

**MEETING OF THE RTP SUBCOMMITTEE
HOUSTON-GALVESTON AREA COUNCIL**

MEMBERS PLEASE USE THE TEAMS INVITATION

TELECONFERENCE PARTICIPATION VIA MICROSOFT TEAMS

[+1 346-262-0140](tel:+13462620140) United States, Houston (Toll)

Conference ID: 641 945 004#

October 13, 2021

1:30PM

AGENDA

1. Call to Order
Roll Call Attendance
2. Acceptance of Minutes
From meeting of August 11, 2021
3. Discussion of the 2045 RTP Updating Strategy
 - a. Vision Statement – Review Initial Draft
 - b. Stakeholder Outreach Strategy – Update on Outreach
 - c. Transportation Assets – Freight Mobility (Veronica Green)
4. Subregional Planning Updates
 - a. Montgomery County Precinct 2 Mobility Study (Carlene Mullins)
 - b. Liberty County Subregional Study (Thomas Gray)
 - c. Southeast Harris County Subregional Study (Mike Burns)
5. Announcements
 - a. Next TPC Meeting – October 22, 2021 at 9:30AM (Teleconference)
 - b. Next TAC Meeting – November 10, 2021 at 9:30AM (Teleconference)
 - c. Next RTP Subcommittee Meeting – November 10, 2021 at 1:30PM (Teleconference)
6. Adjourn

RTP Subcommittee Roster

Primary – Name	Organization	Alternate – Name	Organization
Morad Kabiri, P.E.	City of Friendswood	Robert Upton, P.E.	City of Pearland
Perri D'Armond	Fort Bend County	Stacy Slawinski	Fort Bend County
Monique Johnson	City of Sugar Land	Krystal LaStrape	City of Sugar Land
Bill Zrioka	Houston Airport System	Marcel Allen	Houston Airport System
Andrea French	TAG-Houston Region	Nikki Knight	Southeast Management Dist.
Elijah Williams	Energy Corridor	Elizabeth Whitton, AICP	Energy Corridor
Iris Gonzalez	Coalition for Env., Equity & Res.	Jonathan Brooks	LINK Houston
Adam France, AICP	City of Conroe	Chris Bogert, P.E.	City of Conroe
Christopher Sims	City of League City	Hon. Chad Tressler	City of League City
Matt Hanks	Brazoria County	Karen McKinnon	Brazoria County
David Fields	City of Houston-P&D	VACANT	City of Houston-PW
Hon. Jay Knight	Liberty County	David Douglas	Liberty County
Loyd Smith, P.E.	Harris County	Bryan Brown	Harris County
Nick Woolery	City of Baytown	Frank Simoneaux	City of Baytown
Yancy Scott	Waller County	Jared Chen	Waller County
Katherine Parker	GCRD	Carol Lewis, PhD	TSU
Bruce Mann	Port of Houston	Rohit Saxena	Port of Houston
Rodger Rees	Port of Galveston	Brett Milutin	Port of Galveston
Charles Airiohuodion	TxDOT-HOU	Jeffrey English	TxDOT-HOU
Lisa Collins	TxDOT-BMT	Scott Ayres	TxDOT-BMT
Ken Fickes	Harris County	Vernon Chambers	Harris County
Kenneth Brown	METRO	Philip Brenner	METRO
John Tyler	HCTRA	Dale Hilliard	HCTRA

**MEETING OF THE RTP SUBCOMMITTEE
HOUSTON-GALVESTON AREA COUNCIL
TELECONFERENCE PARTICIPATION VIA MICROSOFT TEAMS
August 11, 2021
1:30PM
Minutes**

Member Attendance:

Primary-Name	Present	Alternate-Name	Present
Morad Kabiri, Chair	Yes	Robert Upton	
Perri D'Armond, Vice Chair	Yes	Stacy Slawinski	
Monique Johnson	No	Krystal LaStrape	Yes
Bill Zrioka	Yes	Marcel Allen	
Andrea French	No	Nikki Knight	No
Elijah Williams	Yes	Elizabeth Whitton	Yes
Iris Gonzalez	No	Jonathan Brooks	Yes
Adam France	No	Chris Bogert	No
Christopher Sims	Yes	Hon. Chad Tressler	
Matt Hanks	No	Karen McKinnon	Yes
David Fields	Yes	Vacant	
Hon. Jay Knight	No	David Douglas	Yes
Loyd Smith	Yes	Bryan Brown	
Nick Woolery	Yes	Frank Simoneaux	
Yancy Scott	Yes	Jared Chen	No
Katherine Parker	No	Carol Lewis	No
Bruce Mann	Yes	Rohit Saxena	
Rodger Rees	Yes	Brett Milutin	No
Charles Airiohuodion	Yes	Jeffrey English	Yes
Lisa Collins	Yes	Scott Ayres	
Ken Fickes	Yes	Vernon Chambers	Yes
Kenneth Brown	Yes	Philip Brenner	
John Tyler	No	Dale Hilliard	No

Others Present: 713-469-2979 (GUEST), Alan Clark, Andrew Mao, Ayo Jibowu, Adam Beckom, Catherine McCreight, Andrew DeCandis, Jim Dickinson, Diane Domagas, Eliza Paul, Carrie Evans, David Fink, Stephan Gage, Shixin Gao, Brandy George, Thomas Gray, Harrison (GUEST), Allie Isbell, James Koch, Susan Jaworski, Sharon Ju, Catherine Kato, Megan Kennison, Sanford Klanfer, Justin Kuzila, Shirley Li, Vishu Lingala, Jim Mahood, Patrick Mandapaka, Karen Owen, Jamila Owens, Frank Pagliei, Craig Raborn, Ruthanne Haut, Christopher Sims, Chris Van Slyke, Veronica Waller, Gilbert Washington

Staff Participating:

Mike Burns

1. Call to Order
Chair Morad K called the meeting to order at 1:30PM and conducted roll call to ensure a quorum. Morad K confirmed that a quorum was present.
2. Acceptance of Minutes
Christopher S made a motion to approve, Bruce M seconded.

The motion was approved unanimously.

3. Discussion of the 2045 RTP Updating Strategy

a. Vision Statement – David Fields comments

Mike B described feedback received at the July monthly meeting on updating the vision statement and the subsequent comment received from David F.

David F discussed the comment he provided to staff saying it was a starting point to the conversation that is an example of short and easily remembered so it could be described to others. Morad K agree that it should be easily remembered and concise, and then asked for comments. Mike B noted that there will be a public outreach effort to gain additional feedback on the vision, and that it will ultimately need TAC and TPC approval.

Andrew M noted that the effort to decrease congestion is not in the example vision.

Bruce M noted that freight access as an element of the economy is not in the example vision.

Perri D agreed that freight should be referenced in the vision statement.

Morad K noted that congestion and freight can be addressed as part of the efficient transportation system and asked if it was better to mention freight as part of goals rather than specifically in the vision statement.

Stephan G suggested that the word commerce be added after all travelers.

Christopher S suggested adding multimodal before transportation system to cover all users, and agreed that the vision should be short and concise.

Perri D suggested added multimodal and removing all travelers.

Morad K restated that the vision should be short and that every member should easily recall the language and repeat it easily.

Charles A suggested adding air quality since the region is in nonattainment and that would contribute to the quality of life.

Andrew M agreed that the statement should be catchy and is important and that the committee take time to fully understand the language being used.

Morad K suggested adding multimodal and deleting all users for review at the next meeting.

b. 2040 RTP and 2045 RTP – Visioning Map and Regional Investment Corridors

Mike B described the 2040 future vision map used in a previous updating cycle and asked for feedback on preference of using a composite map of fiscally constrained and all other supported transportation investment ideas that may not be part of the fiscally constrained schedule of improvements.

Morad K mentioned that he preferred the conceptual composite map and appreciated those types of visuals in the regional plan.

Jonathan B agreed that the conceptual map was preferred to show the scale and variety and intersectionality of modes and asked if the map would be updated to reflect currently supported investment ideas.

Kenneth B asked if the map would be updated to reflect the METRONext vision plan.

Mike B responded that the map shown was developed for the 2040 plan and would be updated to show the investments for the 2050.

Morad K noted a comment was submitted from Jamila O suggesting that the high capacity projects on the 2040 map reflect the METRONext vision plan.

Mike B asked if Bill Z would support the inclusion of Houston Airport System's Spaceport vision into a similar map.

Morad K noted that a Bill Z submitted a chat that it would be supported.

David F asked if there could be a land use component and if an online version could be provided.

Mike B mentioned that an online portal could be developed to provide the paperless functionality and analysis that David F suggested.

Mike B mentioned that staff would like guidance on the 2040 summary sheets, and if that would be something the committee would like in the next updated, specifically noting project status,

environmental impacts, and safety measures, and asked if Stephan G could elaborate on possible safety scoring features.

Stephan G mentioned that the Transportation Safety Subcommittee is working on secondary performance measures in addition to the federally required safety performance measures that are spatial and can be mapped. Those secondary safety measures and benchmarks will need approval by TAC and TPC and will be shared at a future meeting with a description of how those measures and benchmarks will be used for project evaluation.

Bruce M mentioned that the data in the RTP at the time of approval will not accurately reflect the changes in on-going development and refinements of studies and projects.

Mike B responded that the RTP can reflect the status and impact of projects as they are understood at the time of approval with the understanding that the status or impact can change.

Catherine M agreed that the status of a project should be added, and mentioned that the scoring is a concern, and also that projects should not be considered for construction funding without prior inclusion in the RTP, noting that the RTP is a 20-year timeframe with plan authority occurring in the 10-20 year timeframe for planning, modeling, impact assessment, and public outreach prior to the development authority in years 4-10 of the RTP where environmental, right of way, and planning schematics. The final 4 years of the RTP should mirror the 4-year schedule in the TIP. Morad K agreed that the project should first be in the RTP before being programmed in the TIP and agreed that the 4-year updating schedule was an opportunity to revisit the status of projects. Christopher S also agreed with the need to revisit project prioritization and agreed with the project status and score being included and asked for flexibility to add project within the 4-year window to address any urgent needs that arise.

Catherine M responded that the document can be amended and is typically amended monthly.

Loyd S suggested that instead of project score that a project history could be used.

Mike B clarified that conceptual projects could be scored more simplistically rather than using what was described as a construction scoring system used for the Call for Projects and more well-developed projects to be programmed for the TIP.

Charles A suggested that the summary sheet should include the PEL studies, such as the Gulf Freeway PEL.

David F asked for clarification to verify that every study would not be included in a summary sheet, rather only the RTP's project major project.

Morad K and Charles A confirmed that studies will be noted in the RTP.

Alan C suggested via chat to include other projects that may be outside the region.

c. Stakeholder Outreach Strategy – Federally Required and Other Stakeholders

Mike B summarized the federally required stakeholders required to be consulted during development of an RTP.

Morad K suggested the committee review who may be the other interested parties by consulting with their local agencies.

4. Announcements

a. Next TAC Meeting – August 18, 2021 at 9:30AM (Teleconference)

b. Next TPC Meeting – August 27, 2021 at 9:30AM (Teleconference)

c. Next RTP Subcommittee Meeting – September 15, 2021 at 1:30PM (Teleconference)

Morad K mentioned that the September 15, 2021 meeting has a conflict and suggested polling the members for a time on Tuesday September 14, 2021 meeting date.

Mike B agreed to prepare that for the next meeting.

5. Adjourn

Morad K asked for any other comments. Hearing none, the Chair declared the meeting adjourned at 2:23PM.

Minutes submitted by: Mike Burns

RTP Meeting 8/11/21 – Chat History

[1:51 PM] Owens, Jamila
Yes. The two are in alignment.

[1:51 PM] Owens, Jamila
The High Capacity and Metro Next that is.
(1 liked)

[1:52 PM] Jonathan Brooks
Continuing discussion about what to include is worthwhile...especially given if we might want to update also to reflect things like the [potential] Amtrak frequency improvements and other increased services and attendant capital investments.

[1:54 PM] Alan Clark
There are other statewide projects like I-12 which is just outside the 8 county region. So you might want to also have a "bigger" map showing more statewide context. HSR is another project like this.

[1:54 PM] Zrioka, Bill - HAS
Sorry, Mike. I got pulled out of the office temporarily. We can include Spaceport in some capacity. Let me check into it further with management.

[1:59 PM] Unknown User Nick Woolery (City of Baytown) (Guest) no longer has access to the chat.

[2:12 PM] Jonathan Brooks
I must log-off now, headed out to interview some bus riders in NE Houston. Y'all have a great day. Keep up the rich conversation.
(1 liked)

[2:12 PM] Catherine McCreight (Guest)
Good point Mike. Projects should first be screened based on their ability to meet the goals outlined in the RTP. The TIP should be concerned with project readiness.
(1 liked)

[2:13 PM] Catherine McCreight (Guest)
The TIP is not the time to determine whether a project brings value to the region since the funding is actually being programmed for construction (i.e., Construct Authority). Plan and Develop Authority are where the merits of the project are identified.

