Less than 5'

C — Poor Condition - 5'+

D — Poor Condition - Less than 5'

E — No Sidewalk Present

Under Construction

School

Park

Major Destinations

METRORail Lines & Stations

Freight Rail Lines

TIRZ Boundaries

Sidewalk Condition by Block

The sidewalk condition of an entire block depends on the condition of each small segment of sidewalk along that block. If one segment has a major obstacle or is missing, the entire block becomes difficult to traverse. Figure A.22 shows the same sidewalk condition as Figure A.21 on the previous page except each block is labeled with the condition of its worst parcel. For example, if a block has sidewalks that are all "As" (five feet wide and in good condition) except one section of sidewalk that is a D, then the entire block is labeled as a D.

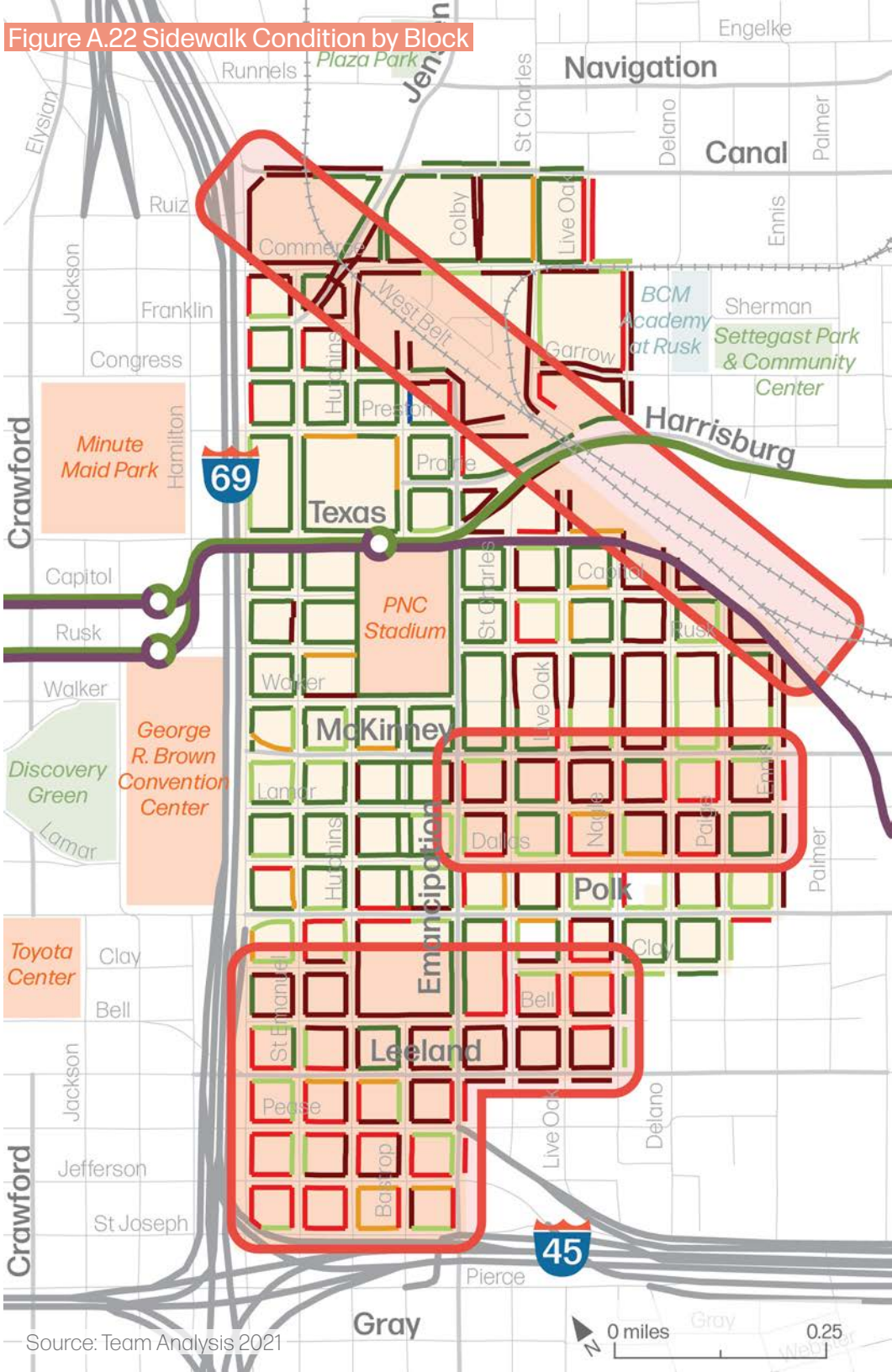
Like the parcel condition map, the map of condition at block level highlights the areas of the Zone that need additional sidewalk improvement.

Area with poor sidewalk conditions

- A — Flat - 5'+
- B — Flat - Less than 5'
- C — Poor Condition - 5'+
- D — Poor Condition - Less than 5'
- E — No Sidewalk Present
- Under Construction

- School
- Park
- Major Destinations
- METRORail Lines & Stations
- Freight Rail Lines
- TIRZ Boundaries

Figure A.22 Sidewalk Condition by Block

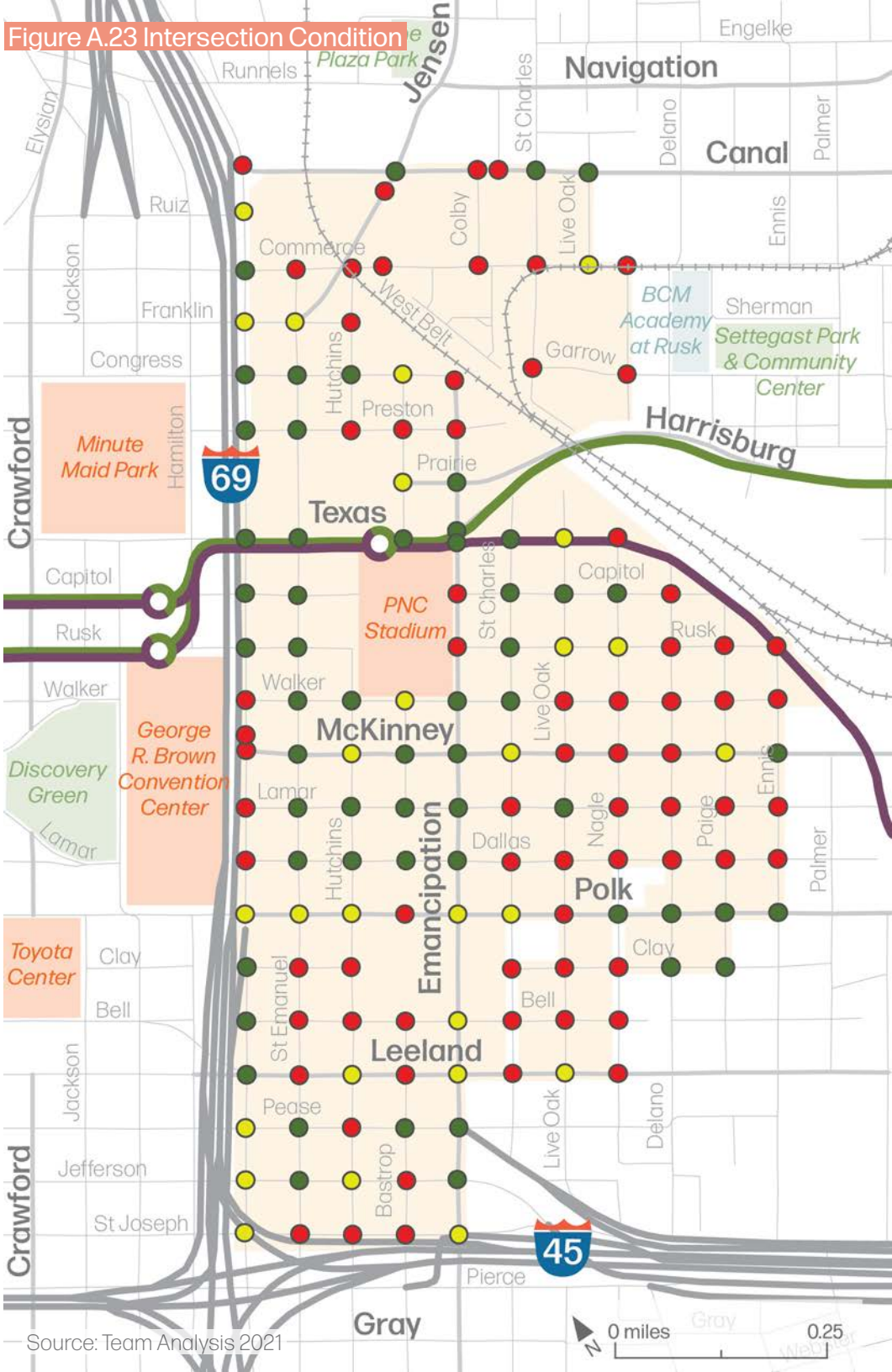


Source: Team Analysis 2021

Intersection Condition

Along with sidewalks, the TIRZ has invested in intersection improvements that updated curb ramps in the central core of the Zone. Intersections in the south, east, and along the West Belt rail line still have few passable curb ramps to allow for safe and comfortable crossings for people walking or using a wheelchair.

Figure A.23 Intersection Condition

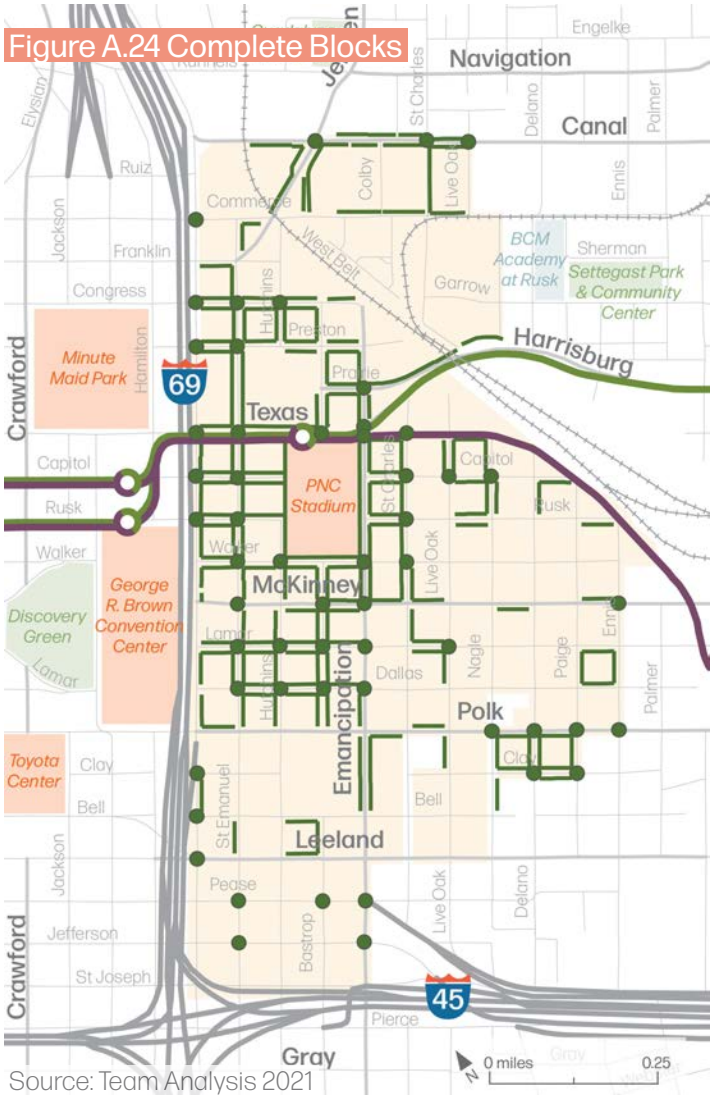


Source: Team Analysis 2021

- 0-1 Impassable Ramps
- 2 Impassable Ramps
- 3-8 Impassable Ramps
- School
- Park
- Major Destinations
- METRORail Lines & Stations
- Freight Rail Lines
- TIRZ Boundaries

Complete Blocks

Figure A.24 Complete Blocks



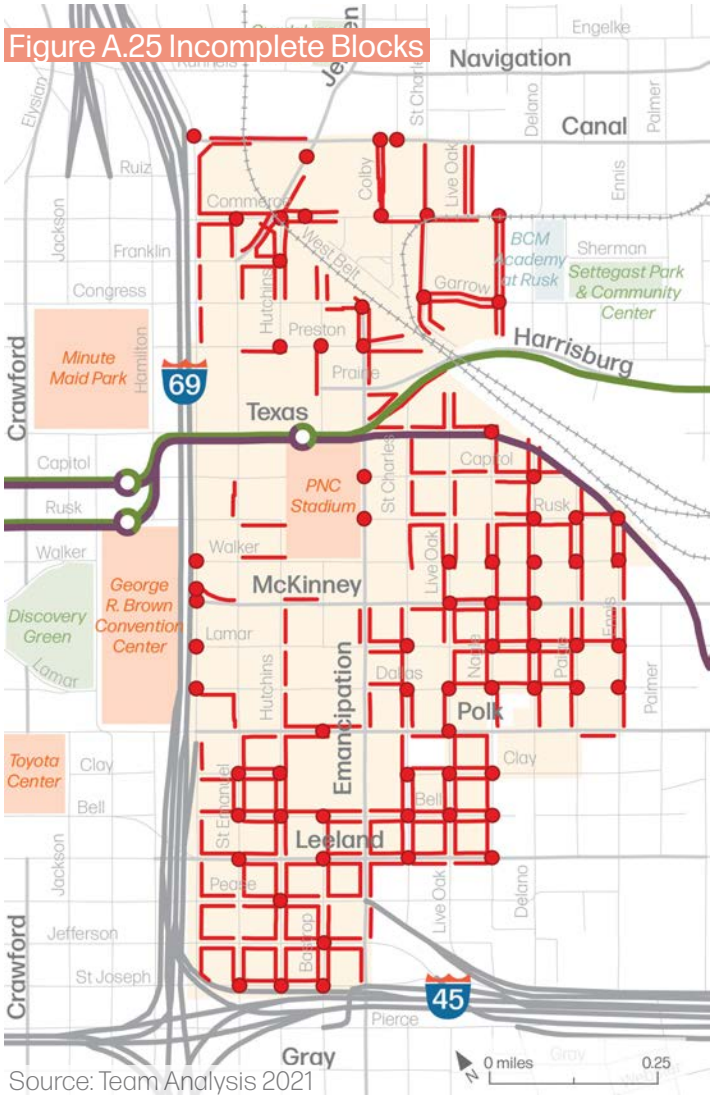
Source: Team Analysis 2021

— Complete Block Face

● Accessible Intersection

Incomplete Blocks

Figure A.25 Incomplete Blocks



Source: Team Analysis 2021

— Incomplete Block Face

● Inaccessible Intersection

The maps to the left highlight the blocks and intersections with sidewalks and curb ramps in good condition (Figure A.24) and poor condition (Figure A.25) to better indicate which parts of the Zone have a complete walkable grid and which parts need further investment.