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Regional Transportation Plan Update

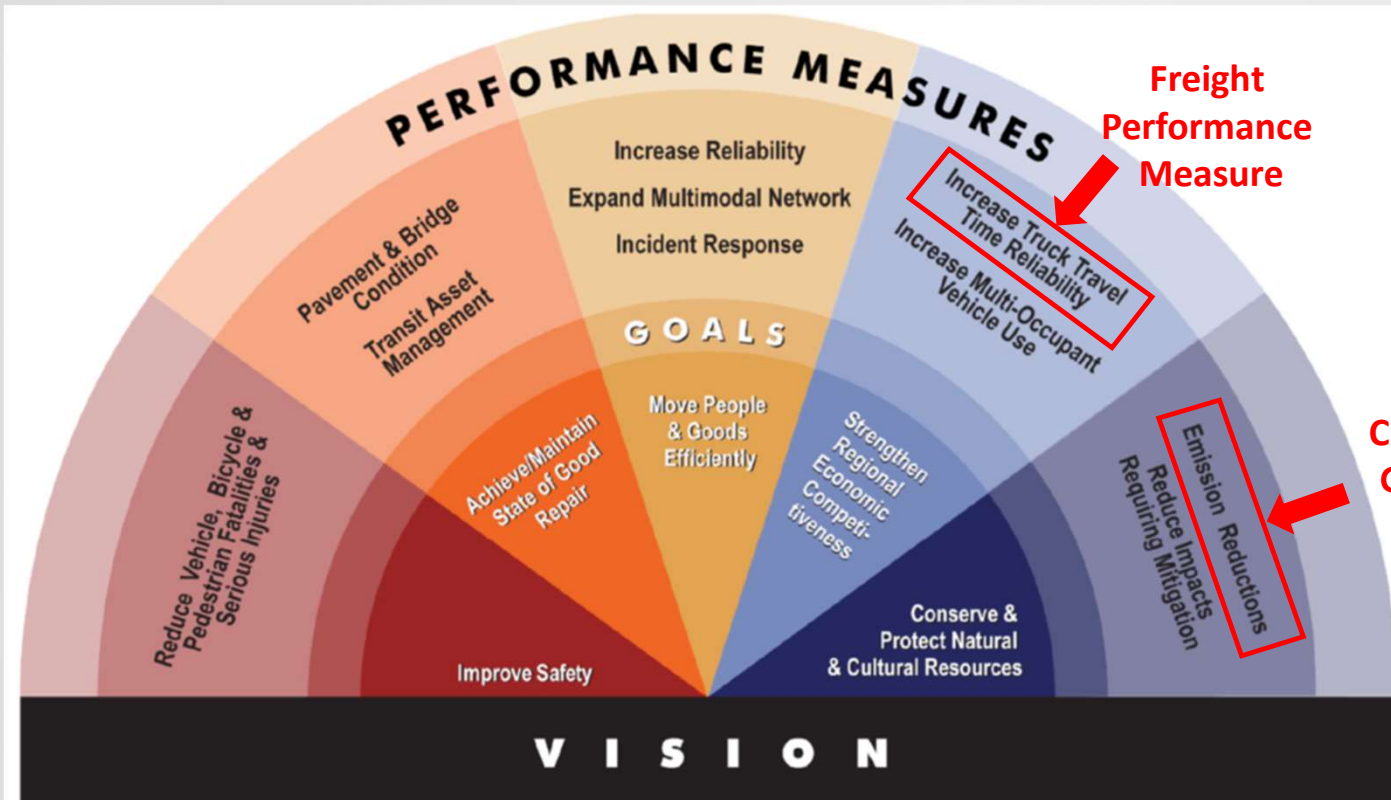


Mike Burns, AICP
RTP Subcommittee – 10/13/2021

RTP Vision – Needs TAC/TPC Review

Vision Statement	
2040	In the year 2040, our region will have a multimodal transportation system through coordinated investments that supports a desirable quality of life, enhanced economic vitality and increased safety, access and mobility.
Existing	In the year 2045, our region will have an integrated multimodal transportation system, achieved through coordinated public and private investments that support a desirable quality of life, enhanced economic vitality and increased safety, access, and mobility.
<i>DRAFT - RTP Subcommittee</i>	<i>Provide a safe, resilient, equitable, and efficient multimodal transportation system.</i>

RTP Goals – Needs TAC/TPC Review



Other Considerations:

- Security
- Resiliency
- Equity

Figure 2-1: 2045 RTP Vision, Goals, and Performance Measures

Public Outreach

2021				2022				2023								
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Jan	Feb	Mar	April	May	June	July	Aug	
		Staff Coord/Inventory		Needs Assessment		Scenario Planning		Draft/Review		Approval		Conformity				
Public Engagement		Visioning Phase			Prioritization Phase			Plan Review								

- Visioning Phase
 - Developing the vision, strategies, and goals
 - Heavily-promoted survey and public meetings
- Prioritization Phase
 - Communicate link between vision and project selection
 - Virtual / in-person meetings
- Plan Review
 - Communicate all that is in the plan and what it would achieve
 - Public review and comment prior to TPC adoption.

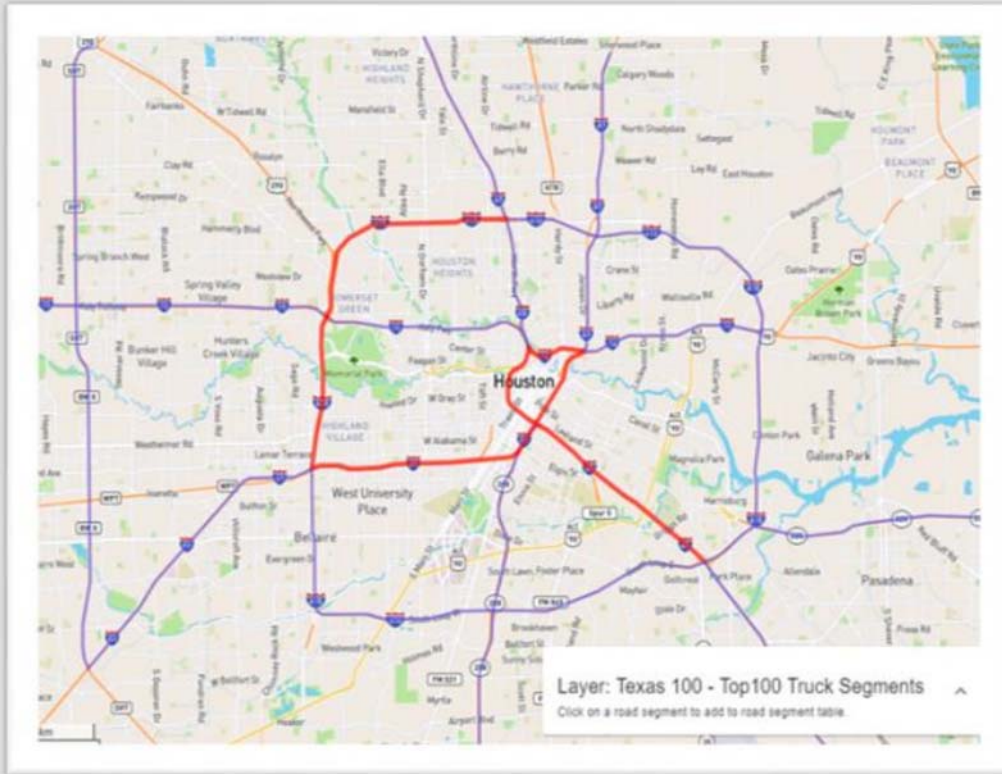


Regional Transportation Plan Update - Freight



Veronica Green
RTP Subcommittee - 10/13/2021

Moving People and Goods Efficiently



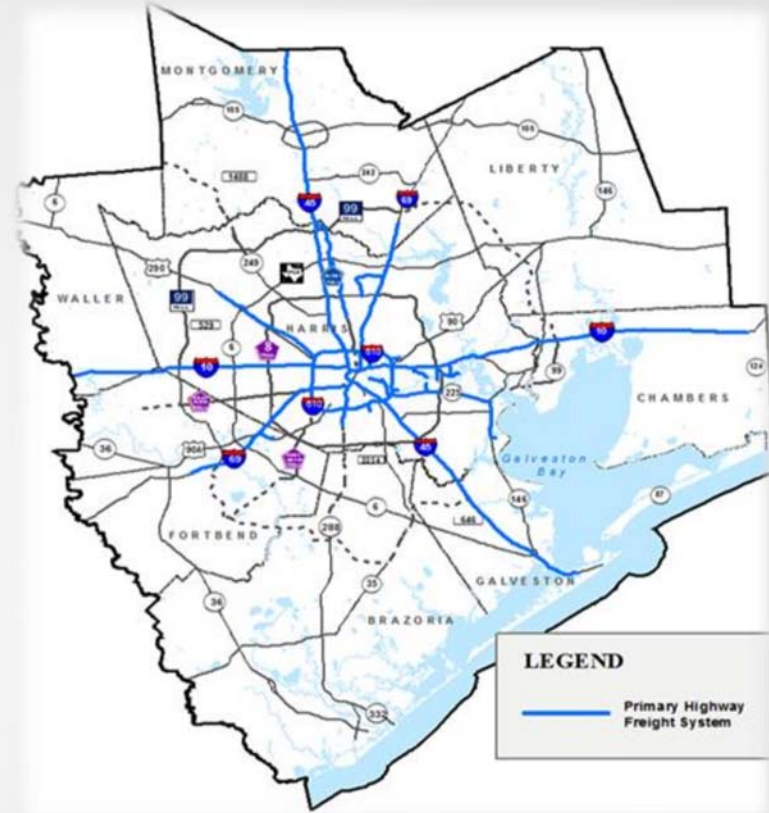
- Over 30% of Texas' 100 Most Congested Truck Corridors are in the H-GAC region
- 6 of Texas' Top Ten Most Congested Truck Corridors are in the H-GAC Region

Goal: Move People and Goods Efficiently

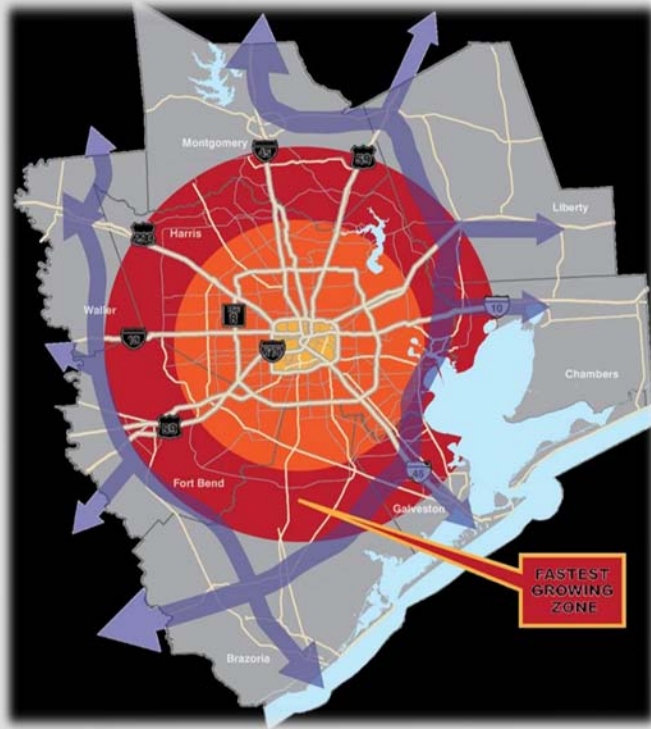
Planning Activities

Expand the Multimodal Network

- Update the Primary Freight Network
- Update the Critical Urban Freight corridor



Moving People and Goods Efficiently

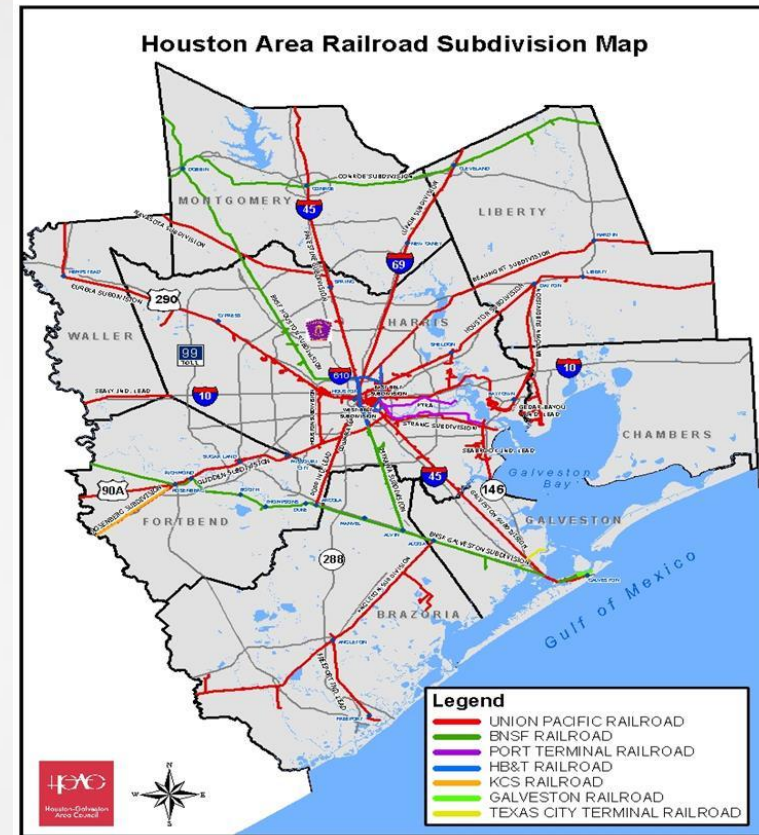


Planning Activities

- New Truck Travel Demand Model
 - Using an activity- based model
- O-D Truck Patterns
- Analysis of Freight Significant Corridors
- Intelligent Transportation System (ITS) Improvements
- Transportation Systems Management Operations (TSMO) opportunities

Moving People and Goods Efficiently

- Rail Network
 - Houston Ship Channel – Port Terminal Railroad Association
 - Port of Texas City – Texas City Terminal Railway
 - Port of Galveston – Galveston Railroad
- Operations
 - 300 trains per day
 - 14 railroad lines
 - 1,000 miles of track
- Safety and Congestion
 - 1,200 public at-grade crossings
- Capacity Needs
 - Directional Running
 - Fort Bend Freight Rail Bypass
 - Independency Parkway Bypass



Move People and Goods Efficiently

Rail Grade Separations

FRA #	Owner	Subdivision	Roadway	City	County
427257T	UP	Palestine	Rankin	Houston	Harris
023228P	BNSF	Mykawa	Airport Blvd.	Houston	Harris
023207W	BNSF	Mykawa	Almeda-Genoa	Houston	Harris
597091H	BNSF	Houston	FM 1960	Houston	Harris
755876D	UP	Lufkin	Kingwood	Houston	Montgomery
427962W	UP	Beaumont	FM 364	Beaumont	Jefferson
758514C	UP	Houston	Richmond	Houston	Harris
762892E	UP	Houston	Sheldon	Houston	Harris
430076S	UP	Navasota	KuykendahlRd	Spring	Harris
743699S	UP	Glidden	Eldridge	Sugar Land	Fort Bend
755863C	UP	Lufkin	Mt Houston	Houston	Harris
743726L	UP	Glidden	Collins	Richmond	Fort Bend
762483M	UP	Lafayette	FM 105	Vidor	Orange
758750G	UP	Lufkin	Tidwell Rd	Houston	Harris
743716F	UP	Glidden	Pitts Rd	Sugar Land	Fort Bend
597084X	BNSF	Houston	Antoine	Houston	Harris
675158C	BNSF	Houston	Cypresswood	Tomball	Harris
743713K	UP	Glidden	Harlem Rd	Sugar Land	Fort Bend
758757E	UP	Lufkin	Little York Rd	Houston	Harris

Crossing Closures

FRA #	Owner	Subdivision	Roadway	City	County
920030G	UP	Houston East Belt	Navigation Blvd WB frtg	Houston	Harris
288011K	UP	Houston East Belt	Navigation Blvd EB frtg	Houston	Harris
448683J	UP	Freeport Ind Ld	W 5th St	Freeport	Brazoria
448682C	UP	Freeport Ind Ld	W 4th St	Freeport	Brazoria
448681V	UP	Freeport Ind Ld	W Broad St	Freeport	Brazoria
288129A	UP	Houston West Belt	Commerce St	Houston	Harris
859538V	UP	Galveston	70th St golf course	Houston	Harris
859533L	UP	Galveston	Cesar Chavez Blvd	Houston	Harris
859530R	UP	Galveston	66th St	Houston	Harris
758743W	UP	Lufkin	Melbourne St	Houston	Harris
743791S	UP	Glidden	RandonDyer Rd	Rosenberg	Fort Bend
435489D	UP	Palestine	Cartwright Rd	Conroe	Montgomery
435451G	UP	Baytown	Patch St	Houston	Harris
743647A	UP	Eureka	BrittmooreRd	Houston	Harris
447875X	UP	Popp Ind Ld	W Davis Rd	Fresno	Fort Bend