Figure A.24, the map of complete blocks, shows the cluster of high-quality sidewalks in the Zone's central core. Figure A.25, the map of incomplete blocks, once again highlights the Zone's east, south, and along the West Belt rail line.

School

Park

Major Destinations

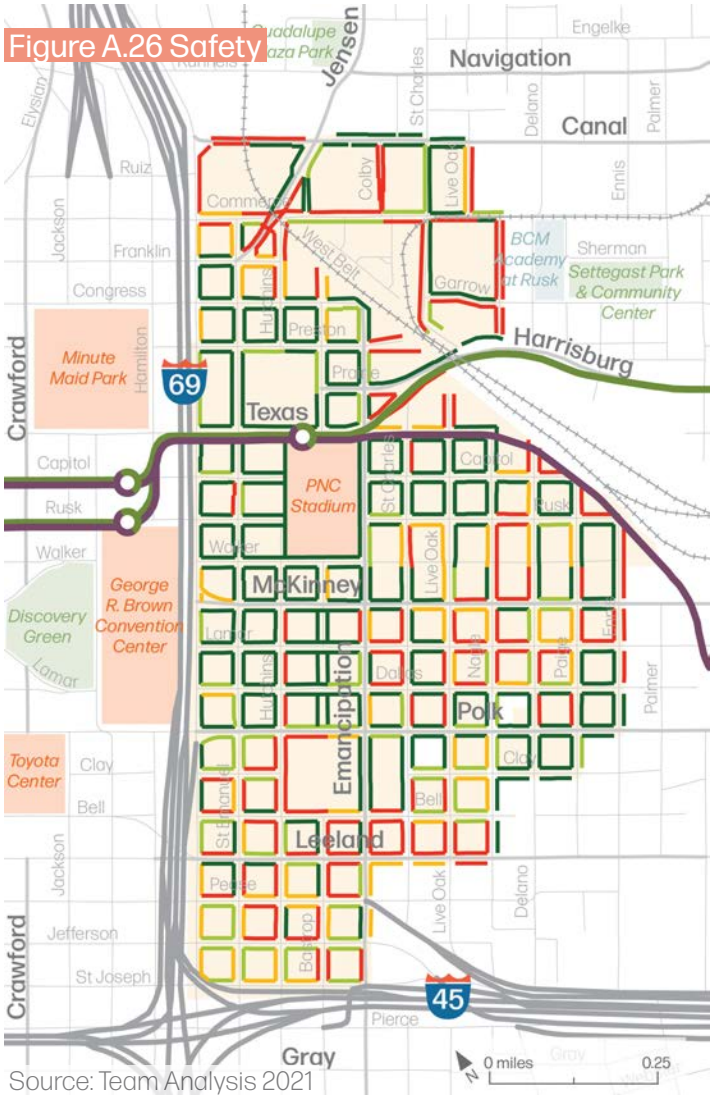
METRORail Lines & Stations

Freight Rail Lines

TIRZ Boundaries

Safety

Figure A.26 Safety

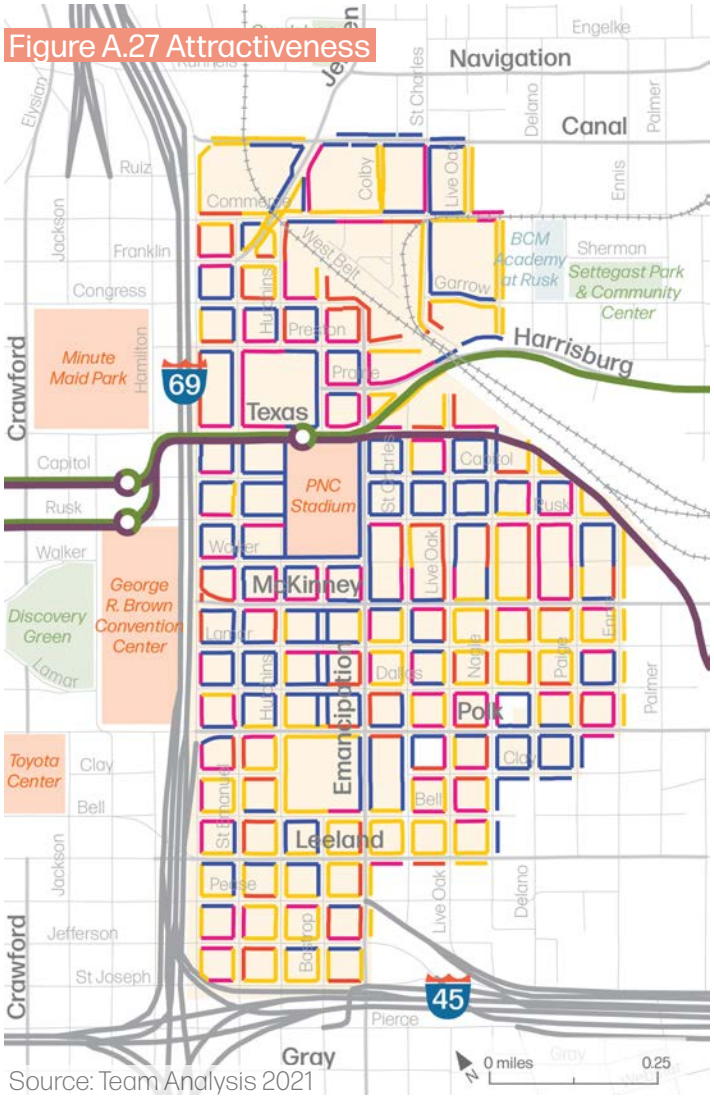


Source: Team Analysis 2021

- Least Safe
- Most Safe

Attractiveness

Figure A.27 Attractiveness



Source: Team Analysis 2021

- Least Attractive
- Most Attractive

The quality and condition of sidewalks also impacts how people perceive their experience. Figures A.26 and A.27 show the perceived safety and attractiveness of sidewalks in the Zone and are based on the qualitative scores of the team members who collected the sidewalk data. The safety assessment considered presence of tripping hazards, sight distance issues and other physical barriers. Like the condition maps, these figures also highlight the central core of the Zone as the area with the largest cluster of safe and attractive sidewalks.

- School
- Park
- Major Destinations
- METRORail Lines & Stations
- Freight Rail Lines
- TIRZ Boundaries

Bikeway Connectivity

Insights

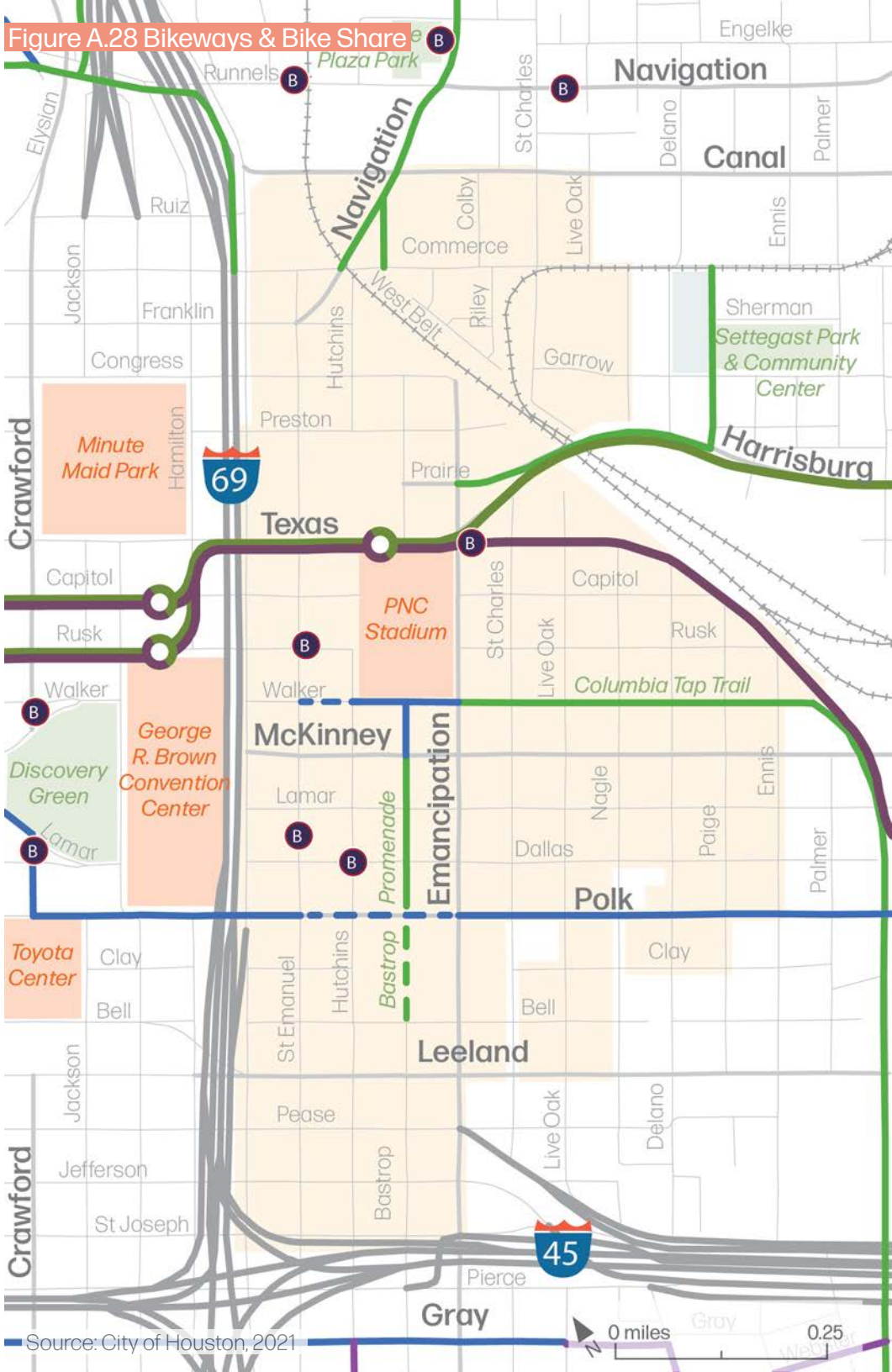
The Zone **lacks a connected network** of high-comfort bikeways serving many destinations, especially for north-south connections to Third Ward, the East End, or Buffalo Bayou.

The Zone is **crossed by some high-comfort bikeway corridors** that can be improved.

Bikeways & Bike Share

The Zone is crossed by some high-comfort bikeway corridors (e.g., Polk Street and Columbia Tap Trail) that can be improved. The Zone lacks a connected network of high-comfort bikeways serving many destinations, especially for north-south connections to Third Ward, the East End, or Buffalo Bayou. The map shows the current bicycle lanes and bike share stations available in the Zone. The Zone has east to west connections but lacks north to south connections.

Figure A.28 Bikeways & Bike Share



Source: City of Houston, 2021

Existing / Programmed

- Dedicated On-Street Bikeway
- Off-Street Bikeway
- BCycle Station
- School
- Park
- Major Destinations
- METRORail Lines & Stations
- Freight Rail Lines
- TIRZ Boundaries

Bike Share Usage

The Zone has four BCycle stations primarily located in the central core near St. Emanuel Street and the Bastrop Promenade. Between November 2020 and October 2021, the stations in the Zone saw more than 4,000 trips with a relatively low rate of round trips to and from the same station (44%) compared the full network of stations in Houston (61%). Of the one-way trips to and from the Zone, most require crossing IH-69 to connect to Downtown. In total, trips that start in the Zone but end outside account for 46% of all trips.

	Bcycle Station	Total Checkouts (Nov '20 - Oct '21)	Round Trip	To Stations within Zone	To Stations <0.5 miles	To Stations >0.5 miles
1	8th Wonder	1,449	42%	6%	21%	31%
2	Rusk & St. Emanuel	1,220	49%	11%	17%	24%
3	Dallas & St. Emanuel	1,388	43%	11%	21%	25%
6	*EaDo Stadium METRORail	111	40%	6%	24%	30%
	Total	**4,168**	**44%**	**9%**	**20%**	**27%**

Table A.2 Bike Share Usage

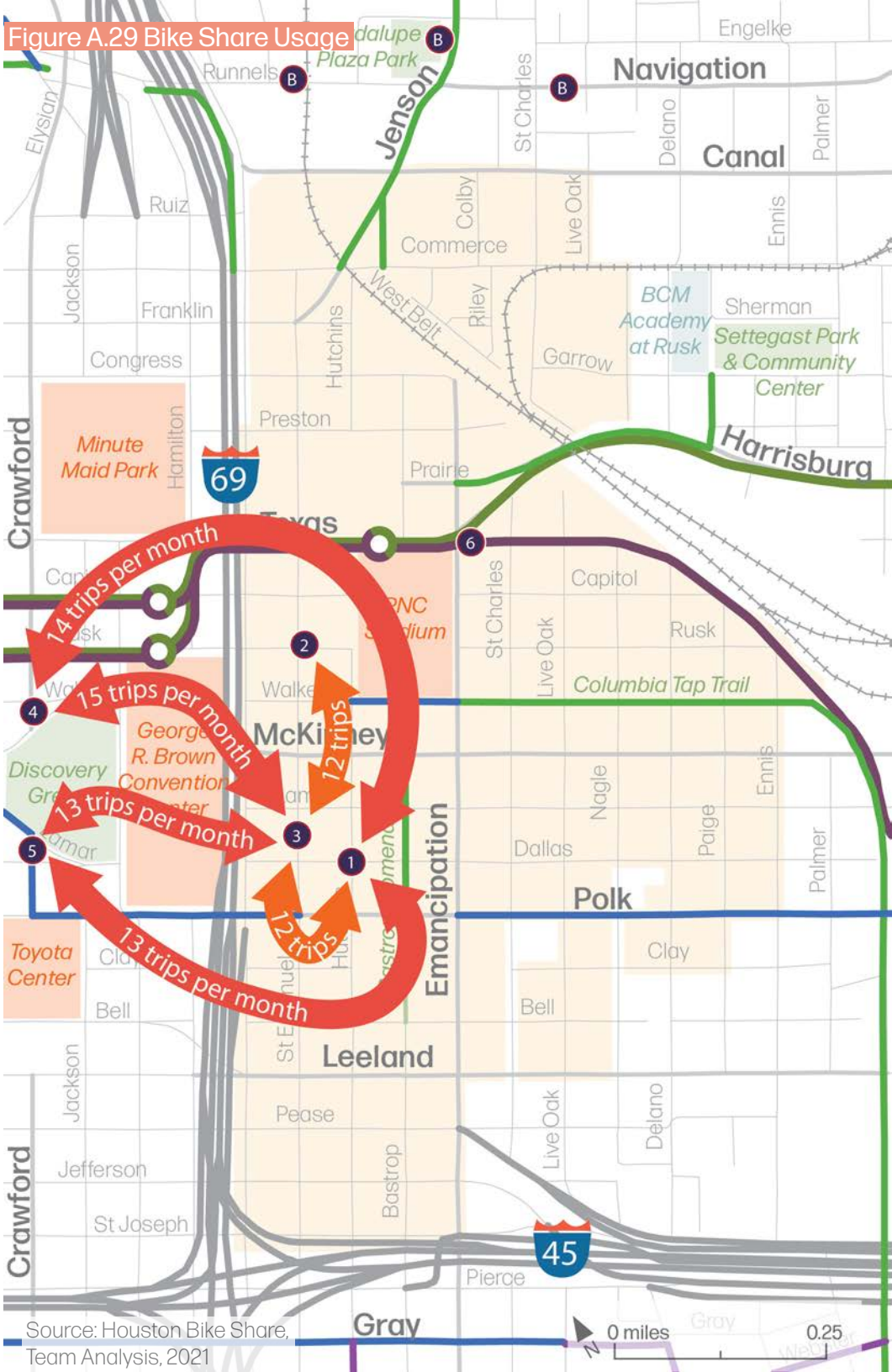
People using bike share in the Zone are coming from across the city with a large share from nearby neighborhoods**. The highest usage is from the 77003 ZIP code (East Downtown and East End) with 13% of all checkouts. The next two include 77002 in Downtown (5.3%) and 77004 in Third Ward, Midtown, and the Museum District (4.5%).

*Data for table above includes November 2020 - October 2021 Check Outs. EaDo Stadium METRORail did not become a station until August 2021

**ZIP code analysis excludes an outlier "super-user"

School
Park
Major Destinations
METRORail Lines & Stations
Freight Rail Lines
TIRZ Boundaries

Figure A.29 Bike Share Usage



Source: Houston Bike Share, Team Analysis, 2021

Transit Access

Insights

Though served by two METRORail Lines and a high-frequency bus corridor, **the Zone lacks north-south transit access** and pockets of the area are isolated from METRO service.

Transit Network

The Zone is served primarily by five METRO transit routes: the METRORail Green and Purple lines and local bus routes 40, 41, and 20. The rail lines and the 40/41 (both running along Polk Street) provide high-frequency service for the Zone meaning buses arrive every 15 minutes or better. All five routes operate generally east-west and do not provide north-south connectivity for the Zone.

Route	Connections To/From the Zone
METRORail Purple Line Along Texas Avenue	Downtown, Third Ward, University of Houston, Texas Southern University, South Side
METRORail Green Line Along Texas Avenue and Harrisburg Boulevard	Downtown, Second Ward, Eastwood, Magnolia Park
Routes 40 and 41 Along Polk	Downtown, Eastwood, Second Ward, Gulfgate, Golfcrest, Glenbrook Valley, Hobby Airport, Montrose, Rice Military, Heights, Independence Heights, Northside, River Oaks, Upper Kirby, West University, Rice Village, Braeswood, Texas Medical Center
Route 20 Along Franklin Street, Navigation Boulevard and Canal Street	Downtown, Second Ward, Magnolia Park, First Ward, Rice Military, Memorial Park, Uptown, Gulfton, Bellaire

Table A.3 Transit Routes

Bus Route Frequencies

- 15 minutes or better
- 20 or 30 minutes
- 60 minutes
- Weekday peak periods only

- School
- Park
- Major Destinations
- METRORail Lines & Stations
- Freight Rail Lines
- TIRZ Boundaries

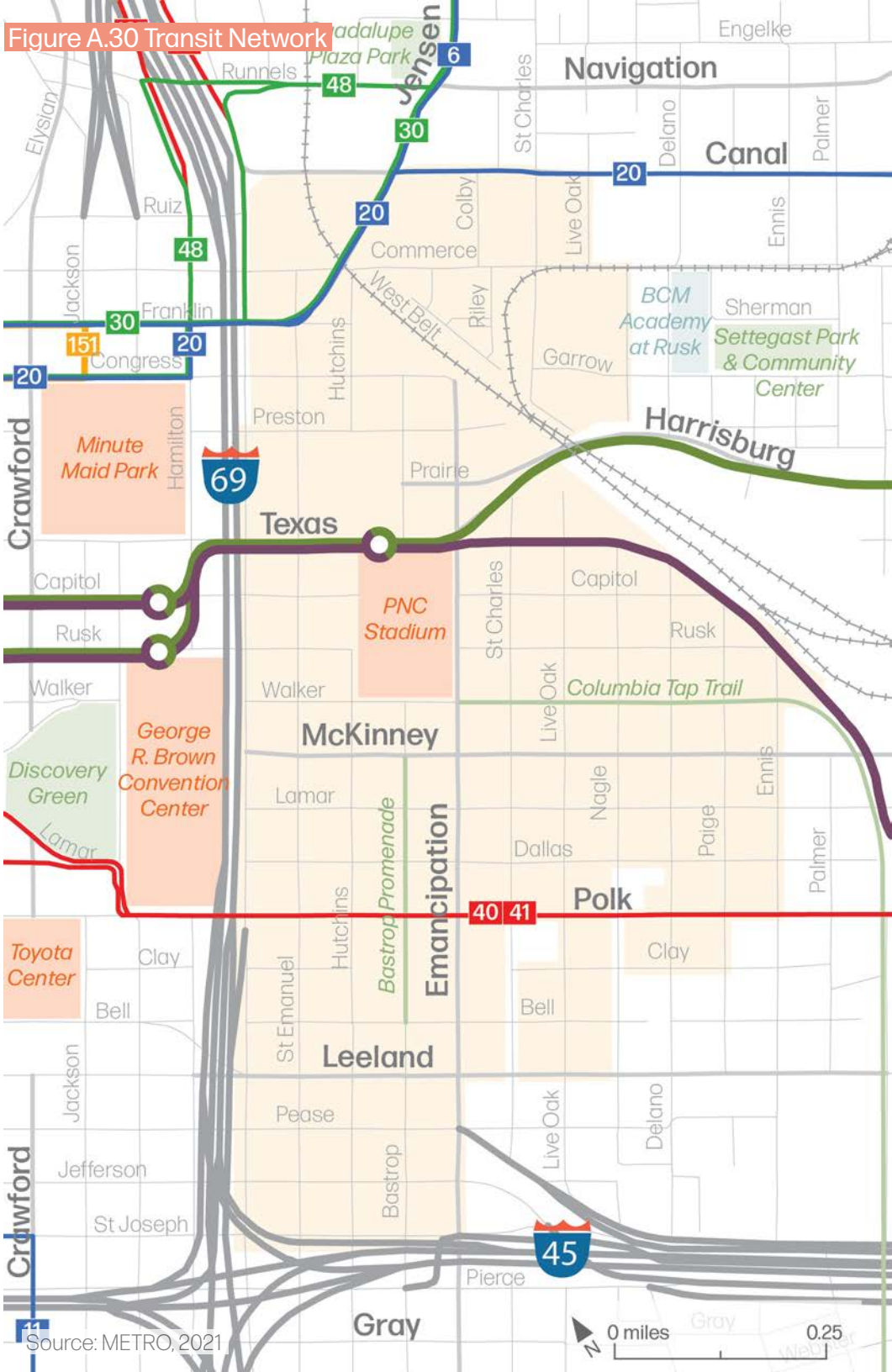


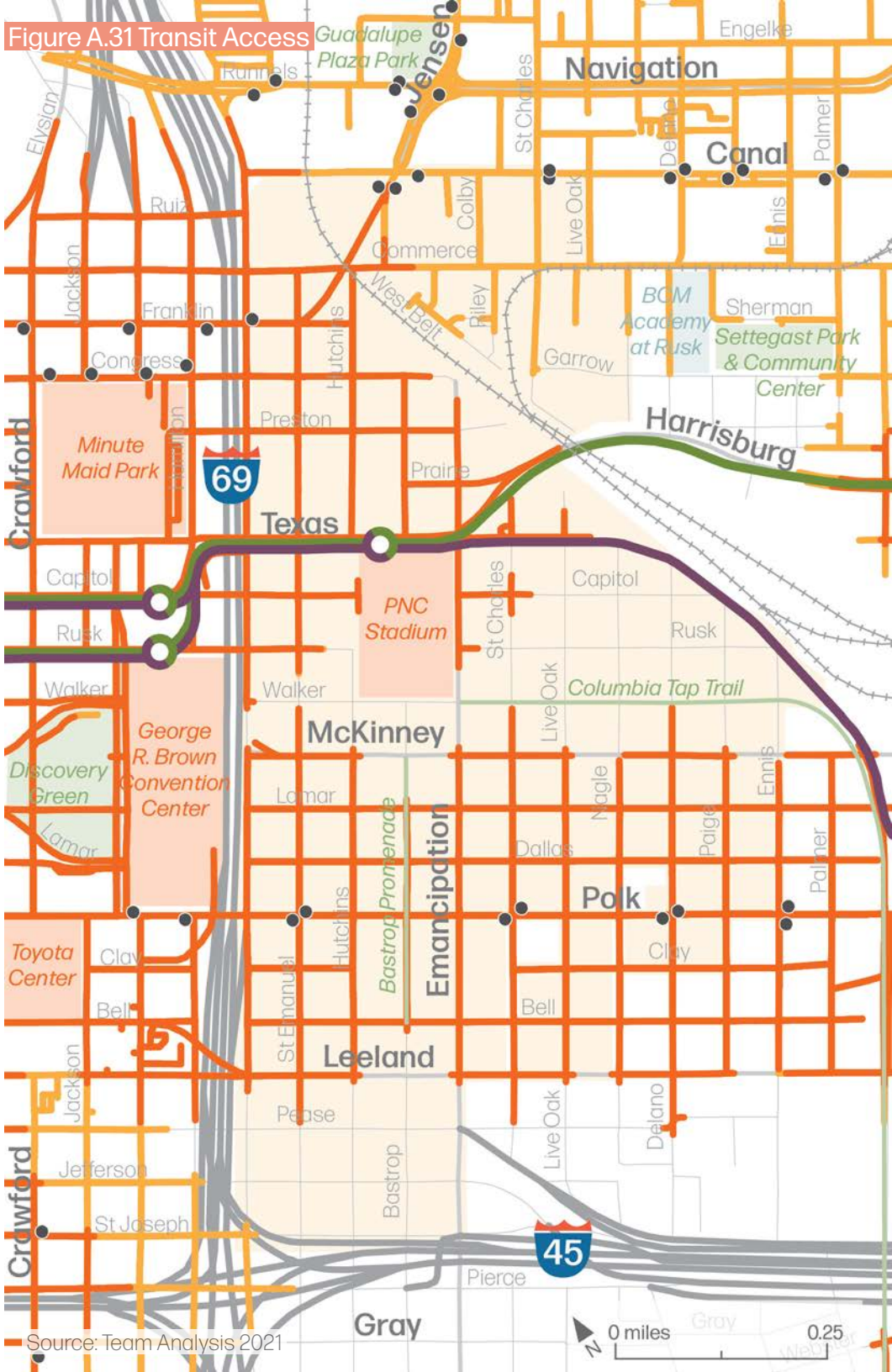
Figure A.30 Transit Network

Source: METRO, 2021

Transit Access

Most streets in the Zone are within 5-minute walk (1/4 mile) of a bus stop or rail station, as shown in Figure A.31. However, a few areas still lack easy access to a transit stop. The portions of the Zone south of Leeland Street and the corner north of McKinney and east of Emancipation Avenue are both more than 1/4 mile from a transit stop. Both areas have several vacant or newly redeveloped parcels that could benefit from better connections to transit service. Both areas also have clusters of missing sidewalks or sidewalks in poor condition that would be key for any future walkability to transit, see pages 30-36.