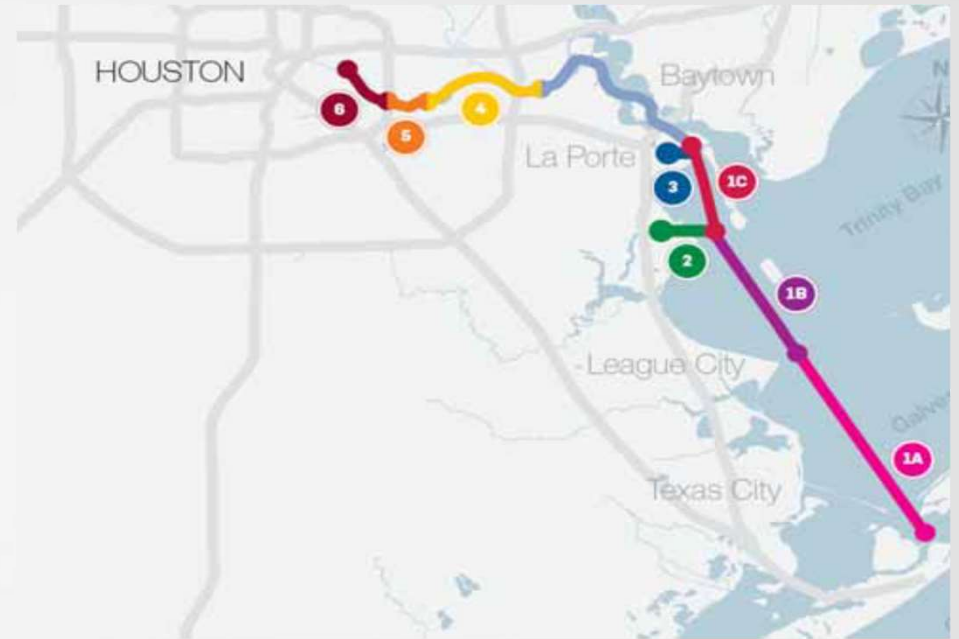
Moving People and Goods Efficiently

Marine Highway



Figure 5-1. Gulf Coast Marine Highways

Project 11



Moving People and Goods Efficiently

Freight Related Port Corridors

- Peninsula Rd Expansion
- Bayport Expansion to SH 146 Expansion
- SH 330 Connectivity
- Fort Bend Freight Bypass
- Barbours Cut Connectivity to SH 146
- FM 1942/Hatcherville
- Hatcherville Chambers County
- Fairmont Parkway Widening and Turning Improvement
- Barbours Cut Blvd Expansion to 6 Ins
- Independence Pkwy NB Connectivity
- Spencer Highway Bridge
- Bayport Mainline Tract
- Sheldon Rd Expansion
- Applet Rd (Sheldon to Market St)
- Jacintoport Road Improvement & Connectors
- Haden Rd

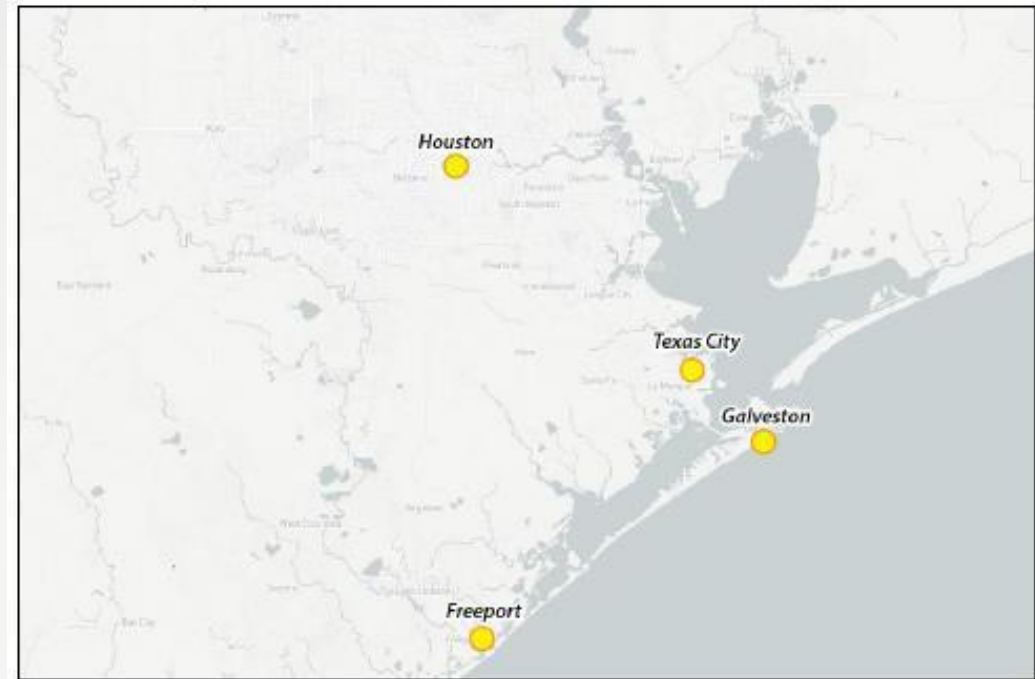


Figure 2-1. H-GAC Regional Ports

Other Considerations....

Moving People and Goods Efficiently

Truck Parking – Crashes

2013-2017

190,240 Statewide Crashes
involving trucks



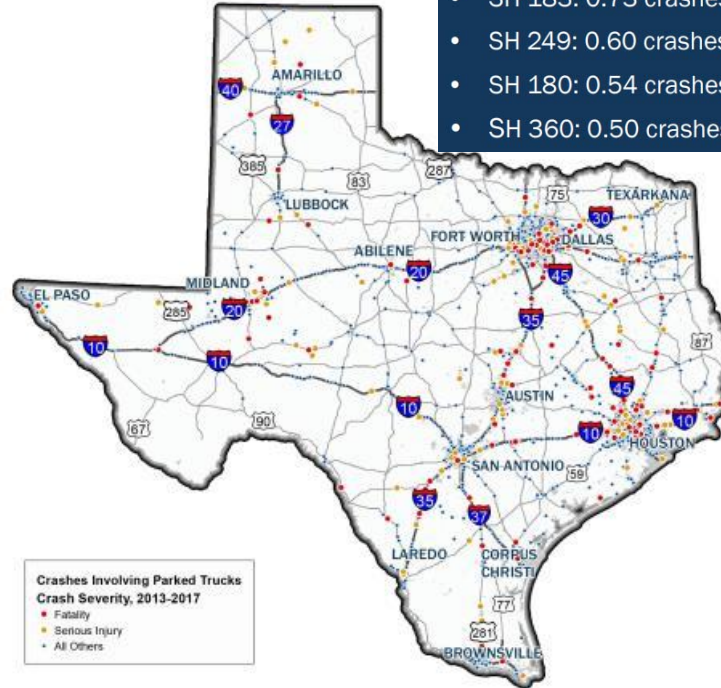
2,953 fatalities

2,315 Crashes
involving Parked Trucks



138 fatalities

Exhibit 25: Crashes Involving Parked Trucks



Source: TxDOT, Crash Record Information System, 2013-2017, Accessed December 2018.

STATE HIGHWAYS

- SH 225: 1.33 crashes/mile
- SH 183: 0.73 crashes/mile
- SH 249: 0.60 crashes/mile
- SH 180: 0.54 crashes/mile
- SH 360: 0.50 crashes/mile

HOUSTON

Crashes: 422

Fatal: 5%

DALLAS

Crashes: 367

Fatal: 6%

FORT WORTH

Crashes: 189

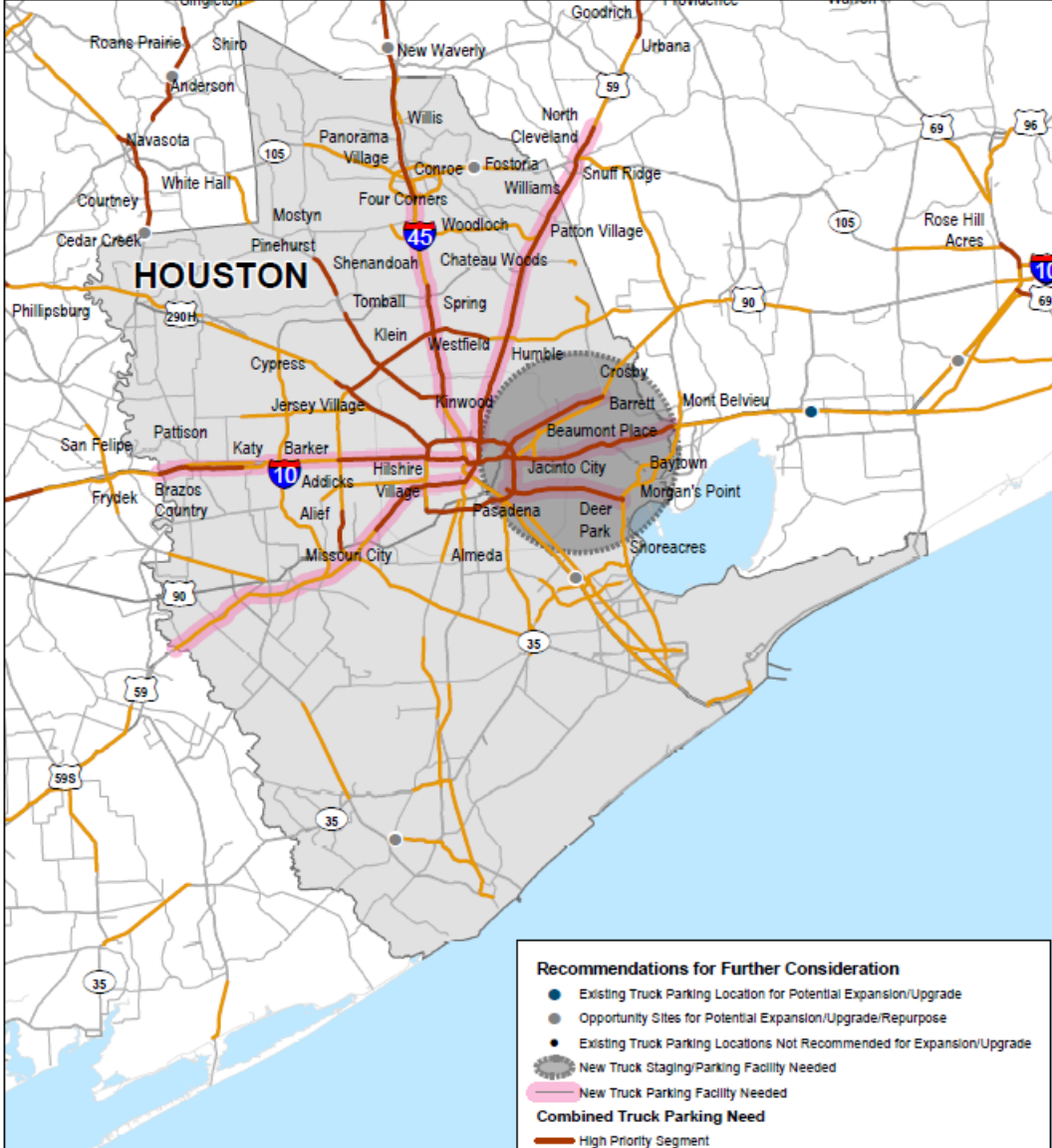
Fatal: 3%

SAN ANTONIO

Crashes: 201

Fatal: 3%

Goods Efficiently

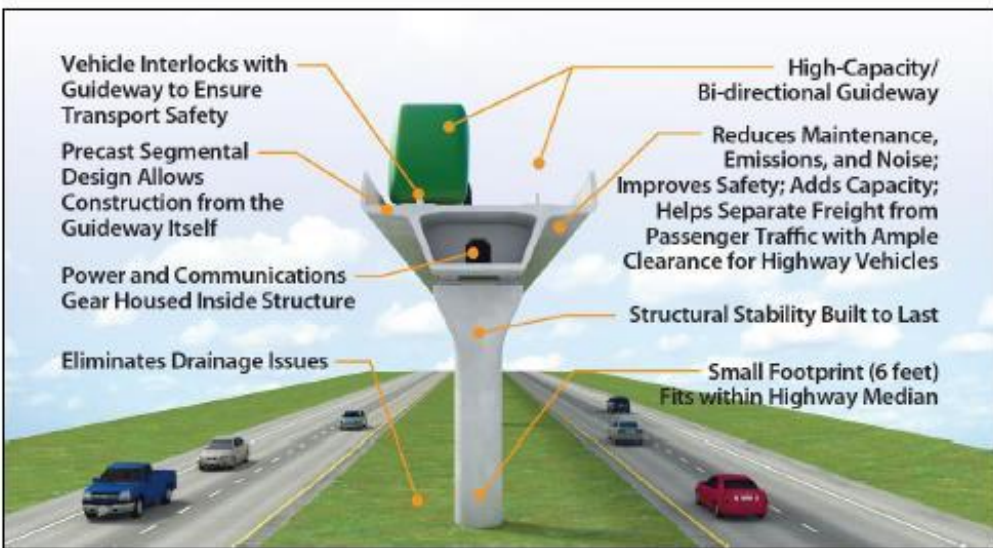


- Existing Truck Parking Location for Potential Expansion
- Opportunity Sites for Potential Expansion/Upgrade/Repurpose
- New Truck Staging/Parking Facility Needed
- New Truck Parking Facility Opportunities,
- Truck Parking Availability Info

Moving People and Goods Efficiently

■ Freight Shuttle System

- Designed to operate between two points up to 500 miles apart



Source: Freight Shuttle

Figure 8-25. Freight Shuttle Guideway

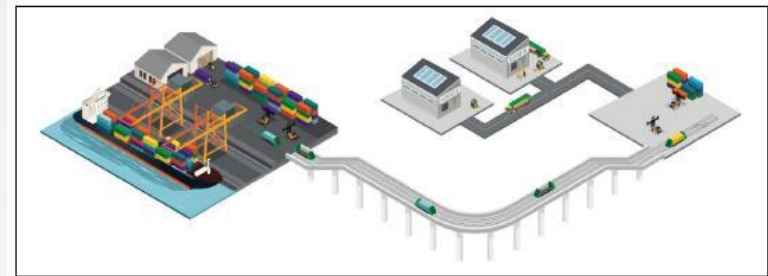


Figure 8-26. Freight Shuttle – Scenario 1 Transfer Facility

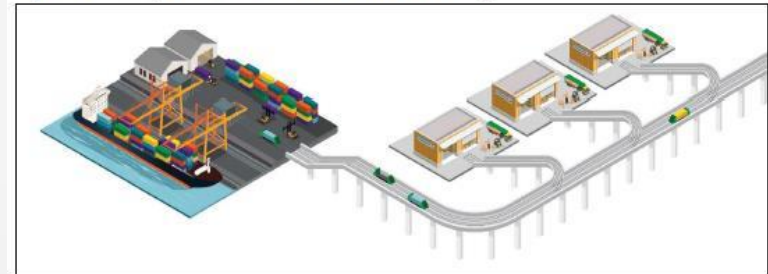


Figure 8-27. Freight Shuttle - Scenario 2 Direct to User

Moving People and Goods Efficiently

■ H-GAC Recommendations

- Savings rely on proximity of freight shipper and receiver
- Feasibility planning in highest-density corridors
- Utilize value-capture at or near shipping end points.