Figure A.31 Transit Access



Source: Team Analysis 2021

- Bus Stop
- Within 1/4 mile of a high-frequency transit route
- Within 1/4 mile of a non-high-frequency transit route
- School
- Park
- Major Destinations
- METRORail Lines & Stations
- Freight Rail Lines
- TIRZ Boundaries

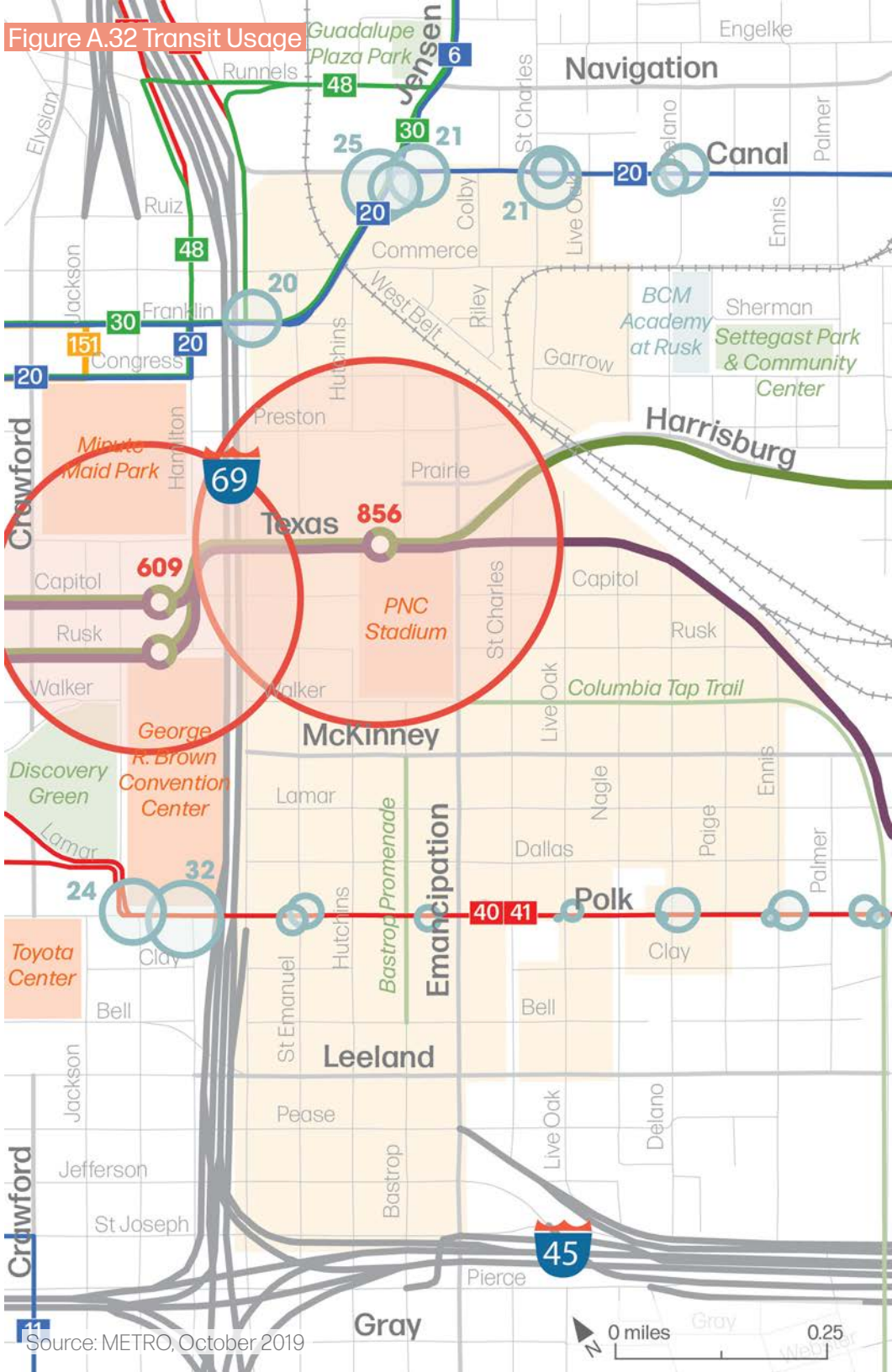
Transit Usage

METRORail Green and Purple lines offer the highest level of transit service with more than 100 daily trips to the East End and University of Houston and over 200 daily trips to Downtown. As a result they see the highest ridership with over 850 daily boardings at EaDo/Stadium Station and a similar number of alightings.

The METRO bus routes 40/41 on Polk Street offer about 80 total trips in each direction and see an average of about 55 daily boardings within the Zone. The Polk Street Sidewalk and Bikeway project consolidated and improved stops along Polk Street, resulting in fewer stops with higher ridership than indicated in this 2019 data.

Together, the 6 Jensen/Greens, 20 Canal/Memorial, and 30 Clinton/Ella pick up about 114 people each day within the Zone along Navigation Boulevard and Canal Street.

Figure A.32 Transit Usage



- School
- Park
- Major Destinations
- METRORail Lines & Stations
- Freight Rail Lines
- TIRZ Boundaries

Source: METRO, October 2019

NHHIP Impacts

Insights

The North Houston Highway Improvement Project will have **profound impacts on mobility and land use** in the Zone by changing the design and context of major streets and altering connectivity across IH-69 & IH-45.

East Downtown & the NHHIP

The Texas Department of Transportation (TxDOT) has proposed the North Houston Highway Improvement Project (NHHIP) as a major reconstruction and widening of IH-45. The full extents of project span from North Sam Houston Tollway in the north to the junction of IH-69 and SH-288 in the south.

As proposed, the project entails removing IH-45 from the west side of Downtown and re-routing it to run parallel to IH-69 between Downtown and East Downtown with significant impacts for the Zone. The reconstruction will widen the existing IH-69 right-of-way from 220 feet to 550 feet to accommodate IH-45 main lanes and add lanes to both IH-69 and IH-45, see Figure A.33.

The portion of the project from Lamar Street to Commerce Street will also be depressed below grade and capped with concrete slabs, (see Figure A.33). TxDOT self-certified the final Environmental Impact Statement and issued a Record of Decision in 2021. Both of these milestones represent major steps toward the implementation of the project, which is likely to take multiple years to complete.

Source: TxDOT, 2021

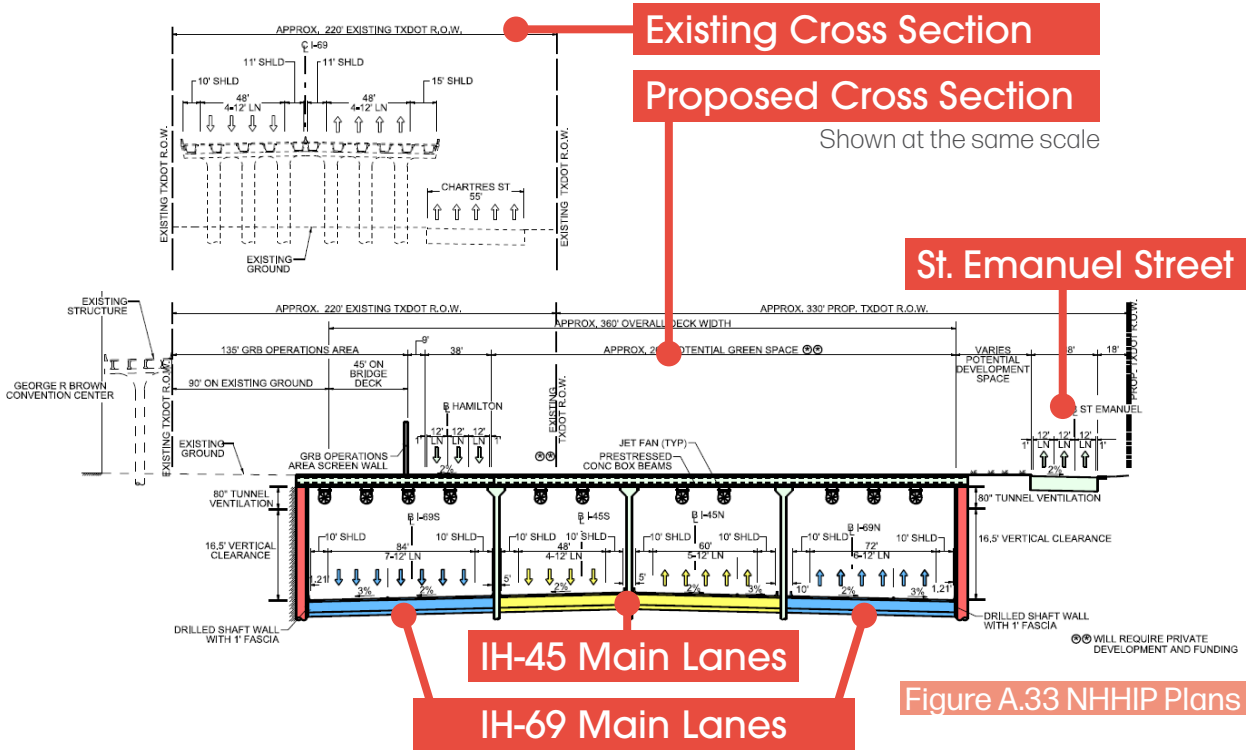


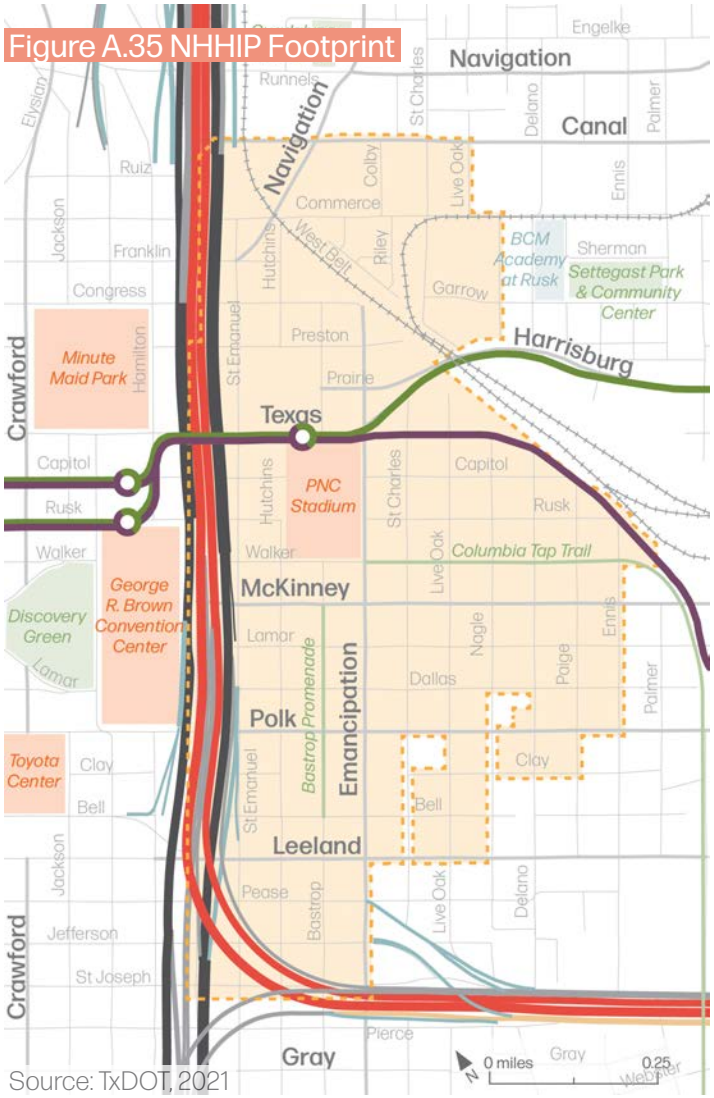
Figure A.33 NHHIP Plans

Existing Highways → NHHIP Footprint

Figure A.34 Existing Highways

Source: Team Analysis 2021

Figure A.35 NHHIP Footprint



Source: TxDOT, 2021

Existing Highway Footprint

IH-69 Main Lanes

IH-45 Main Lanes

Ramps

Direct Connectors

The NHHIP will have a profound impact on mobility in East Downtown. IH-69 and IH-45 currently act as major barriers to and from the Zone by limiting the number of crossings between East Downtown and nearby neighborhoods. The highway frontage roads and their connecting streets – Chartres Street, Pease Street, and Jefferson Street – are wide and high-speed streets that also serve as barriers for local travel, especially for people walking and biking.

As shown in Figures A.34 and A.35, the existing highway footprint will expand into the Zone. Implementation will require careful planning to ensure that the proposed NHHIP footprint does not create a more restrictive barrier.

School

Park

Major Destinations

METRORail Lines & Stations

Freight Rail Lines

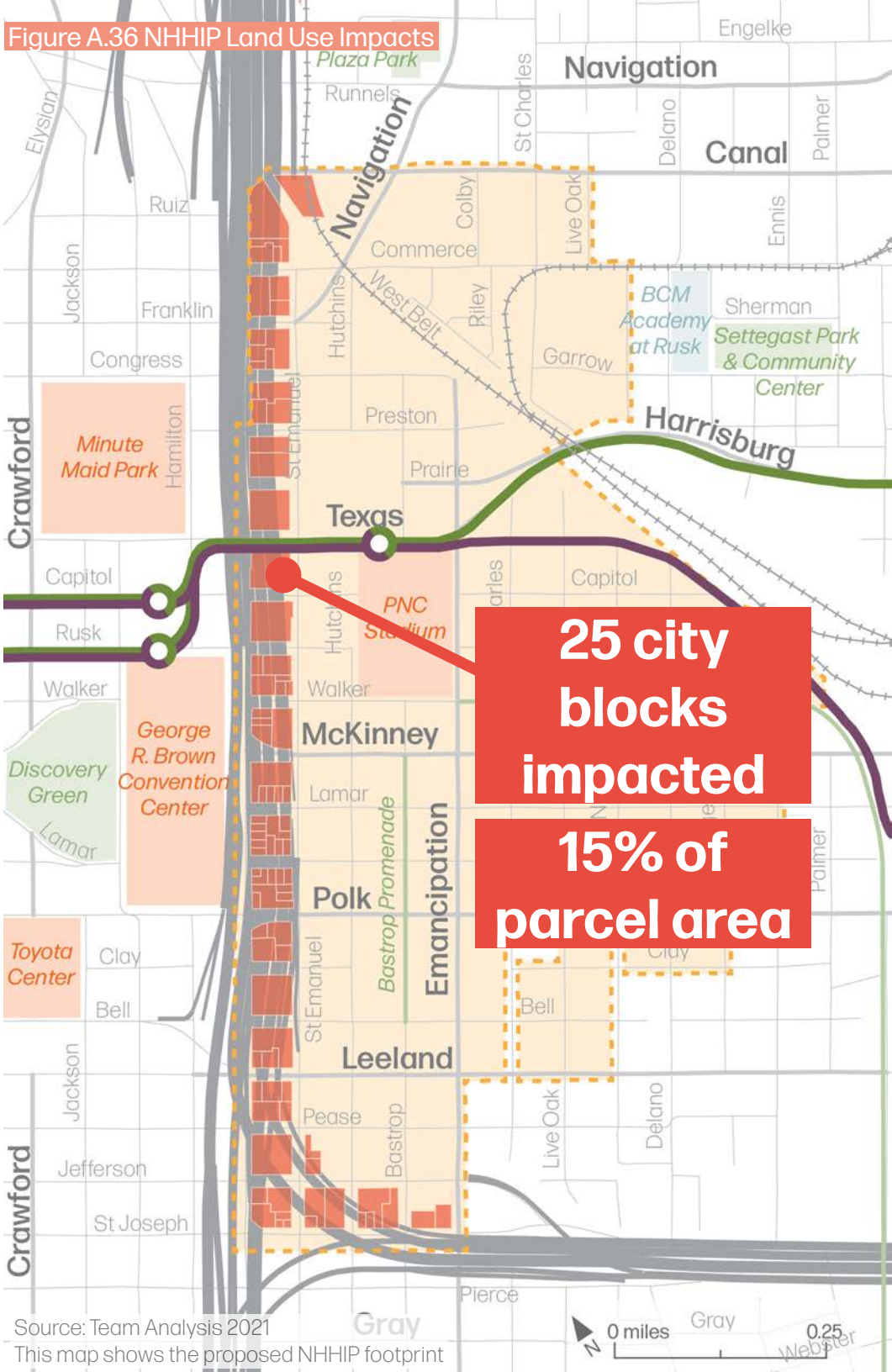
TIRZ Boundaries

NHHIP Land Use Impacts

The widening of the highway footprint due to NHHIP requires the purchase and demolition of dozens of buildings and lots in the Zone. , The project will remove the equivalent of 25 city blocks from the Zone, representing 15% of the total parcel area, (see Figure A.36). TxDOT has already purchased most of these properties in anticipation of project construction.

Several of the impacted city blocks are along the St. Emanuel Street corridor and contribute to the Zone's vibrant restaurant, bar, and entertainment district along that street. These properties will also be removed from the tax rolls of the TIRZ and may cause a decrease in its annual increment used to fund infrastructure projects.

Figure A.36 NHHIP Land Use Impacts



School
Park
Major Destinations
METRORail Lines & Stations
Freight Rail Lines
TIRZ Boundaries

NHHIP Footprint
Impacted Parcels

Source: Team Analysis 2021
This map shows the proposed NHHIP footprint

NHHIP Mobility Impacts

In addition to taking up more space, the NHHIP will redefine connectivity in East Downtown, particularly along the Zone's western and southern edges. Figure A.37 illustrates some of the impacts.

Highway Crossings

Closed Local Crossing

Multiple crossings of IH-69 will be closed in the proposed design, including Runnels Street, Ruiz Street, Bell Street, and Polk Street (a major transit and bikeway corridor).

Maintained Highway Crossing

Some existing crossings will remain in the proposed design.

Highway Access

Frontage Road

Chartres Street will be removed and St. Emanuel Street will be reconstructed as a highway frontage road.

Southern Zone Access Impacts

The widening will also require new access points, including for HOV lanes that will need to connect to the local street grid.

Highway Cap

Proposed Cap Park

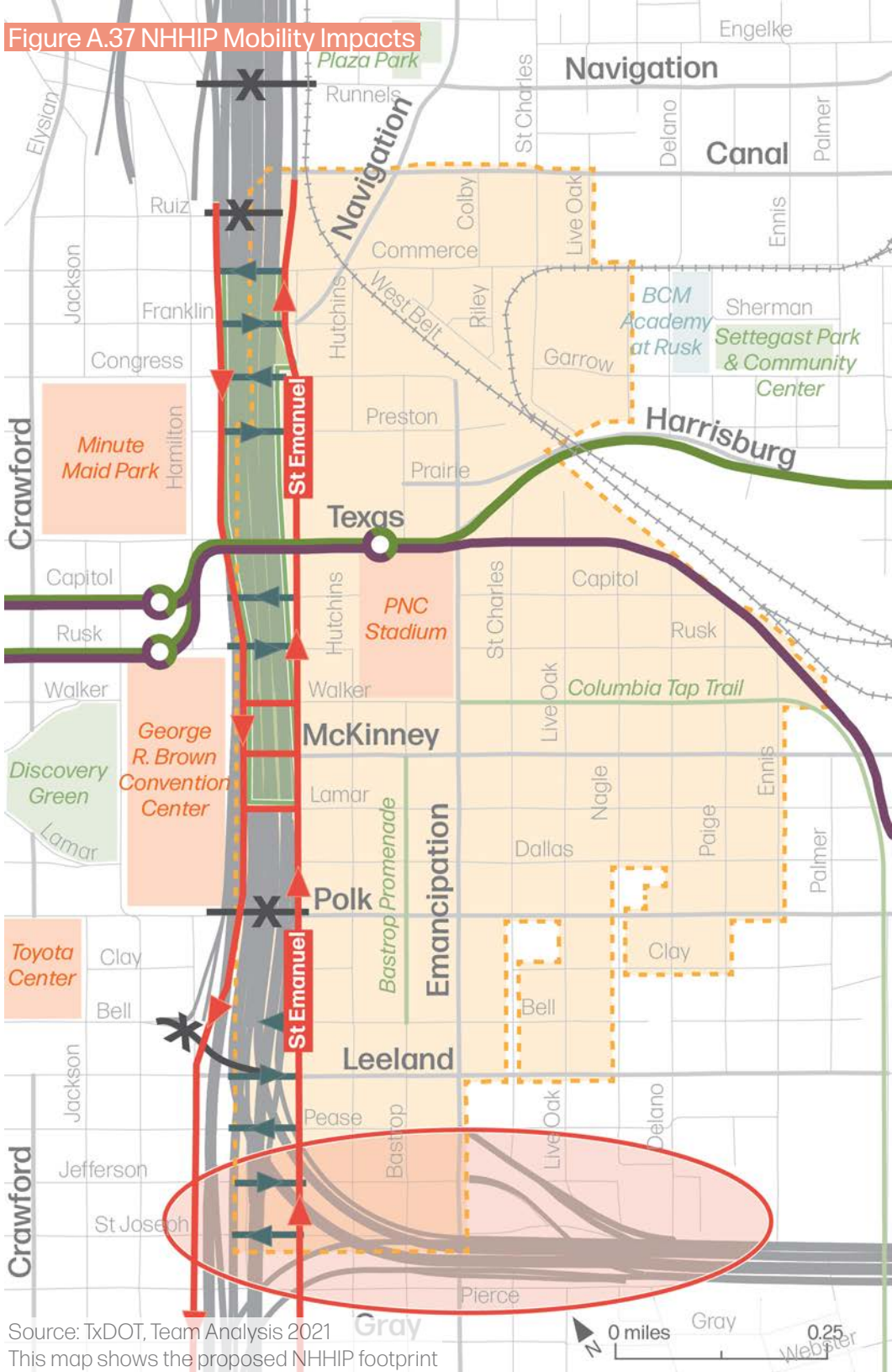
TxDOT designs show a potential park on the capped portion of the freeway from Lamar Street to Commerce Street. The park is not funded by the NHHIP project, however.

Added Cap Park Crossing

Three new connections will be added across the capped highway at Walker Street, McKinney Street, and Lamar Street but will terminate at the back of the George R. Brown Convention Center and not continue into Downtown.

School
Park
Major Destinations
METRORail Lines & Stations
Freight Rail Lines
TIRZ Boundaries

Figure A.37 NHHIP Mobility Impacts



Source: TxDOT, Team Analysis 2021
This map shows the proposed NHHIP footprint

What mobility projects are underway or planned?

Recent, Ongoing, and Programmed Projects

Figure A.38 and the table on the following page detail the TIRZ's recent and programmed mobility investments in the Zone. The projects include a range of improvements from landscaping treatments to complete street reconstruction.

The nexus of current TIRZ investment is the Zone's central core, specifically improving east-west connections from St. Emanuel Street to Emancipation Avenue. The landscape and amenities projects also reflect a commitment to enhancing and extending the TIRZ's existing investments like the Bastrop Promenade, the Columbia Tap Trail, and the Phase 1 street improvements (A on the map).

Figure A.38 Programmed Projects

Source: TIRZ 15, Team Analysis, 2021

- Reconstruction Project
- Rehab & Operations Project
- Landscape & Amenities Project
- School
- Park
- Major Destinations
- METRORail Lines & Stations
- Freight Rail Lines
- TIRZ Boundaries

Recent, Ongoing, and Programmed Projects

		Project	Location	Description
Reconstruction	A	Phase 1 - Roadway and Utility Reconstruction *Complete*	• St. Emanuel Street and Hutchins Street (McKinney Street to Polk Street) • Dallas Street, and Lamar Street (Chartres Street to Emancipation Avenue)	Reconstruction of the roadway, sidewalks, and curb ramps, including updating public utilities
	B	Phase 2 - Roadway and Utility Reconstruction *Future*	• Hutchins Street (Polk Street to Leeland Street) • Clay Street (St. Emanuel Street to Hutchins Street) • Bell Street (St. Emanuel Street to Bastrop Street) • Polk Street (St. Emanuel Street to Emancipation Avenue)	Reconstruction of the roadway, sidewalks, and curb ramps, including updating public utilities
	C	Bastrop Right-of-Way Improvements *Future*	• Bastrop Street (Bell Street to Leeland Street)	Analysis and improvement of Bastrop Street right-of-way, including potential reallocation of space for the extension of the Bastrop Promenade
	D	Phase 3 - Roadway and Utility Reconstruction *Future*	• Bell Street (Bastrop Street to Emancipation Avenue) • Leeland Street (St. Emanuel Street to Emancipation Avenue)	Reconstruction of the roadway, sidewalks, and curb ramps, including updating public utilities
Rehab & Operations	E	Walker Street Roadway Rehabilitation *Future*	• Walker Street (St. Emanuel Street to Emancipation Avenue)	Improvements include mill and overlay of new pavement and streetscape improvements; right-of-way may be reallocated to provide for all modes of transportation and to provide connection to the Columbia Tap Trail
	F	Texas Avenue Roadway Improvements *Future*	• Texas Avenue (St. Emanuel Street to Emancipation Avenue)	Traffic modifications including improvements to pedestrian crossings to PNC Stadium
	G	McKinney Street Rehabilitation *Future*	• McKinney Street (St. Emanuel Street to Emancipation Avenue)	Improvements include mill and overlay of new pavement and streetscape improvements
Landscape & Amenities	H	Bastrop Promenade/ Greenspace *Future*	• Bastrop Promenade (Polk Street to Bell Street)	Recreational and pedestrian improvements to undeveloped portions of the promenade, including a new childrens' playground, improvements to the dog park, public art, and continuation of pedestrian lighting south of Polk Street
	I	Amenity Overlay - Phase 1 *Ongoing*	• St. Emanuel Street and Hutchins Street (McKinney Street to Polk Street) • Dallas Street, and Lamar Street (Chartres Street to Emancipation Avenue)	Includes addition of trees, pedestrian lighting, bicycle racks, benches, and other items
	J	Columbia Tap Trail Improvements *Future*	• Columbia Tap Trail (St. Charles Street to Ennis Street)	Additional trees, lighting, ADA related improvements to ramps, crosswalks, work out and bicycle repair stations

Table A.4 Recent, Ongoing, and Programmed Projects

Appendix B: Community Engagement Summary

Community Engagement Approach

Overview

Community input played a key role in shaping Plan goals and priorities. Residents, business owners, and visitors could participate in various ways throughout the planning process, including through a project website, multiple online surveys, an in-person bike tour, and the TIRZ 15 Annual Briefing.

Community input was used to develop the Case for Action Insights, Mobility Opportunities, and all project and program recommendations.

Project Website

The project website included key information about the project, the TIRZ, and the study area. The completed Fact Book was displayed on the project website to share demographic and mobility data about the TIRZ. The website also hosted both the Goals Survey and the Recommendations Survey.

Goals Survey

The goals survey asked respondents for input about their mobility goals and challenges pertaining to four themes: Bikeway Connectivity, Walkability & Sidewalks, Transit Access, and NHHIP Impacts. The survey was available to people who live, work, or visit the Zone, and the results directly informed the Case for Action Insights and Mobility Opportunities.

Bike Tour

The TIRZ hosted an in-person Bike Tour on November 13th starting at EaDo Bike Co. The Bike Tour was open to the public and stopped at key locations that represented the Zone's unique mobility needs. The tour gave the public a chance to ask questions about mobility in East Downtown and share their input about mobility challenges and opportunities in the Zone. The Bike Tour ended at EaDo Bike Co. and participants were encouraged to take the Goals Survey.

Recommendations Survey

The recommendations survey was open from March 24th through April 8th. The survey asked for feedback about the recommended projects to ensure that they align with the Mobility Opportunities and community priorities.

Annual Briefing

The project team presented the final project recommendations and the results of the recommendations survey at the TIRZ 15 Annual Briefing on April 26, 2022.

Agency Coordination

The TIRZ and consultant team met with partner agencies to share details about recommended projects and identify areas of goal alignment and potential coordination. A summary of those meetings can be found on page B19.

Website
Released November 1st

TIRZ 15 Mobility Plan project website included information about the project, online surveys, and plan documents.

Goals Survey
November 1st - 24th

The first survey was launched on the website and included a virtual map to follow along.

Bike Tour
November 13th

The team hosted an in-person bike tour showcasing mobility in East Downtown, including challenges and opportunities.

Recommendations Survey
March 24th- April 8th

The second survey sought feedback about recommended projects.

TIRZ 15 Annual Briefing
April 26th

The team presented about the survey results and final project recommendations at the TIRZ 15 Annual Briefing.

TIRZ 15 Bike Tour

On November 13, 2021, the team hosted a TIRZ 15 Bike Tour to share information about mobility in East Downtown and gather input from tour participants about their experiences traveling in the Zone. The tour began and ended at the EaDo Bike Co. with several stops along the way. The tour highlighted major barriers in the Zone, street characteristics such as wide pavement widths, recent TIRZ investments, transit and bikeway connectivity.