Table 8-4. Truck and Fixed Guideway Cost Comparison (Houston to Dallas)

Cost	All Truck	Hyperloop One or TransPod
Door-to-Door	\$700	
Truck Drayage (< 50 miles) to Terminal		\$350
Cargo Transfer		Unknown
Linehaul Service		Unknown
Cargo Transfer		Unknown
Truck Drayage (< 50 miles) to Terminal		\$350

Table 8-5 Truck and Fixed Guideway Time Comparison (Houston to Dallas)

Cost	All Truck	Hyperloop One or TransPod
Door-to-Door	5-6 hours	
Truck Drayage (< 50 miles) to Terminal		1-2 hours
Cargo Transfer		Unknown
Schedule Buffer		1-2 hours
Linehaul Service		>1 hour
Cargo Transfer		Unknown
Truck Drayage (< 50 miles) to Terminal		1-2 hours

Moving People and Goods Efficiently

Operational and Policy Strategies

Improve Safety

- Reduce CMV involved Crashes
 - Driver Behavior & Public Education
 - Intersection Geometric Design & Re-design
 - Commercial Vehicle Crash Analysis

Move People and Goods Efficiently

- Incident Response
 - Heavy Duty Truck Tow & Go
 - Multi-district Traffic Operations Center Coordination
- Expand the Multimodal Network
 - Include the Marine Highway
 - Include Freight Rail Network

Moving People and Goods Efficiently

Operational and Policy Strategies

Strengthen Economic Competiveness

- Increase Truck Travel Time Reliability
 - Designated Truck Routes
 - Dedicated Truck Lanes
 - Off Peak Delivery
 - Intelligent Transportation Systems

Achieve/Maintain Good Repair

- Pavement and Bridge Repair
 - Enhanced Data Management System for Pavement and Bridge Conditions
 - Project Prioritization Plan for Pavement and Bridge maintenance
 - Wayfinding signage for Weight Restricted Bridges & Routes

Moving People and Goods Efficiently

Operational and Policy Strategies

Conserve/protect Natural and Cultural Resources

- Emissions Reductions
 - Zero Emissions corridors
 - Locomotive Bonnets
 - Marine Vessel Bonnets
 - EV/ Alternative Fuel Vehicles



Moving People and Goods Efficiently



	STRATEGY 1 MANAGE [System Management and Operations]	STRATEGY 2 MAINTAIN [Asset Management]	STRATEGY 3 EXPAND [Transportation Network Capacity]	TOTAL
CORRIDOR - BASED MAJOR INVESTMENTS				
A. BW 8	\$171,060,455	NA	\$92,210,650	\$263,271,105
B. GPW	\$3,039,631,514	\$17,358,361	\$804,832,838	\$3,861,822,713
C. IH 10E	\$480,448,759	\$17,961,814	NA	\$498,410,573
D. IH 10W	\$350,305,370	\$96,450,000	\$661,472,604	\$1,108,227,974
E. IH 45 North of IH 10	\$425,207,762	NA	NA	\$425,207,762
F. IH 45S	\$93,658,303	\$122,000,000	\$747,950,000	\$963,608,303
G. IH 610	\$297,405,625	\$96,545,811	NA	\$393,951,436
H. SH 146	\$13,915,000	\$15,787,734	\$595,409,960	\$625,112,694
I. SH 249	\$3,295,380	NA	\$290,528,541	\$293,823,921
J. SH 288	\$261,000,000	NA	\$372,371,428	\$633,371,428
K. SH 36	\$17,167,217	NA	\$764,510,618	\$781,677,835
L. SOUTHWEST CORRIDOR	\$110,900,000	NA	\$286,053,077	\$396,953,077
M. US 290	\$3,485,844,309	\$53,100,000	\$707,533,709	\$4,246,478,018
N. US 59N	NA	NA	\$211,765,982	\$211,765,982

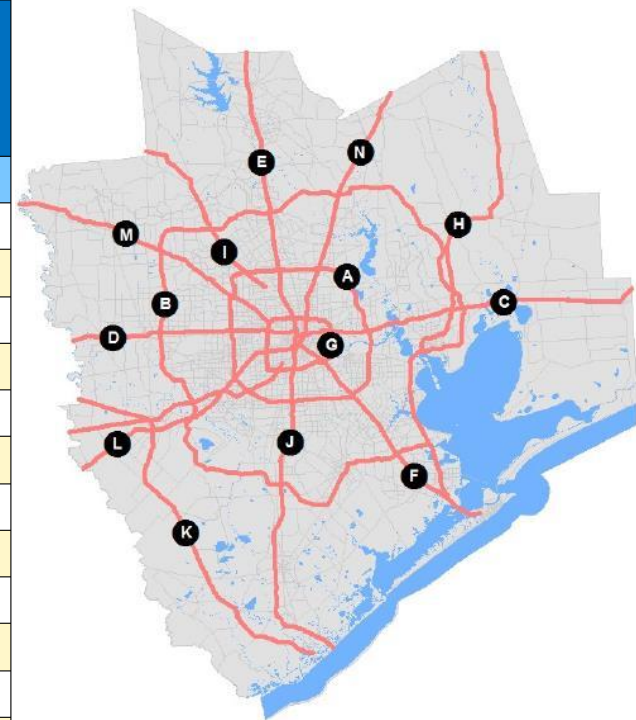


Figure 5-3: Corridor-Based Major Investments

Questions



Veronica Green

Veronica.green@h-gac.com

Senior Planner

Subregional Planning Updates

- Montgomery County Precinct 2 Mobility
- Liberty County Subregional Study
- Southeast Harris County Subregional Study





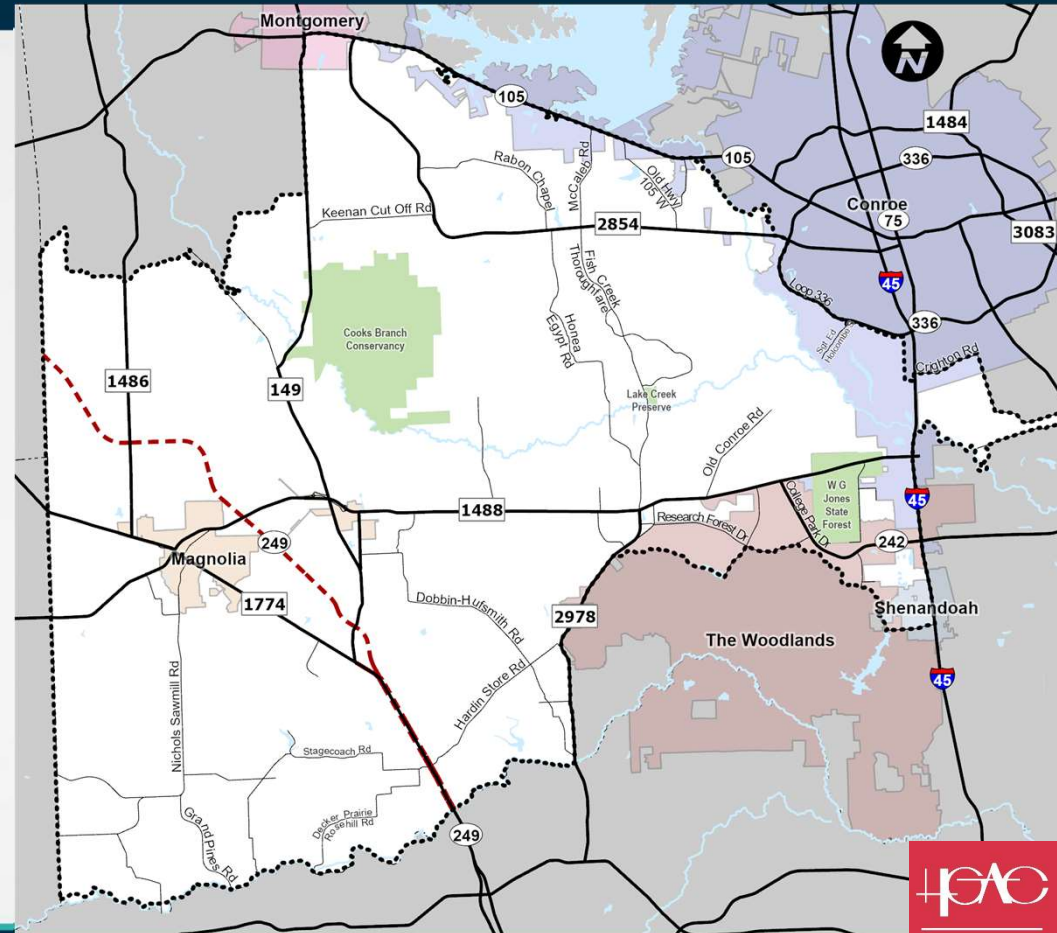
Montgomery County Precinct 2 Mobility Study Update



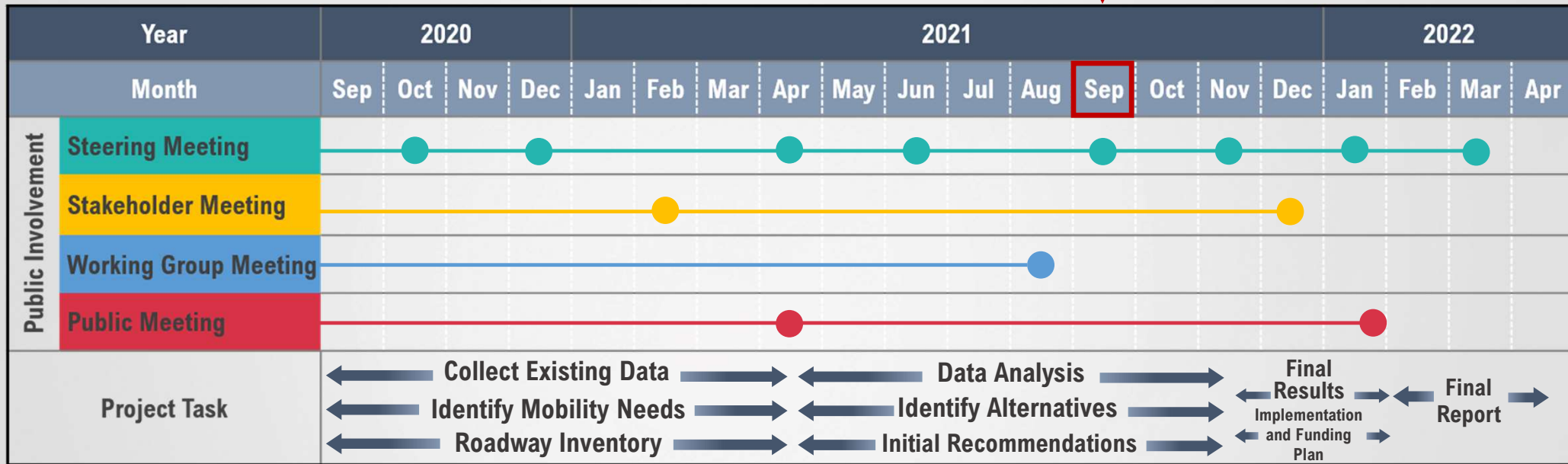
Carlene Mullins, H-GAC
October 13, 2021

Project Overview

- **Began:** September 2020
- **Process:**
 - Analyze existing transportation network.
 - Consider existing/future land use and growth scenarios.
 - Receive input from public.
 - Develop actionable Plan.
- **Study Results:**
 - Transportation plan “List of Projects”
 - Roadway Inventory



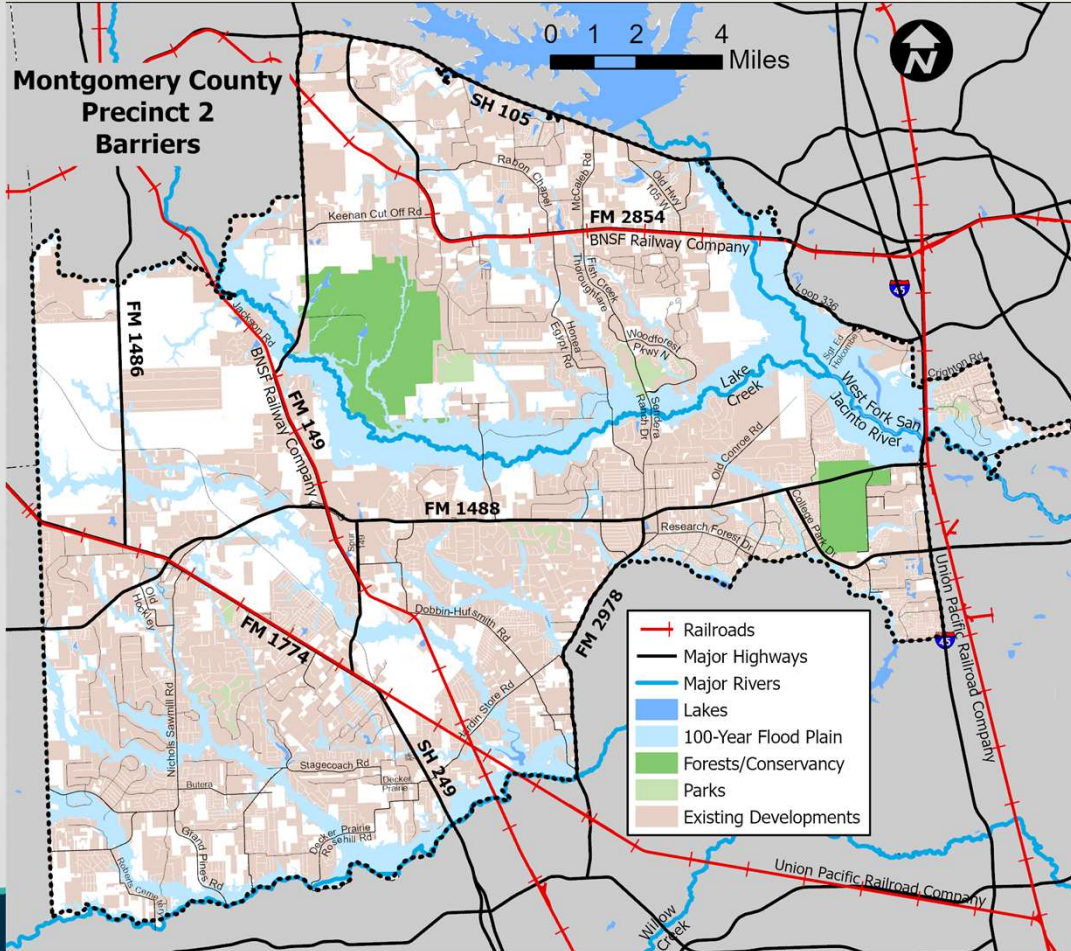
Project Schedule





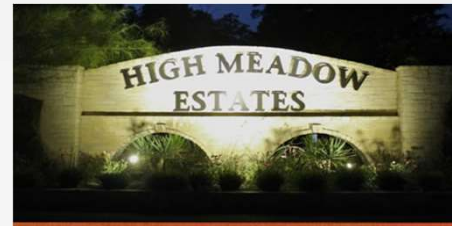
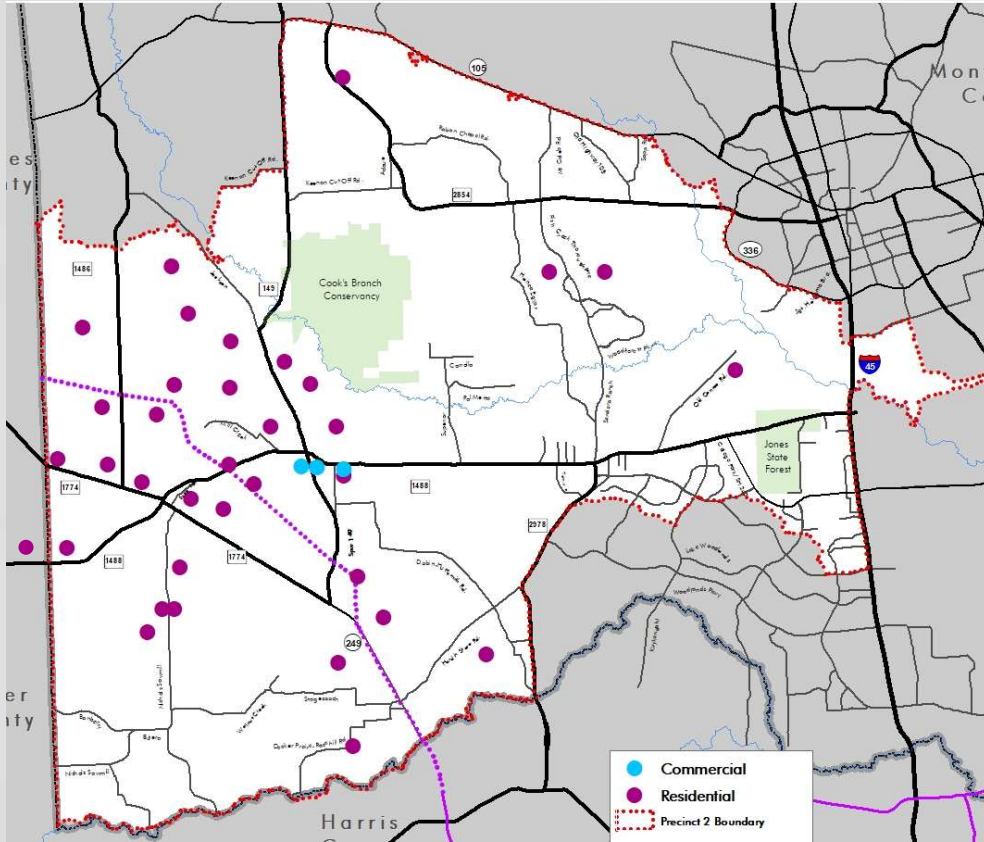
Identified Issues

Barriers

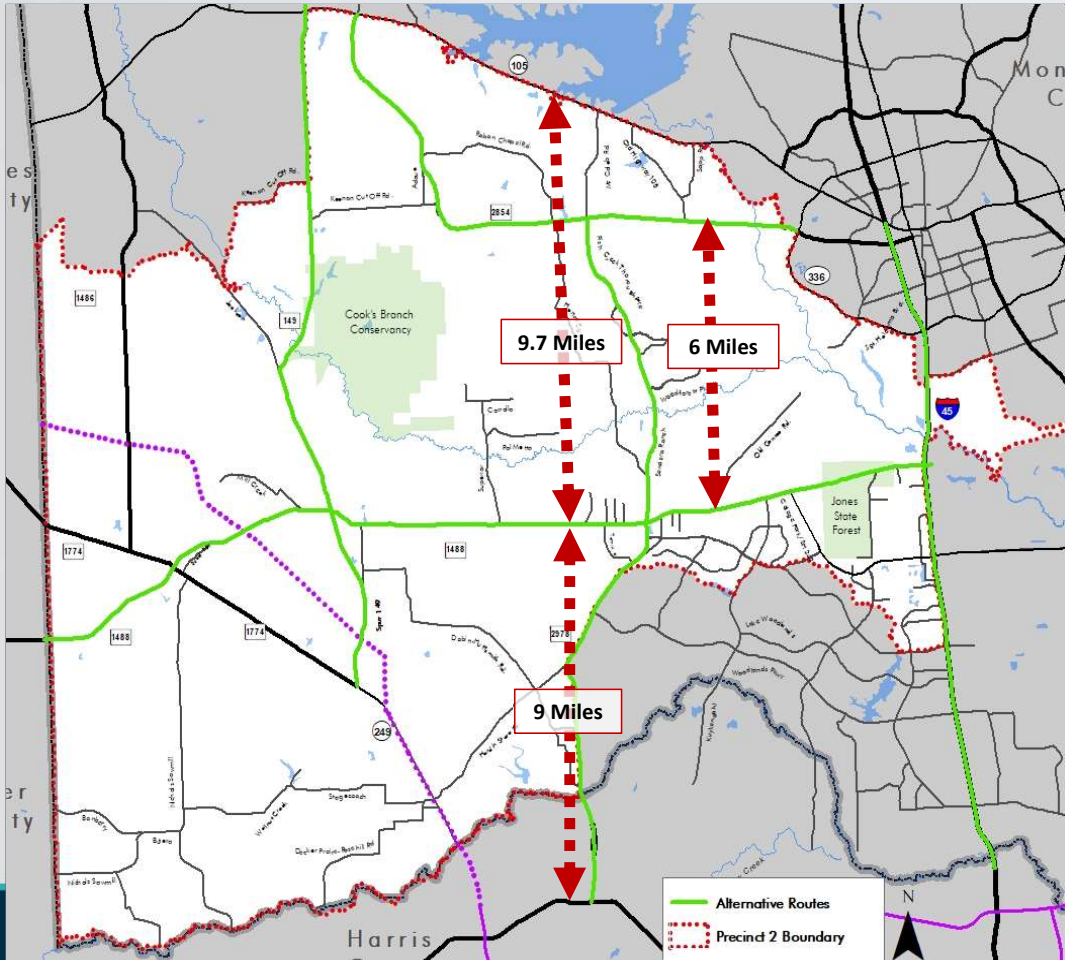


- Floodplains
- Water Features
- Forests/Conservancies
- Railroad Tracks
- Existing Development

New and Future Developments



Connectivity



Issue: Lack of Connectivity

East to West

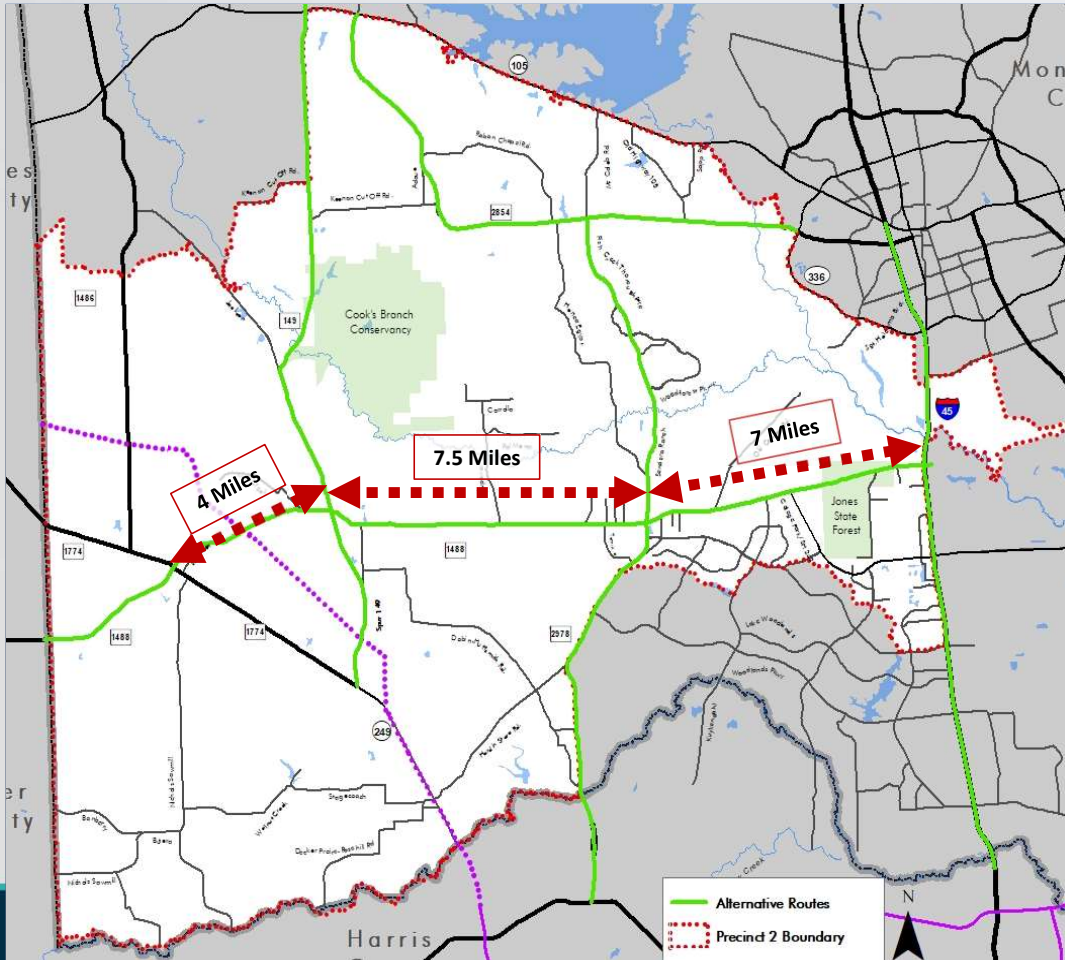
SH105 and FM1488 – 9.7 Miles

FM2854 to FM 1488 - 6 miles

FM1488 and FM2920 (Harris County) - 9 miles

FM 1488 and Grand Parkway - 13 miles

Connectivity



Issue: Lack of Connectivity

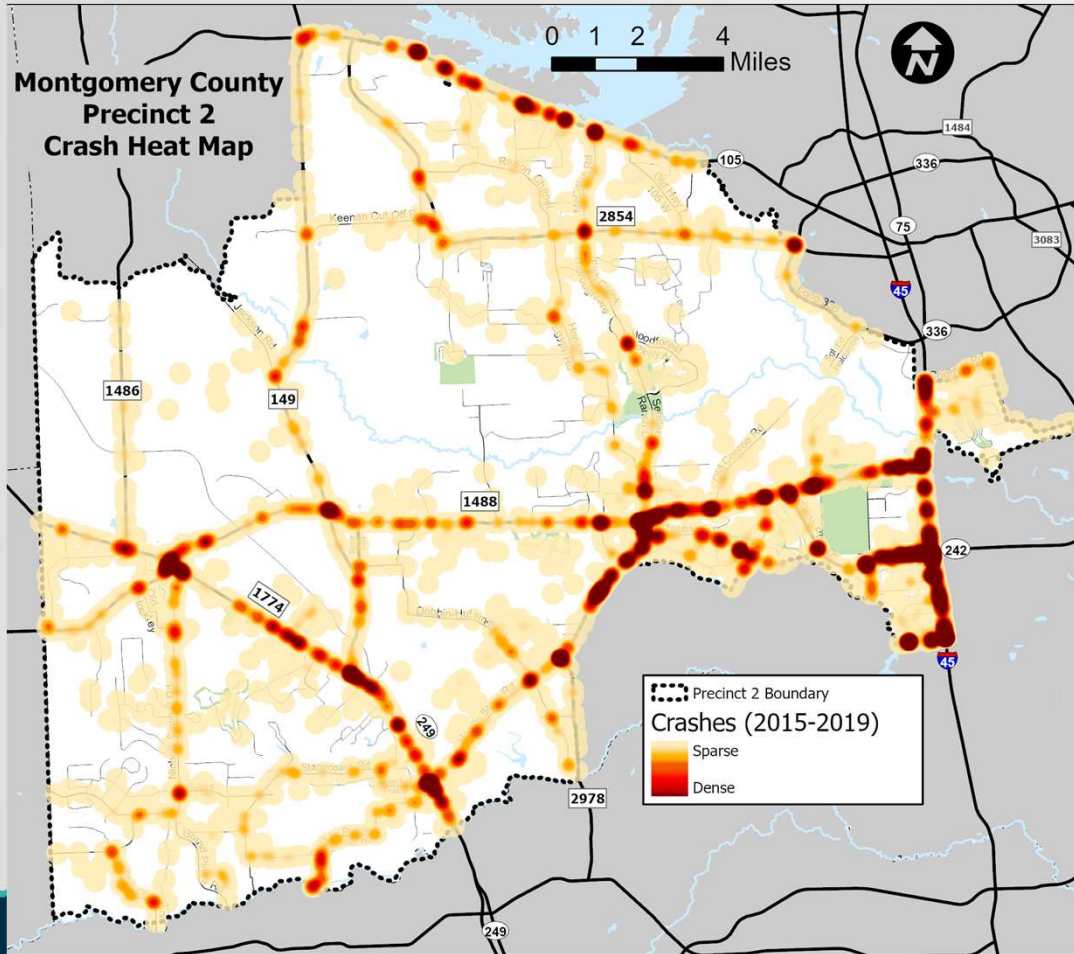
East to West

- SH105 and FM1488 – 9.7 Miles
- FM2854 to FM 1488 - 6 miles
- FM1488 and FM2920 (Harris County) - 9 miles
- FM 1488 and Grand Parkway - 13 miles

North to South

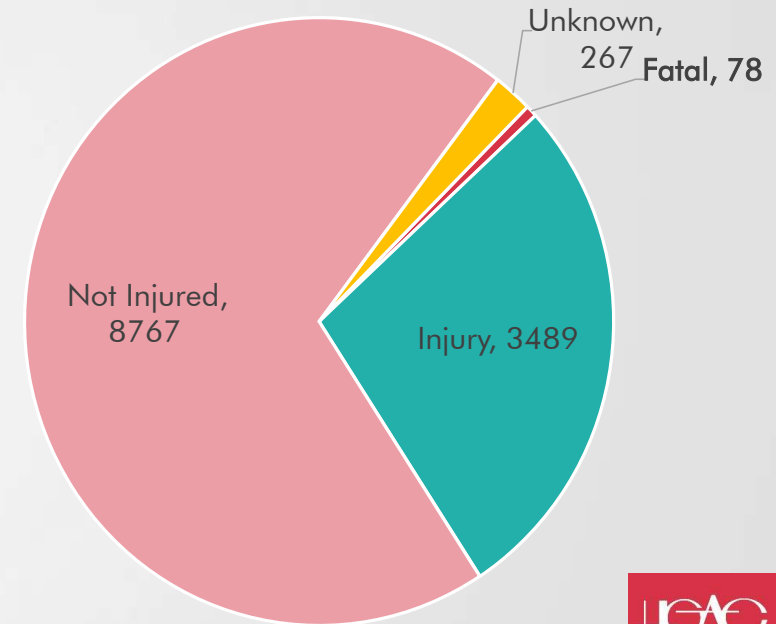
- IH-45N to FM 2978 - 7 Miles
- FM 2978 to FM 149 - 7.5 Miles
- FM 149 to FM 1774 - 4 Miles

Crash Data (2015-2019)