Information about the tour was shared on social media and with TIRZ 15 partners. Participants were encouraged to fill out the survey after the Bike Tour ended.

Tour Stops

#1 Columbia Tap Trail at St. Charles St
#2 Lamar St at Hutchins St
#3 Bell St at Leeland St
#4 Polk St at St. Charles St
#5 Bastrop Promenade at St. Charles St
#6 Capitol St at Paige St
#7 Hutchins St at Franklin St

Goals Survey

The Goals Survey and Virtual Mobility Tour were live on the project website from November 1, 2021 through November 24, 2021 to people who live, work, and visit the Zone. The survey sought public input about community priorities for mobility in the Zone, including current mobility challenges and ways mobility in the Zone could be improved. The survey was in the form of a Virtual Tour on a map, which allowed the public to follow a route and give feedback on each tour stop. Different components of the mobility plan were included in the survey such as Bikeway Connectivity, Walkability & Sidewalks, Transit Access, and NHHIP impacts.

Information about the survey was shared through local partners and media, including the City of Houston, East Downtown Management District, East End District, Harris County Precinct One, the Office of Councilmember Robert Gallegos, the Offic of Councilmember Carla Ciscneros, BikeHouston, Houston Bike Share, EaDo Bike Co. and others. A total of 154 people responded to the survey. Responses were analyzed and used to develop the Case for Action Insights and Mobility Opportunities. Major Insights were presented to the TIRZ 15 Projects Committee and Board on December 6, 2021 and December 13, 2021, respectively.

The Zone is a **regional commercial destination** and a large share of the people using its streets are **visitors**.

People are **already biking and walking** in and through the Zone but would do it **more frequently if it were easy and safe**.

People prefer **biking on streets with protection** from high vehicle speeds and volumes.

People want **safer crossings**, particularly across **rail lines and wide, high speed streets** like Emancipation Avenue.

People want to see **more light rail access** and new **north-south transit options**.

People do not want to **lose existing connectivity** to Downtown or the **character of the Zone due to NHHIP**.

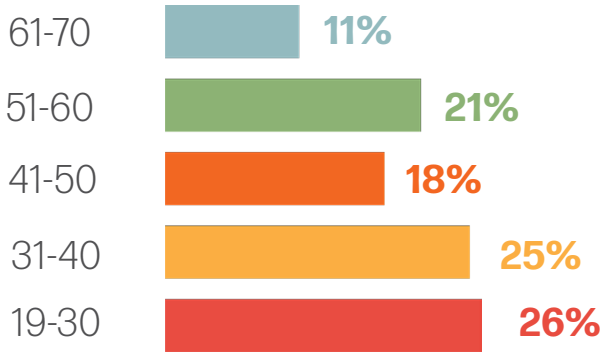
Survey Results: Who responded?

A total of 154 people responded to the survey. Most respondents identify as white with one quarter identifying as Hispanic/Latino. A majority (66%) are male with about one-quarter in the age ranges of 19-30 (26%) or 31-40 (25%) years old.

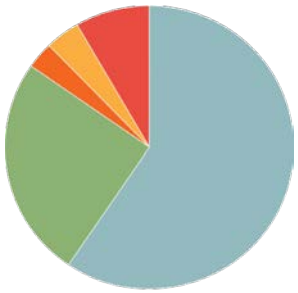
154

total respondents

Age

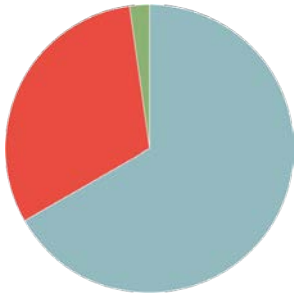


Race & Ethnicity



- White **59%**
- Hispanic/Latino **25%**
- Black **3%**
- Asian **4%**
- Multiracial/Other **8%**

Gender



- Male **66%**
- Female **31%**
- Other/Non-Binary **2%**

Survey Results: Who responded?

Around three-quarters (75%) of respondents answered that they visit the Zone to eat, shop, or go to events. Another 21% of respondents live in the Zone. The results of the responses to "Relationship to the Zone" do not add to 100% because respondents could select all options that applied to them.

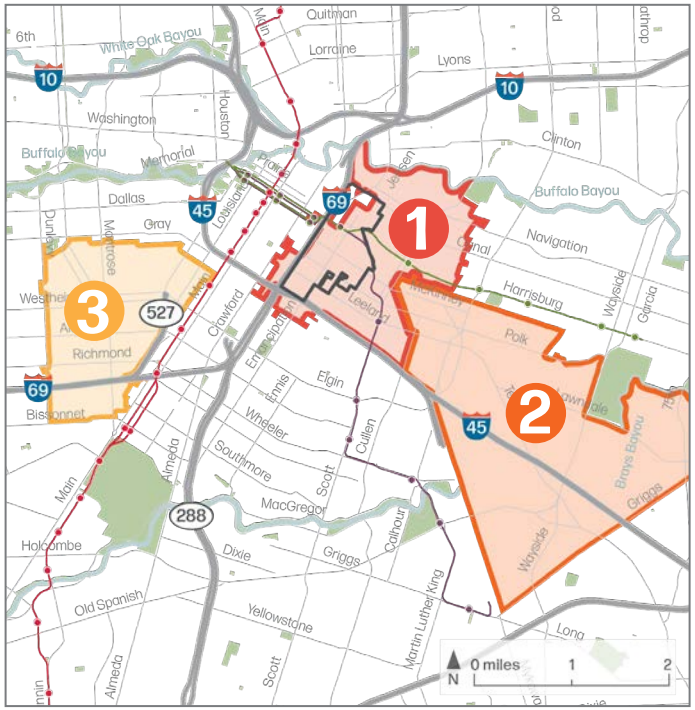
Out of the 154 respondents, the highest percentage of results came from individuals that live in the East Downtown/Second Ward ZIP code (77003). The second highest percentage of respondents came from the Eastwood/Gulfgate/Lawndale neighborhood ZIP code (77023). The third most common ZIP code for respondents was from 77006 in Montrose and Midtown.

Relationship to the Zone

Totals do not add to 100% beacuse respondents were asked to "Select all that apply."

Top ZIP Codes

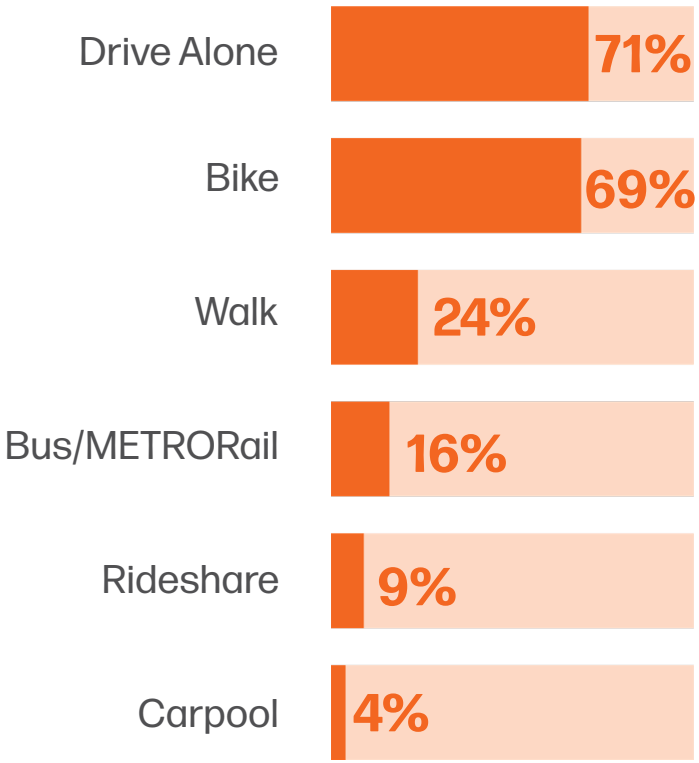
1. **77003** East Downtown
2. **77023** Eastwood/Gulfgate/Lawndale
3. **77006** Montrose/Midtown



Survey Results: How do they get around?

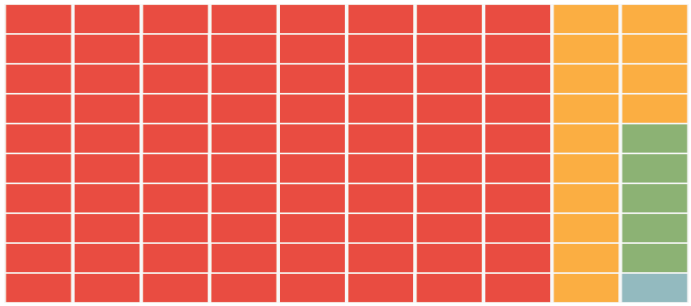
The team asked respondents to chose their top 2 modes of transportation. Most survey takers Drive Alone (71%), followed by biking (69%). Walking (24%) was the next highest response followed by taking transit (16%). When asked about their preference for non-auto travel, 80% of respondents said that they already walk, bike, or ride transit but would still like to see improvements. Another 14% said that they do not currently walk, bike, or ride transit but would do so with improvements to East Downtown streets.

What are your **top 2 modes** of transportation?



Totals do not add to 100% beacuse respondents were asked to "Select all that apply."

What **describes you best** (preference for not driving)?



80% I already **walk/bike/ride** transit but would **like to see improvements**.

14% I **do not walk/bike/ride** transit but would **with improvements**.

5% I **drive everywhere** and am **unlikely to walk/bike/ride** transit.

1% I already **walk/bike/ride** transit and am good with **current condition**.

Survey Results: Bikeway Safety & Connectivity

The survey asked respondents to name the streets or trails where people currently feel safe biking. Polk Street (48 responses) and the Columbia Tap Trail (29 responses) were the most-mentioned streets, followed by "None" with 12 responses.

The survey also asked respondents to name the streets that could be improved for safer biking. Emancipation Avenue (22 responses), Commerce Street (14 responses), St. Emanuel Street (13 responses), Polk Street (11 responses), McKinney Street (10 responses), Leeland Street (9 responses) and Navigation Boulevard (7 responses) were the streets mentioned most often.

What streets or trails do you currently **feel safe biking on**?

#1 **Polk** *(48)*
#2 **Columbia Tap** *(29)*
#3 **None** *(12)*
#4 **Harrisburg Trail** *(8)*
#5 **Leeland** *(7)*
#6 **McKinney** *(6)*
#7 **Lamar** *(5)*
#8 **Hutchins** *(5)*
#9 **St Emanuel** *(4)*
#10 **Bastrop Promenade** *(3)*

(Response open ended)

What streets **could be improved** for safer biking?

#1 **Emancipation** *(22)*
#2 **Commerce** *(14)*
#3 **St. Emanuel** *(13)*
#4 **Polk** *(11)*
#5 **McKinney** *(10)*
#6 **Leeland** *(9)*
#7 **Navigation** *(7)*
#8 **All** *(6)*
#9 **Harrisburg** *(4)*
#10 **York** *(4)*

(Response open ended)

Survey Results: Walkability & Sidewalks

The survey asked respondents to name which streets could be improved for safer walking and the most common response was "All streets" (16 responses). Emancipation Avenue (8 responses) was the next most frequent response followed by Leeland Street (5 responses) and Canal Street (5 responses).

Although the survey did not directly ask respondents to name specific intersections, several people included intersections in their list of streets that could be improved. The most common intersections mentioned included Columbia Tap Crossings (4 responses), Harrisburg Boulevard at Emancipation Avenue (2 responses), St. Emanuel Street at Lamar Street (2 responses), and Navigation Boulevard at Commerce Street (2 responses).

What streets **could be improved** for safer walking?

#1 All *(16)*
#2 Emancipation *(8)*
#3 Canal *(5)*
#4 Leeland *(5)*
#5 Commerce *(4)*
#6 Navigation *(3)*
#7 McKinney *(3)*
#8 Polk *(3)*
#9 St. Emanuel *(3)*
#10 Milby *(2)*

(Response open ended)

What intersections **could be improved** for safer walking and biking?

#1 Columbia Tap Crossings *(4)*
#2 Harrisburg @ Emancipation *(2)*
#3 St. Emanuel @ Lamar *(2)*
#4 Navigation @ Commerce *(2)*

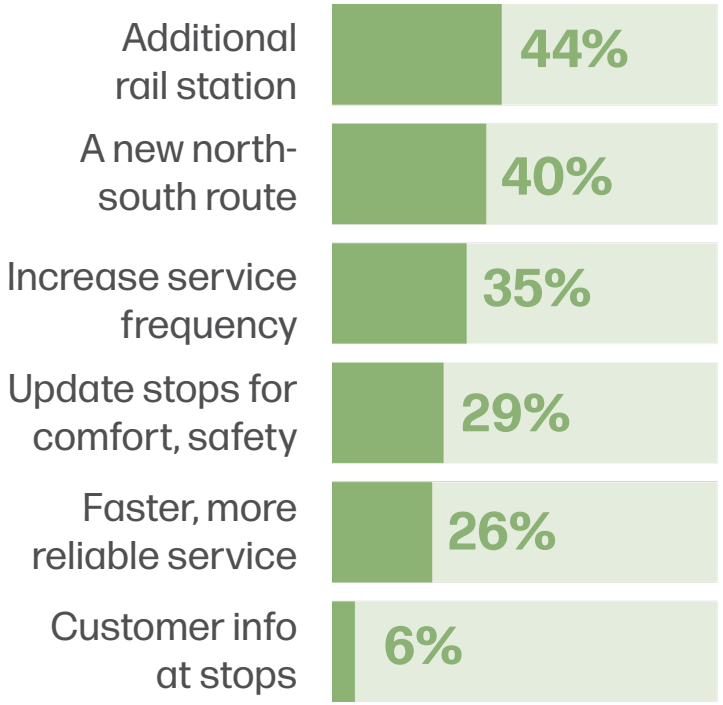
(Response open ended)

Survey Results: Transit Access & NHHIP Impacts

When asked about potential improvements to transit service, respondents wanted to see an additional rail station (44%) and a new north-south transit route (40%). Other common responses were Increased service frequency (35%) and updated stops for comfort, safety (29%).