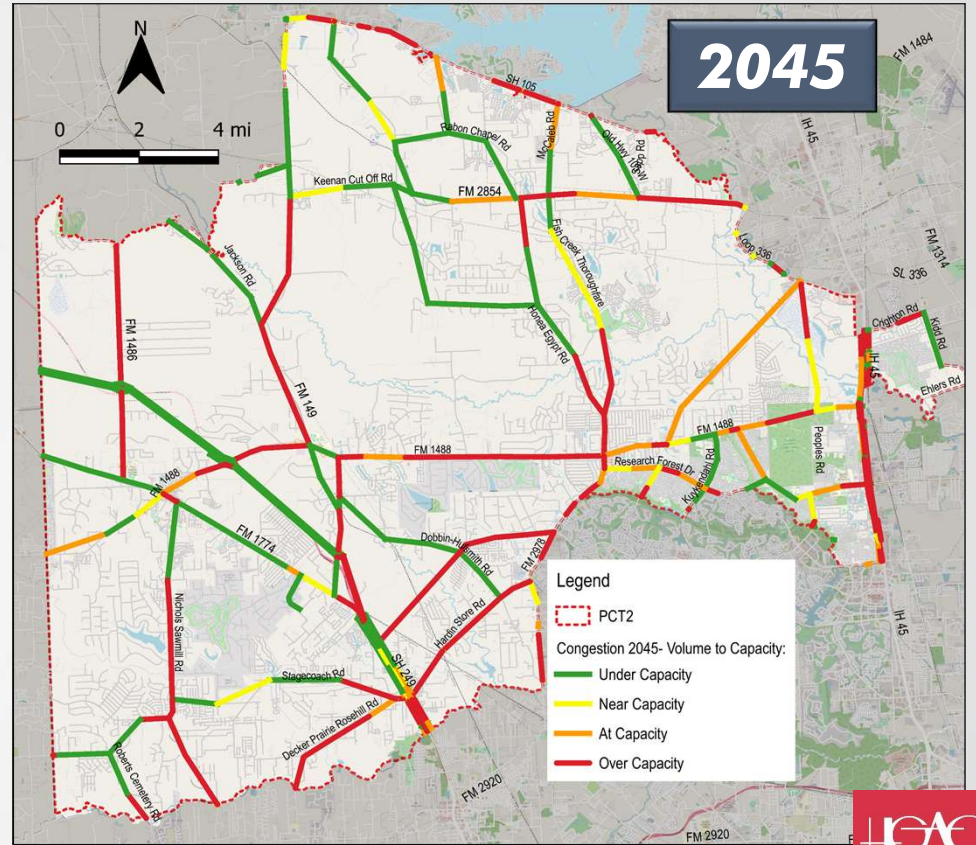
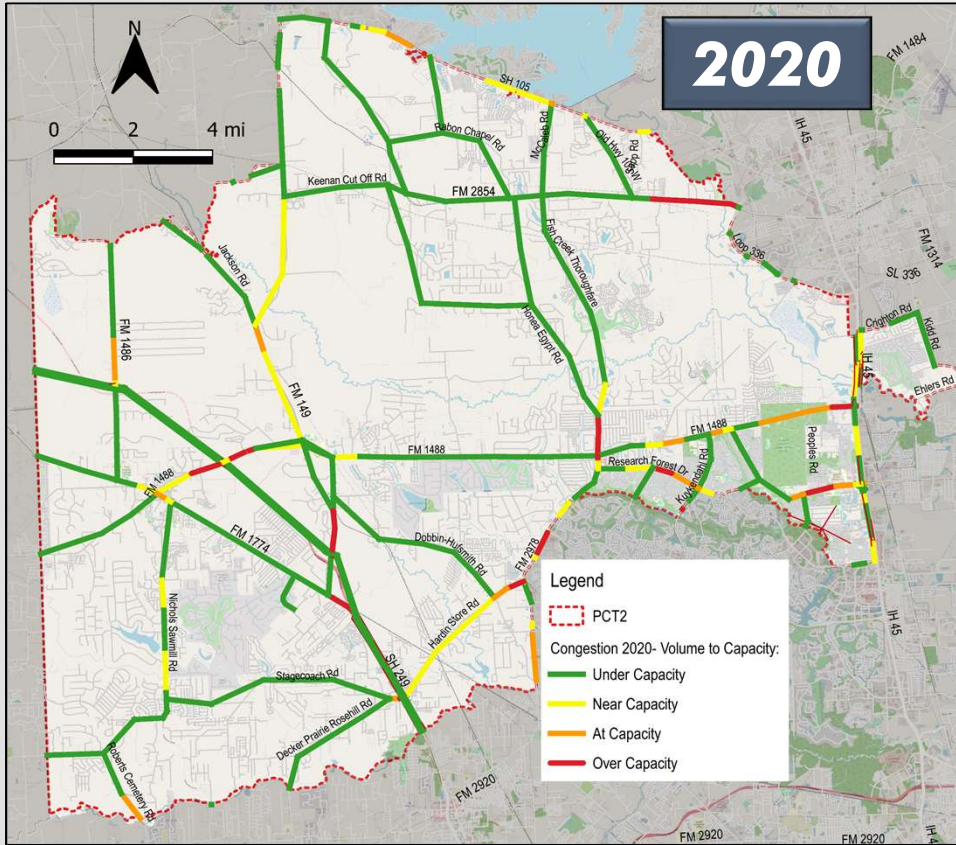


Total Crashes: 12,601

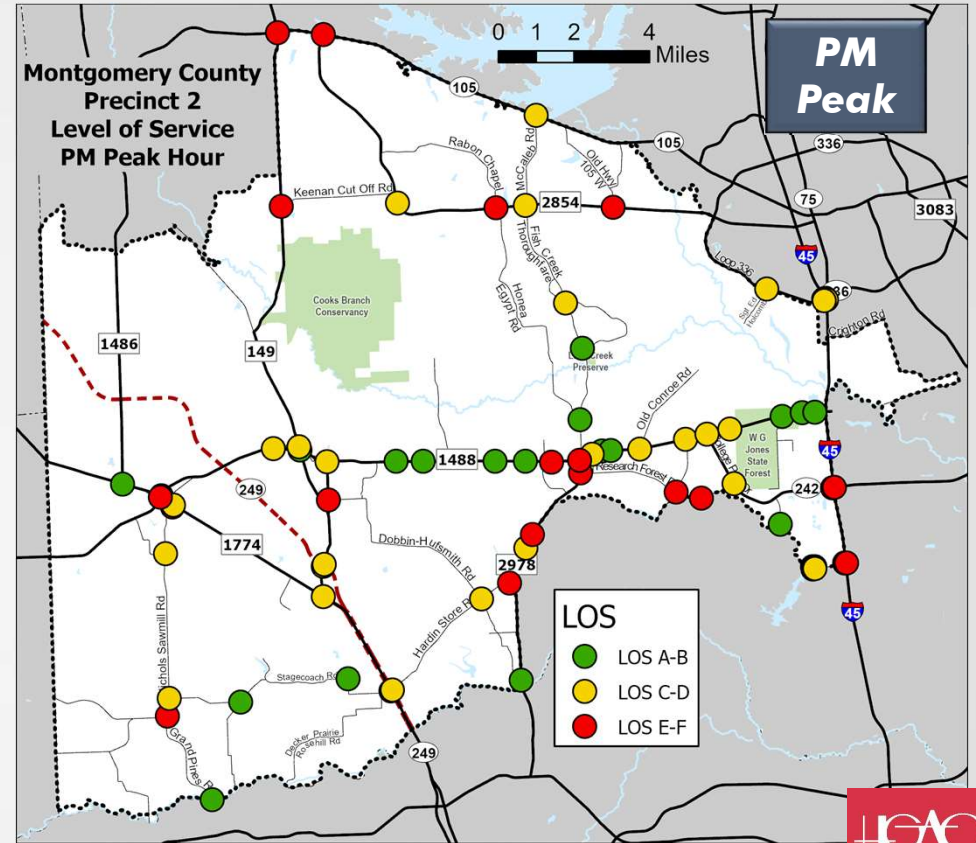
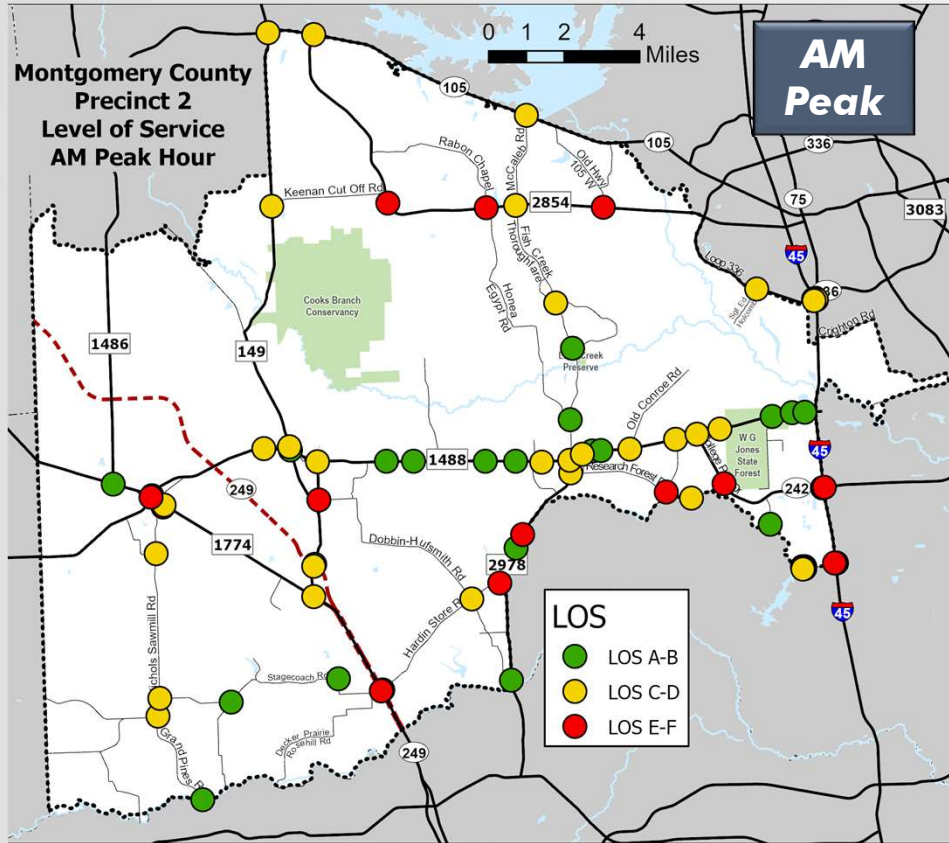
Severity
(Highest Severity per Crash)



Congestion: 2020 vs 2045



Intersections: Level of Service





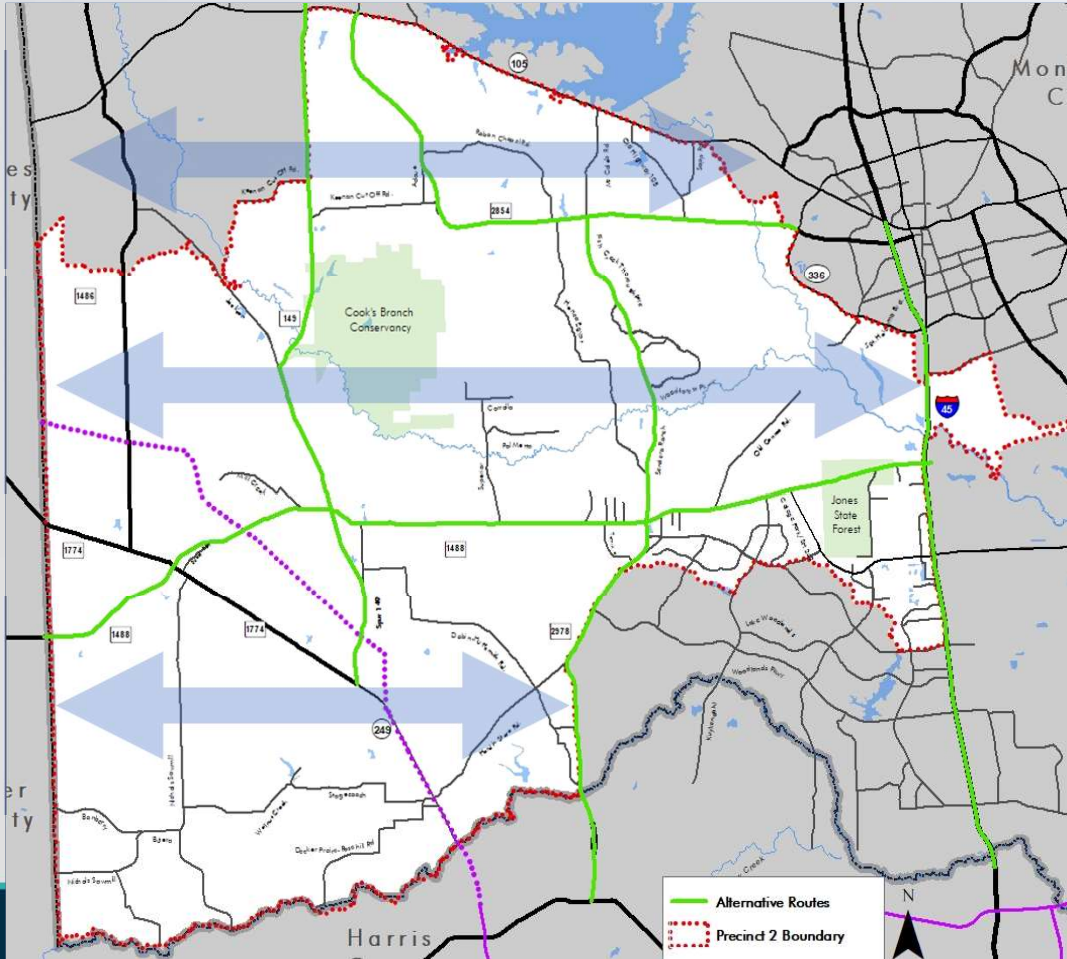
Preliminary Recommendations

Identified Issues

Major Issues	Steering Committee	Stakeholder Groups	Public Input
Traffic Congestion	X	X	X
Dangerous Road Curves	X	X	X
North/South Connectivity	X	X	X
East/West Connectivity	X		X
Transit Needs	X	X	
Intersection Congestion	X	X	X
Need Bike Routes	X	X	X
Corridor Signal Timings	X	X	X
Railroad Crossings	X	X	X
Flooding near IH-45/SH242	X		X
Extend Old Conroe Road	X	X	X
FM 2978 Construction	X	X	X
School Traffic	X		X
Safety - Crashes	X	X	X
New Developments	X		X
Hospital Access		X	
Need Turn Lanes			X
Access Management			X
Need Road Widening			X
Need Street Lighting			X
Signing and Pavement Marking			X



Alternative Routes



Solution: Alternative Routes

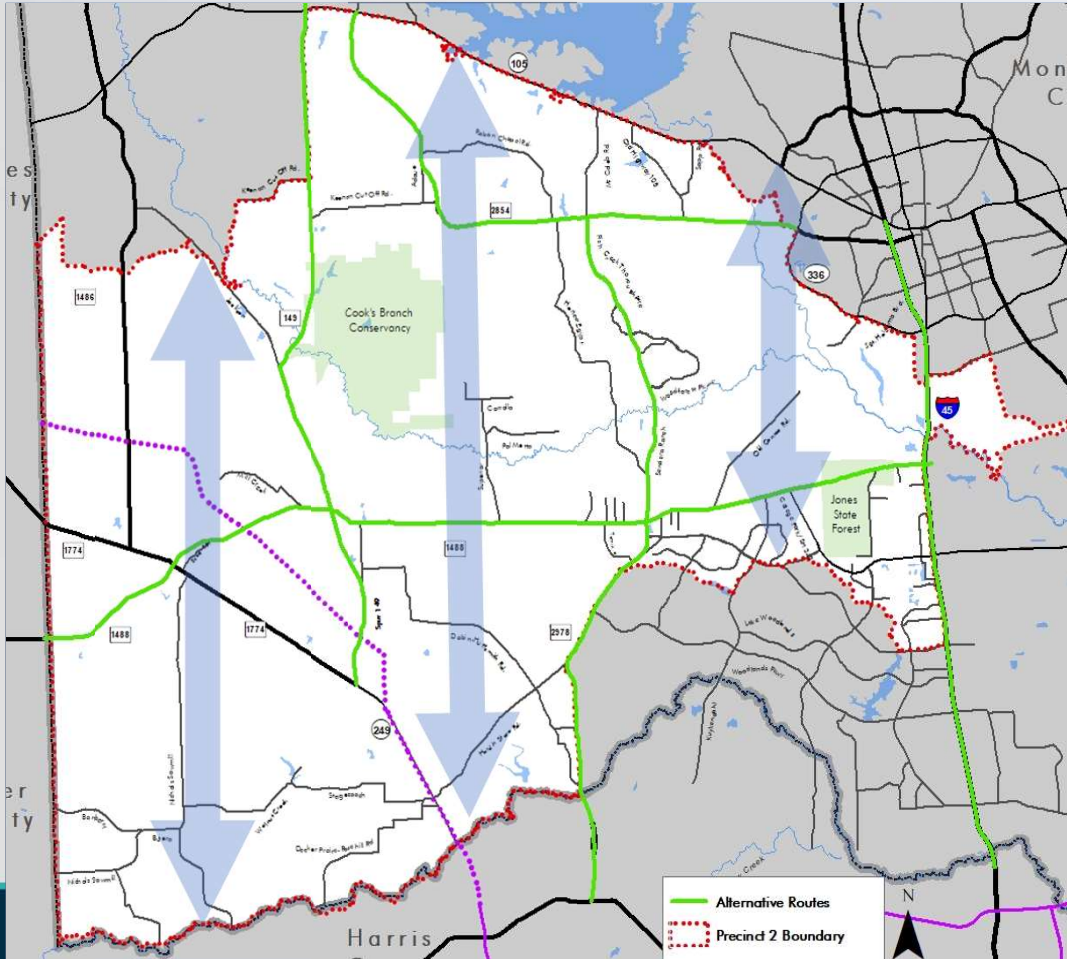
East to West Routes

SH105 and FM 2854

FM 2854 and FM 1488

FM1488 and FM2920 (Harris County)

Alternative Routes



Solution: Alternative Routes

East to West Routes

SH105 and FM 2854

FM 2854 and FM 1488

FM1488 and FM2920 (Harris County)

North to South Routes

IH-45N to FM 2978 - 7 Miles

FM 2978 to FM 149 - 7.5 Miles

FM 149 to FM 1774 - 4 Miles

Road Recommendations



- Extensions
- New Roads
- Widening
- Signal timing
- Maintenance
- Road signs
- Pavement markings
- Straighten curves
- Bridges
- Overpasses
- Center Medians

Intersections Recommendations

- Add turn lanes
- Signal timing
- Road signs
- Pavement markings
- Roundabouts
- Turbo-T
- Change stop device



Other Recommendations



Active Transportation

- Add “Share the Road” signs
- Pavement markings
- Use of utility easements
- Build missing links

Transit

- Park and Ride facilities/service
- Express Routes



Next Steps

Next Steps

- Finalizing Recommendations - Dec. 2021
- Public meeting - Jan./Feb. 2022
- Final report - Spring 2022



THANK YOU!



- **Carlene Mullins – Project Manager**
Carlene.Mullins@h-gac.com
- **Justin Kuzila – Project Planner**
Justin.Kuzila@h-gac.com

Website: [Engage.H-GAC.com](https://engage.h-gac.com)



Liberty County Mobility Study



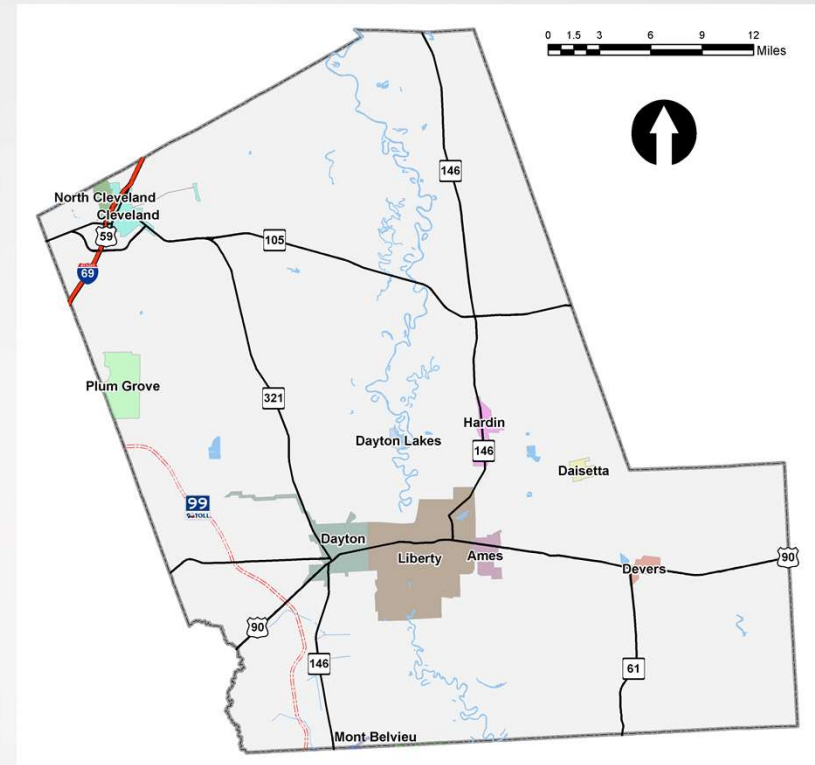
Thomas Gray, AICP
RTP Subcommittee – October 13, 2021

Project Overview – Purpose and Study Area



Conduct a study and develop a Comprehensive Mobility Plan for Liberty County:

- Analyze existing transportation network
- Consider existing and future land use and growth scenarios
- Recommend improvements for transportation for residents, businesses and visitors
- Individual assessments for Cities of Cleveland, Dayton, and Liberty



Steering Committee



Liberty County Engineer's Office	David Douglas	County Engineer
City of Cleveland	Robert Pennington	City Manager
City of Dayton	Kimberly Judge	Assistant City Manager / Director of Development Services
Dayton EDC	Ann Miller	EDC Director
City of Liberty	Tom Warner	City Manager
	Chris Jarmon	Assistant City Manager
TxDOT	Lisa Collins	TxDOT Beaumont District
TxDOT	Jeffrey English	TxDOT Houston District

Cleveland – 2021 (PM)

Recommendations

Existing

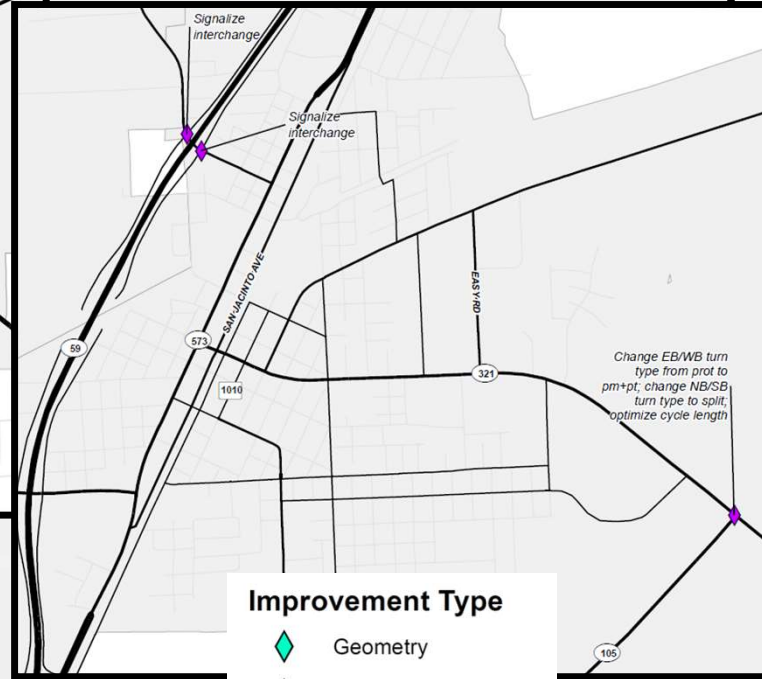
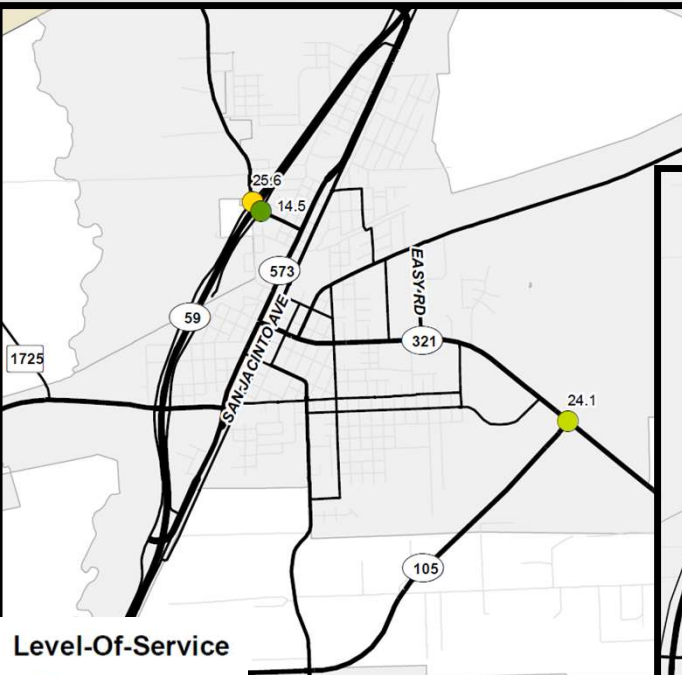
Improved

Level-Of-Service

- A
- B
- C
- D
- E
- F

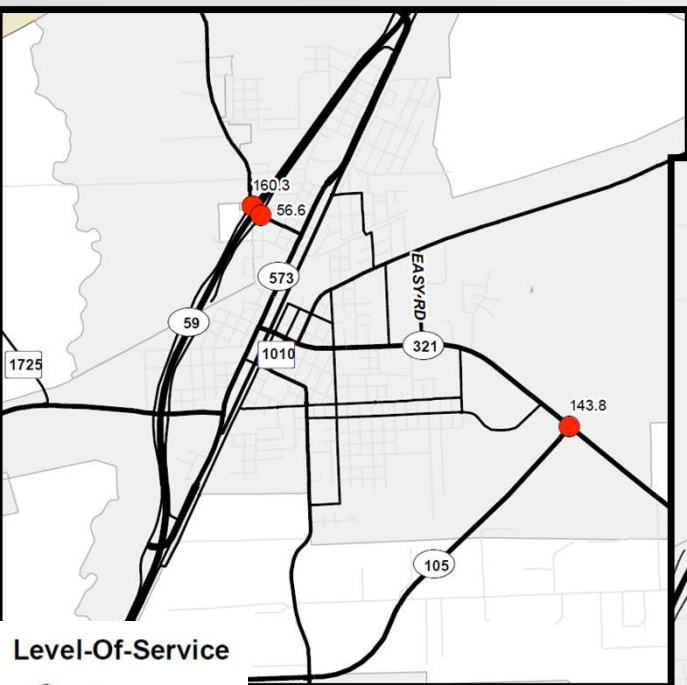
Improvement Type

- ◆ Geometry
- ◆ Signal
- ◆ Signal + Geometry

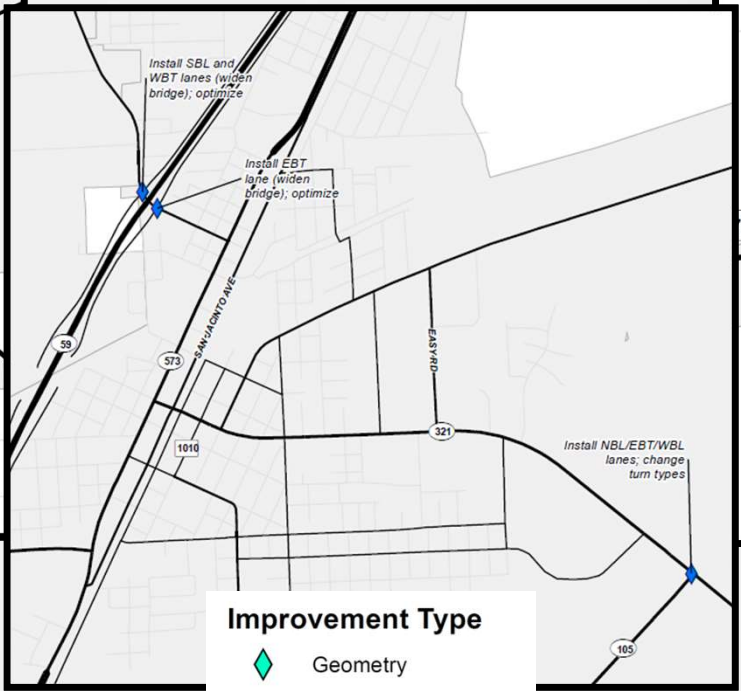


Cleveland – 2045 (PM)