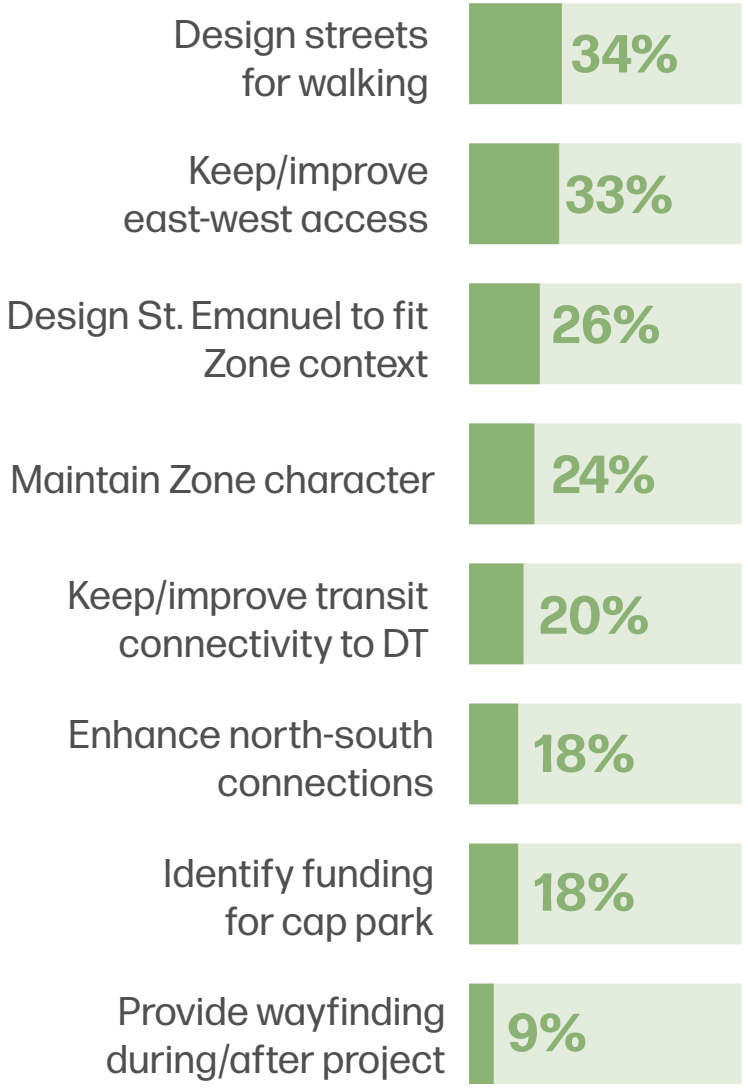
The survey asked respondents how the TIRZ could best prepare for the NHHIP. Around 34% of respondents wanted to design streets for walking and another 33% of respondents wanted to make sure that east-west access was improved and kept with the new construction.

What are the **most important transit investments** for the Zone?



Totals do not add to 100% beacuse respondents were asked to "Select all that apply."

What is the best way to **prepare for the NHHIP project**?



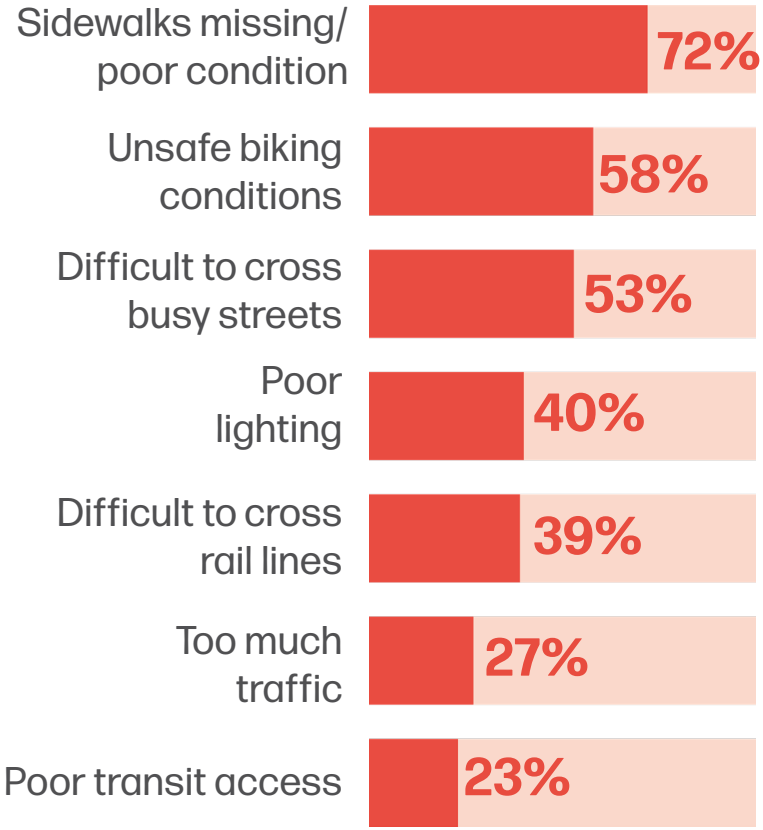
Totals do not add to 100% beacuse respondents were asked to "Select all that apply."

Survey Results: How would they improve mobility?

The survey asked respondents about their main concerns or frustrations when getting around the Zone. Around 72% of respondents said missing or poor-quality sidewalks were their main concern/frustrantion and another 58% believed that unsafe conditions for biking is a main concern/frustration.

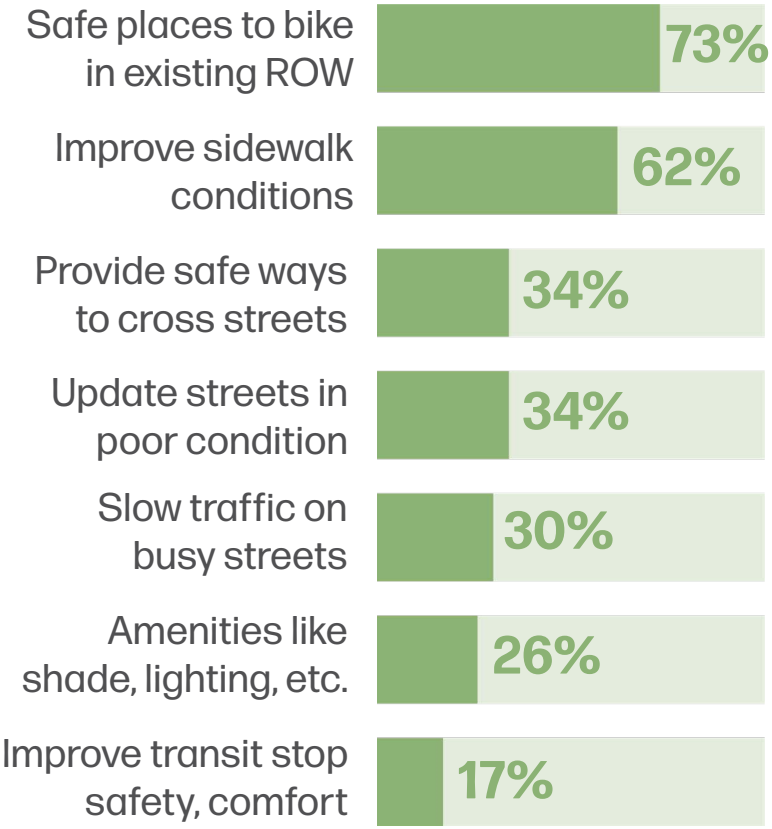
The majority of respondents agreed that safer places to bike in the existing right-of-way (73%) would make travel easier and more enjoyable. Others would like to see improvements in sidewalk conditions (62%), safe ways to cross streets (34%) and updated streets that are in poor condition (34%).

What are your **concerns or frustrations** when getting around the Zone?



Totals do not add to 100% beacuse respondents were asked to "Select all that apply."

What would make travel **easier and more enjoyable** for you?



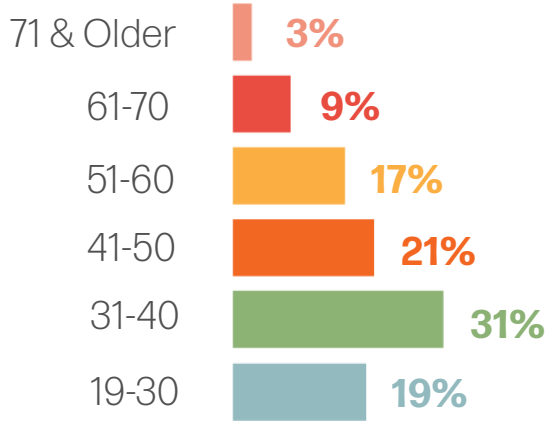
Recommendations Survey

The recommendations survey was open to the public from March 24, 2022 to April 8, 2022. The survey sought public feedback on project recommendations to ensure that they aligned with community priorities and the Mobility Opportunities identified in the goals survey.

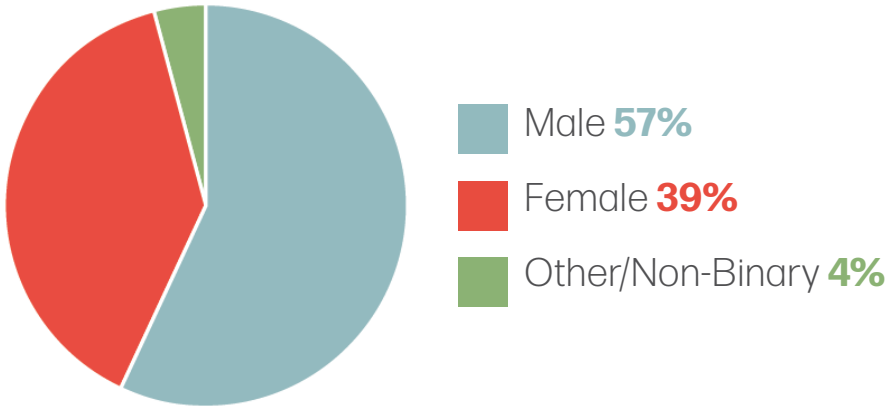
They survey was advertised through TIRZ 15 partners including the City of Houston, Harris County Precinct One, East Downtown Management District, East End District, BikeHouston, and Houston Bike Share. A postcard with a QR code to the survey was also mailed to nearly 4,800 residential and business addresses in and around the Zone.

The recommendations survey received 141 responses. Around 39% of survey takers were women, higher than the first survey. Just under one-third (30%) of respondents were ages 31 to 40 with another 21% 41-50 years old and 19% 19-30 years old. About 62% of respondents identified as White and another 17% identified as Hispanic/Latino.

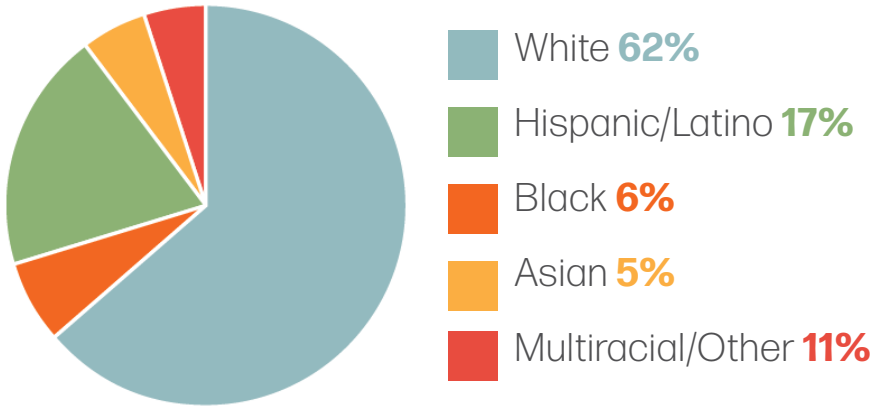
Age



Gender



Race/Ethnicity



Survey Results: Who responded?

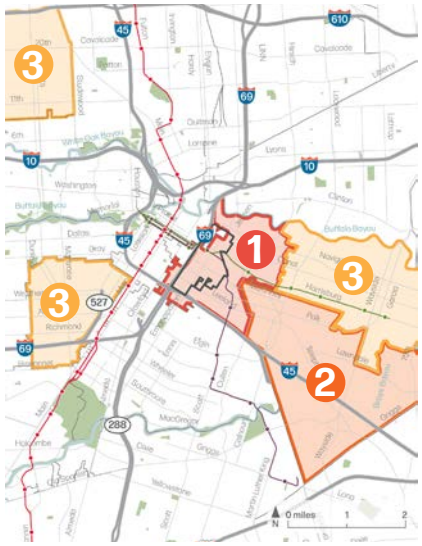
Unlike the Goals Survey, the Recommendations Survey had a majority of respondents who live in the Zone (65%), followed by people who visit the Zone (52%). The most common ZIP code is 77003 (East Downtown), followed by 77023 (Eastwood/Gulfgate/Lawndale). Most respondents' top mode of transportation was Drive Alone (77%), followed by Walk (53%) and Bike (40%).

Top ZIP Codes

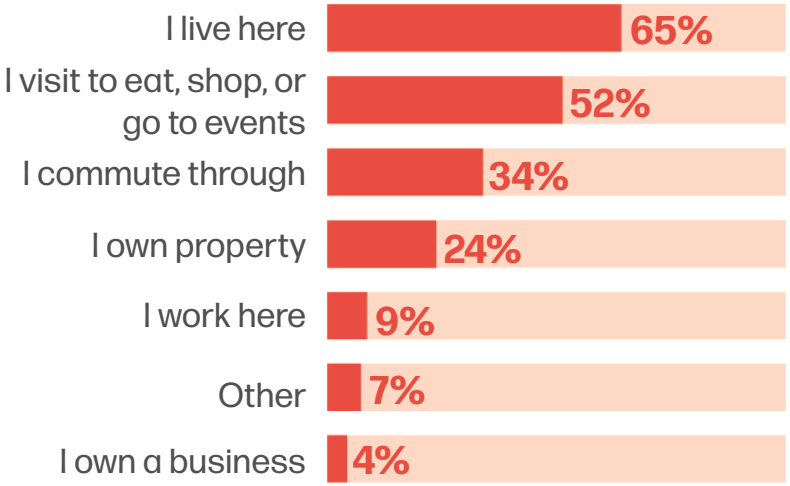
1. **77003** East Downtown
2. **77023** Eastwood/Gulfgate/Lawndale
3. **77006** Montrose/Midtown

   77008 The Heights

   77011 Second Ward

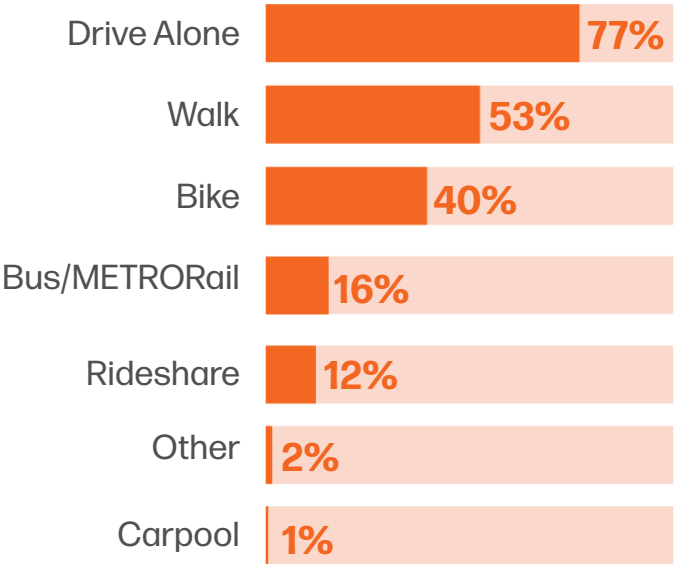


Relationship to the Zone



Totals do not add to 100% beacuse respondents were asked to "Select all that apply."

What are your **top 2 modes** of transportation?

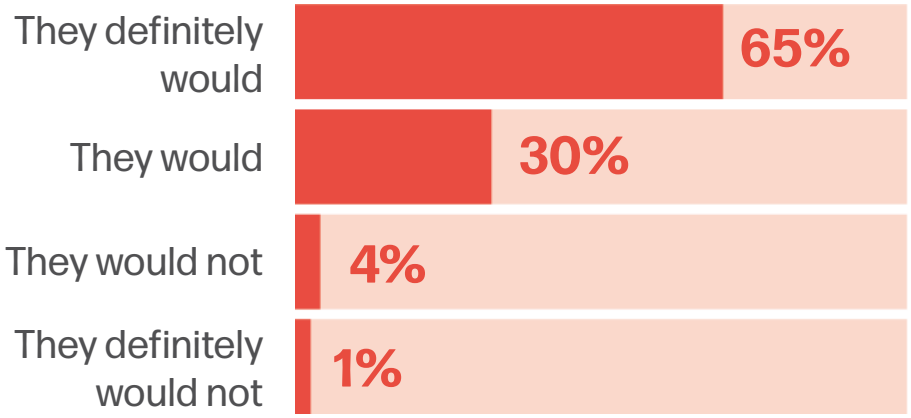


Totals do not add to 100% beacuse respondents were asked to "Select all that apply."

Survey Results: Street Improvements

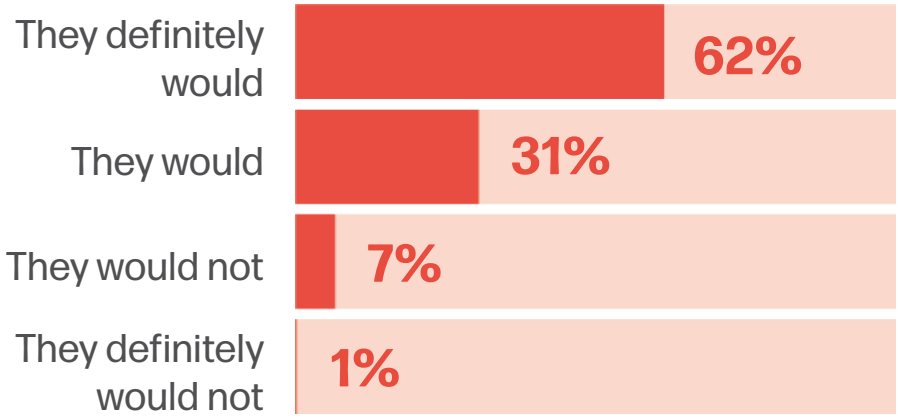
When asked about project recommendations, 95% of respondents said that the proposed map of street improvements would make them feel safer walking around East Downtown.

This network of street improvements would **make me feel safer walking** around East Downtown.



When asked about project recommendations, 93% of respondents said that the proposed map of street improvements would make it easier for them to walk to their destinations in East Downtown.

The recommended network of street improvements would **make it easier for me to walk to my destinations** in East Downtown.



Survey Results: Street Improvements

Respondents were asked which projects are most important to improving walkability in East Downtown. The most common responses included Emancipation Avenue (37%), McKinney Street (28%), Polk Street (23%), and Commerce Street (20%).

All projects on this map will include sidewalk and curb ramp improvements. Which projects do you think are **most important to improving walkability** in East Downtown?

#1 Emancipation Avenue *(37%)*
#2 McKinney Street *(28%)*
#3 Polk Street *(23%)*
#4 Commerce Street *(20%)*
#5 Eastern Zone Improvements *(19%)*
#6 Bastrop Promenade *(18%)*
#7 Leeland Street *(18%)*
#8 Live Oak Street *(16%)*
#9 Capitol Street & Paige Street *(8%)*
#10 Southern Zone Improvements *(8%)*

Respondents were asked on a scale of 1 to 100 whether they would be more likely to walk in East Downtown if the street improvement projects were implemented. On average, responses totaled to 80 out of 100.

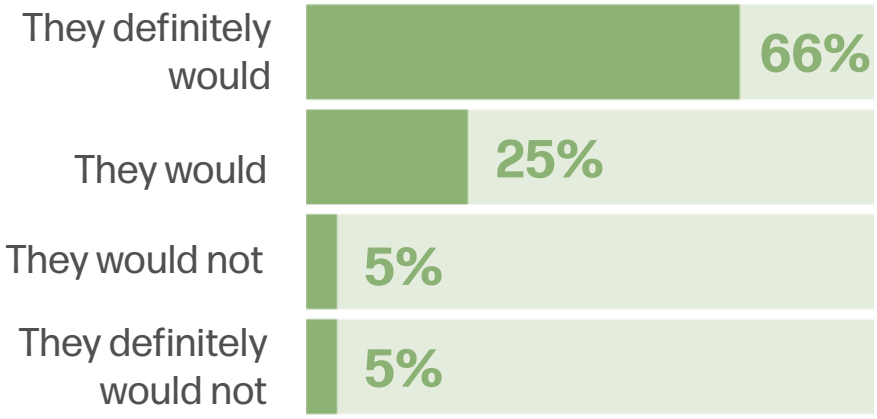
I will be **more likely to walk** in East Downtown if these projects are implemented.

Survey Results: Bikeway Improvements

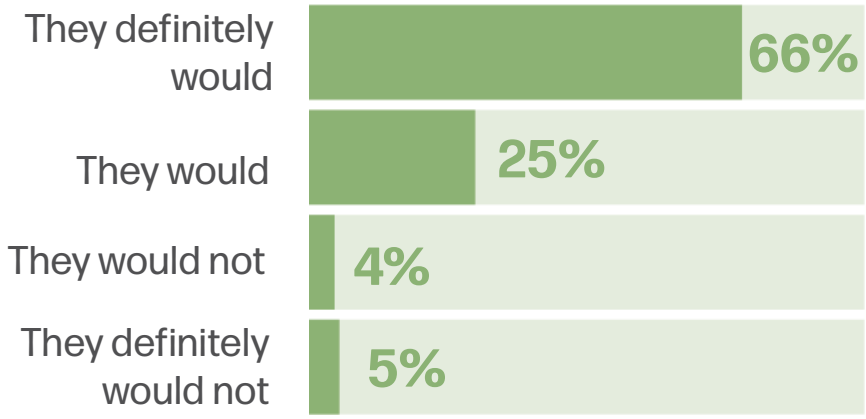
When asked about the network of project recommendations with a bikeway, 91% of respondents said that the proposed map of improvements would make them feel safer biking to and through East Downtown.

When asked about the network of project recommendations with a bikeway, 91% of respondents said that the map of proposed improvements would make it easier for them to access East Downtown destinations by bike.

The recommended bikeway network would **make me feel safer biking** to and through East Downtown.



The recommended bikeway network would **make it easier for me to access** East Downtown destinations **by bike**.



Survey Results: Bikeway Improvements

Respondents were asked to choose which recommended projects would most improve biking in East Downtown. One-third (33%) of respondents believe McKinney Street would improve biking in East Downtown followed by Polk Street (32%), Commerce Street (28%), and Leeland Street (24%).

Respondents were asked on a scale of 1 to 100 whether they would be more likely to bike in East Downtown if the bikeway improvement projects are implemented. On average, responses totaled to 79 out of 100.

Which recommended projects **would most improve biking** in East Downtown?

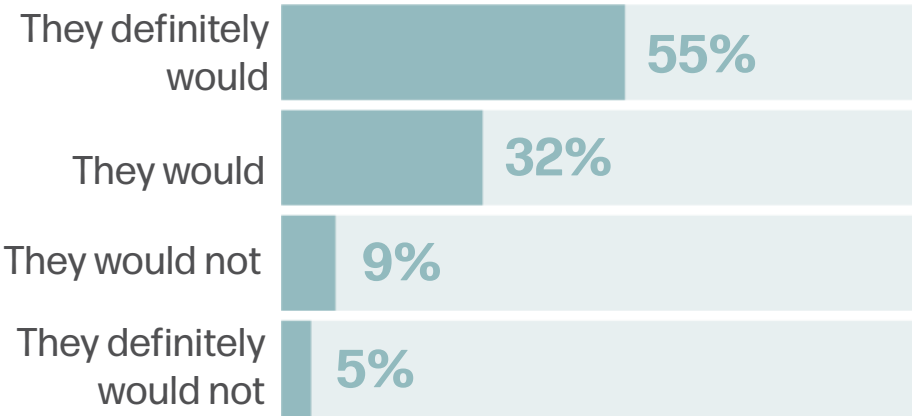
#1 McKinney Street *(33%)*
#2 Polk Street *(32%)*
#3 Commerce Street *(28%)*
#4 Leeland Street *(24%)*
#5 NHHIP Cap Trail *(18%)*
#6 Live Oak Street *(15%)*
#7 Bastrop Promenade North Extension *(15%)*
#8 St. Emanuel Street *(9%)*
#9 Bastrop Promenade South Extension *(9%)*
#10 Capitol Street *(6%)*
#11 Hutchins Street *(3%)*
#12 Paige Street *(2%)*

I will be **more likely to bike** in East Downtown if these projects are implemented.

Survey Results: Transit Improvements

When asked about the recommended transit project, 87% of respondents said that map of proposed improvements would make it easier for them to access destinations by transit to and from East Downtown.

The recommended projects would **make it easier for me to access destinations by transit** to and from East Downtown.



When asked what project is the most important to improve transit service in East Downtown, 34% of respondents chose Connectivity to Downtown via Polk Street, 32% chose the Emancipation Avenue Transit Corridor, and 24% chose a new METRORail Purple Line Station.

Which project do you think is **most important to improve transit service** in East Downtown?

#1 Connectivity to DT via Polk St *(34%)*

#2 Emancipation *(32%)*

#3 New METRORail Purple Line Station *(24%)*

#4 None of the above *(10%)*

Respondents were asked on a scale of 1 to 100 whether they would be more likely to ride transit in East Downtown if the transit enhancement projects are implemented. On average, responses totaled to 66 out of 100.

I will be **more likely to ride transit** in East Downtown if these projects are implemented.

Agency Coordination

Meeting with Partners

The TIRZ and consultant team conducted a series of agency coordination meetings once draft project recommendations were approved by the TIRZ Projects Committee. The meetings were held between March 28, 2022 and April 27, 2022.

In that time period, the TIRZ met with Central Houston, Inc. (April 13), the City of Houston (April 5), Harris County Precinct One (March 28), METRO (April 5), and TIRZ 7 (April 27).

Central Houston, Inc.

The meeting with Central Houston, Inc. focused on alignment between the Mobility Plan recommendations and Central Houston, Inc.'s Plan Downtown, specifically the recommendations regarding the green loop that includes the Bastrop Promenade as well as plans for the highway cap. The TIRZ and Central Houston, Inc. agreed to coordinate in the future regarding any relevant projects, particularly preparation for NHHIP and the highway cap.

City of Houston

In the meeting with City of Houston, the consultant team presented the full list of recommendations and highlighted where projects adhere to or deviate from the Houston Bike Plan. City staff agreed that the map of projects is conceptually in alignment with City plans and stated goals. Staff recommended that the TIRZ coordinate with METRO and Central Houston, Inc. for NHHIP specific questions.

Harris County Precinct One

In the meeting with Harris County Precinct One, the consultant team presented the full list of recommendations within the Precinct boundaries. The discussion focused on how mobility projects will help spur additional development in the Zone. Precinct staff agreed that the projects are conceptually in alignment with Precinct goals and may be open to future partnerships depending on the project.

METRO

The TIRZ meeting with METRO focused on Transit Enhancement recommendations. METRO agreed in principle with all recommendations, including future METRO local bus service along Emancipation Avenue, a new Purple Line METRORail Station on the eastern side of the Zone, and re-alignment of METRO Routes 40/41 to adapt to the NHHIP project closure of Polk Street. METRO requested that the TIRZ coordinate with METRO staff for future projects.

TIRZ 7

TIRZ 15 staff and the consultant team met with TIRZ 7 staff to discuss alignment between recommended Mobility Plan projects and the list of projects in the TIRZ 7 CIP. Staff from both TIRZs agreed to coordinate on future project alignment for streets like Bastrop Street, Emancipation Avenue, and Hutchins Street.