Recommendations

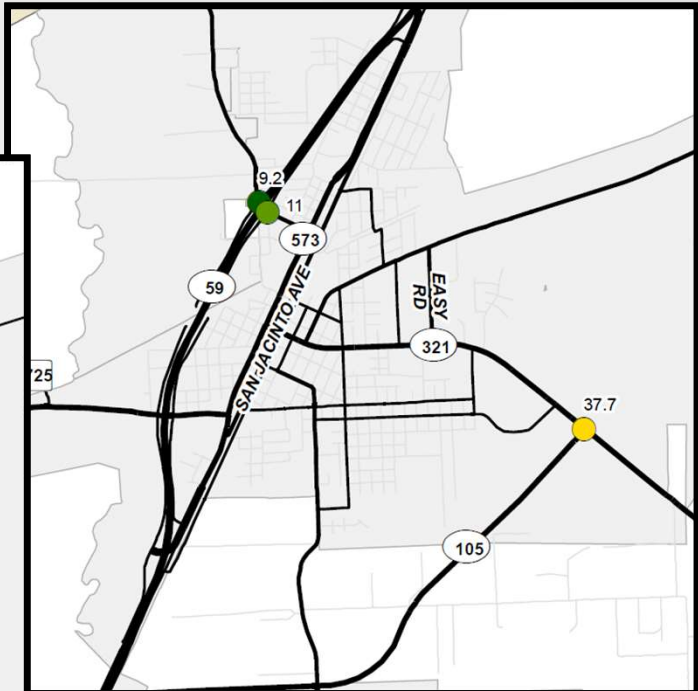


Existing



Improvement Type

- ◆ Geometry
- ◆ Signal
- ◆ Signal + Geometry



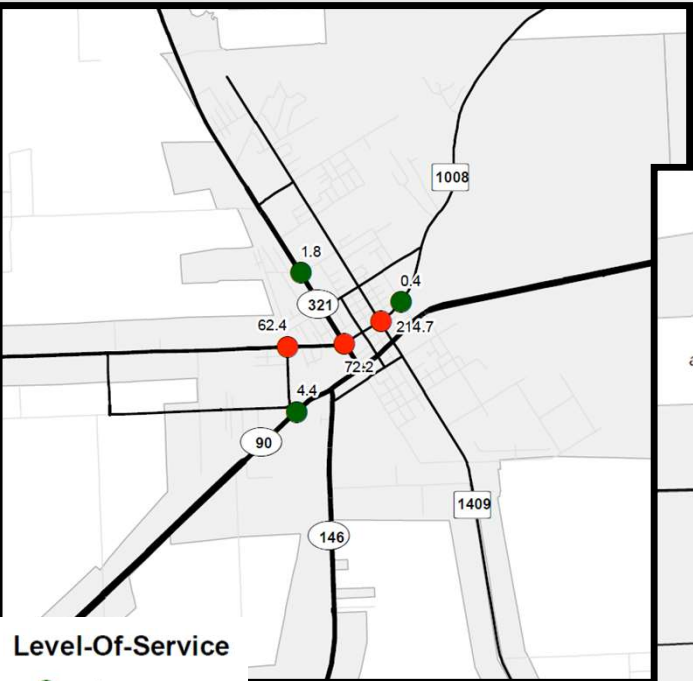
Improved

Level-Of-Service

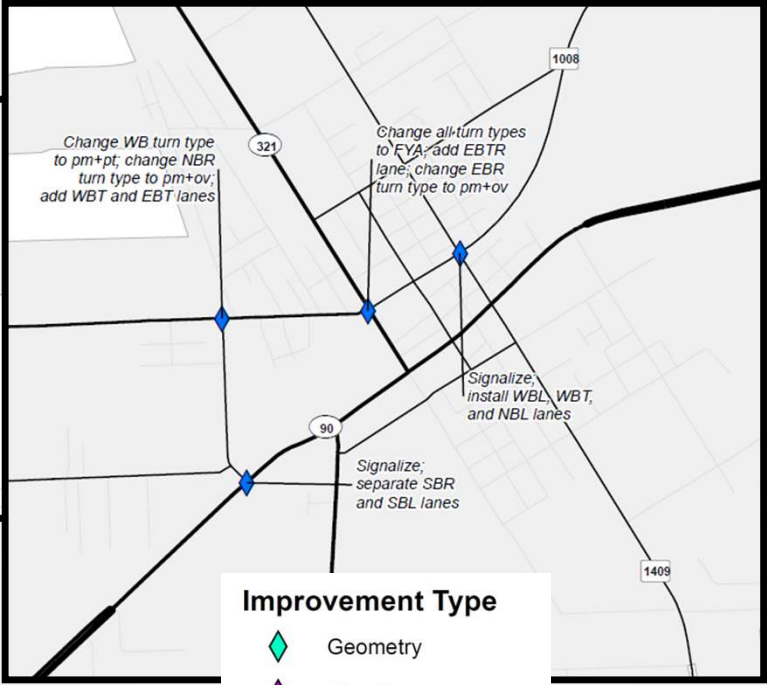
- A
- B
- C
- D
- E
- F

Dayton – 2021 (PM)

Recommendations

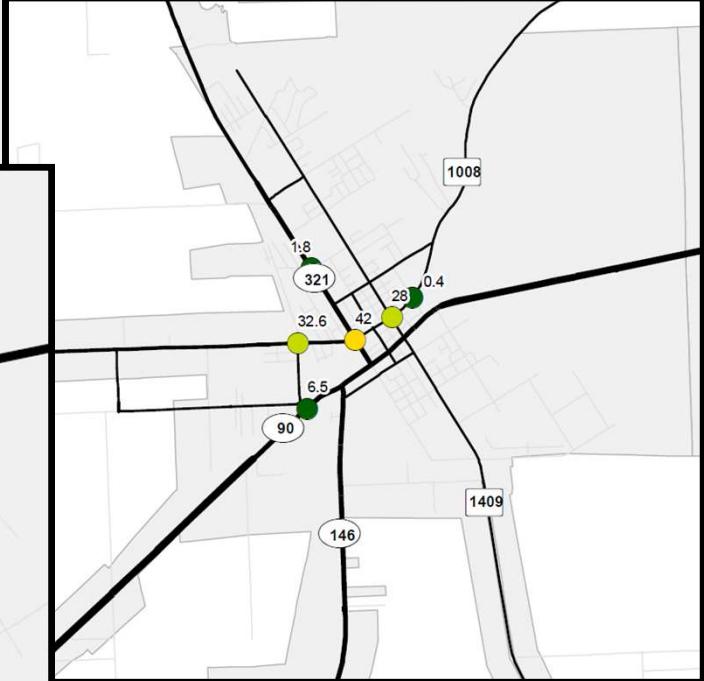


Existing



Improvement Type

- ◆ Geometry
- ◆ Signal
- ◆ Signal + Geometry



Improved

Level-Of-Service

- A
- B
- C
- D
- E
- F

Dayton – 2045 (PM)

Recommendations

Existing

Improved

Level-Of-Service

- A
- B
- C
- D
- E
- F

Improvement Type

- ◆ Geometry
- ◆ Signal
- ◆ Signal + Geometry

Regional Collaboration

Multimodal Mobility

FM 1960 at Cleveland Street



- Minor Widening
 - Buys Several Years
 - Not Long-Term Solution
- Major Widening
 - Addresses Future Congestion
 - Major Cost
 - Widen Railroad Underpass
 - ROW Takings
 - Changes Character
- Bypass Option
 - Reduces Volumes

Dayton Bypass Alternatives



	1	2	3
Length	4.62 mi	4.58 mi	6.18 mi
Bridge	.34 mi	.24 mi	.44 mi
Cost	\$34 M	\$32 M	\$41.6 M
Residences	4	7	4
Commercial	6	10	0

Liberty – 2021 (PM)

Recommendations

Existing

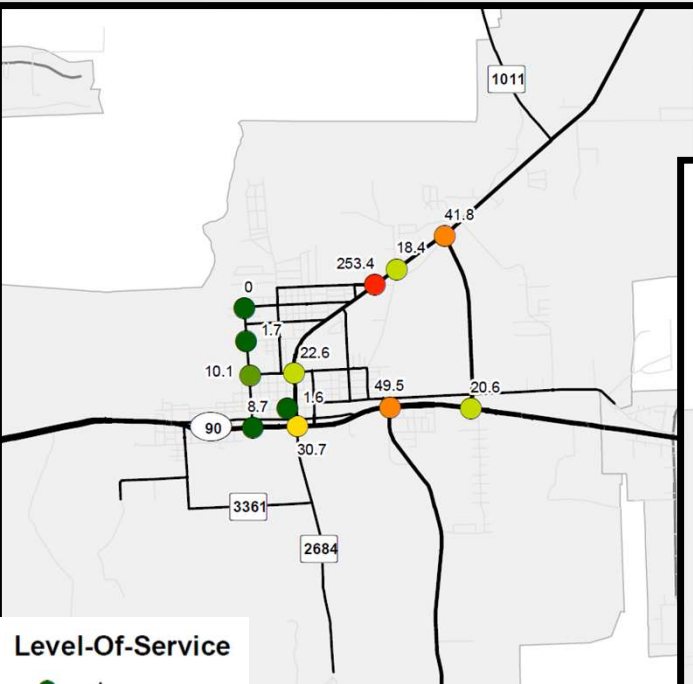
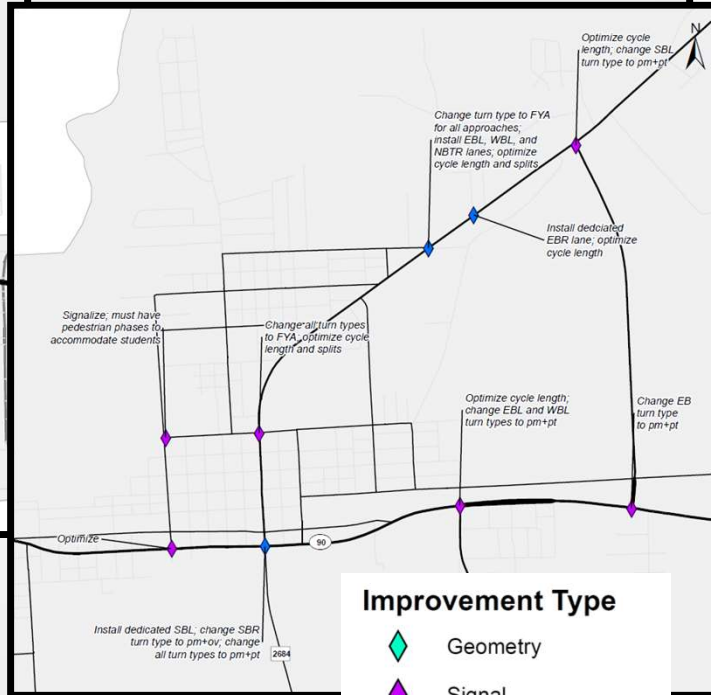
Improved

Level-Of-Service

- A
- B
- C
- D
- E
- F

Improvement Type

- ◆ Geometry
- ◆ Signal
- ◆ Signal + Geometry



Liberty – 2045 (PM)

Recommendations

Existing

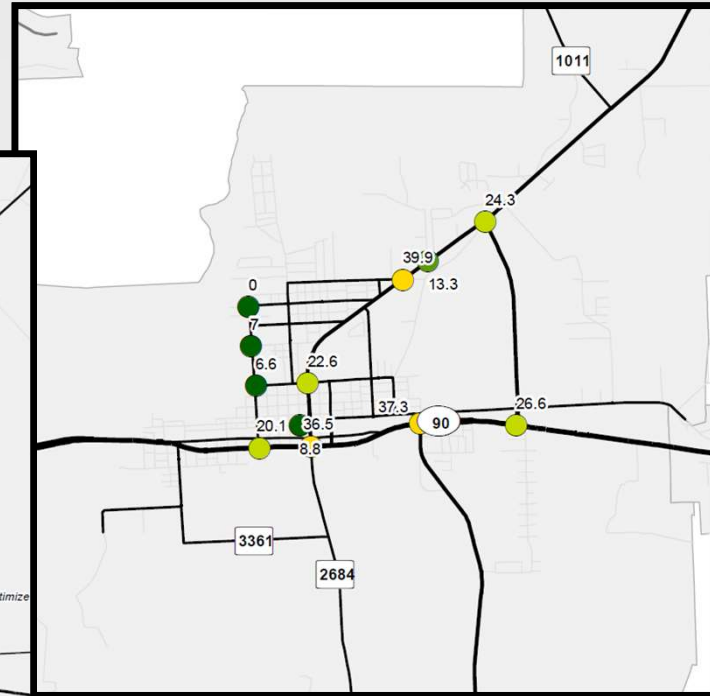
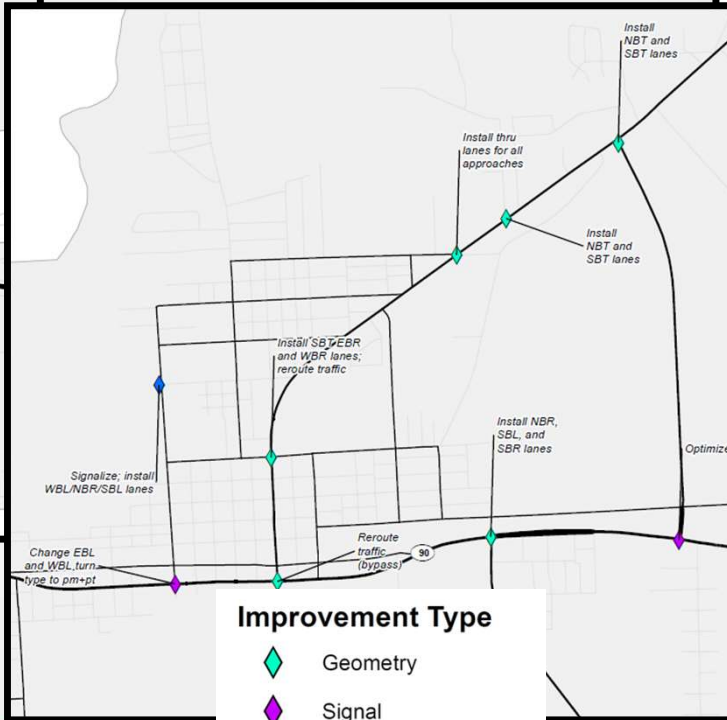
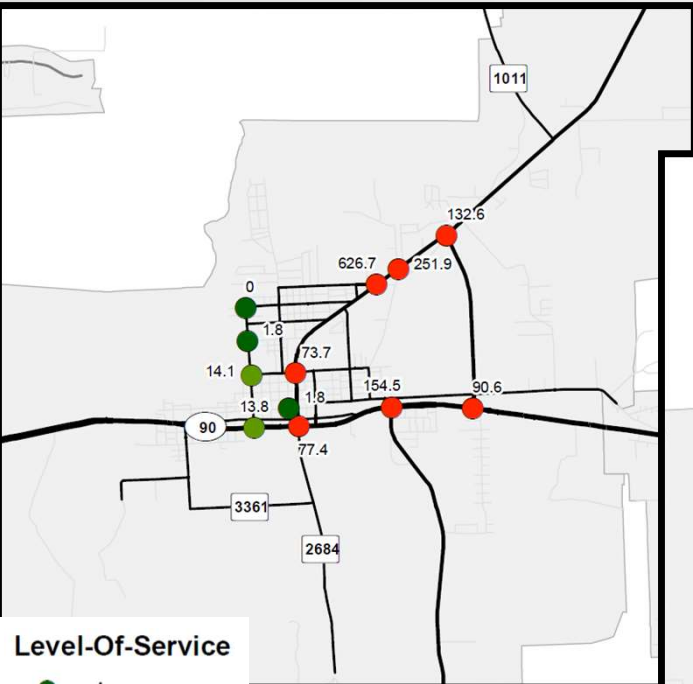
Improved

Level-Of-Service

- A
- B
- C
- D
- E
- F

Improvement Type

- ◆ Geometry
- ◆ Signal
- ◆ Signal + Geometry



Thoroughfare Recommendations

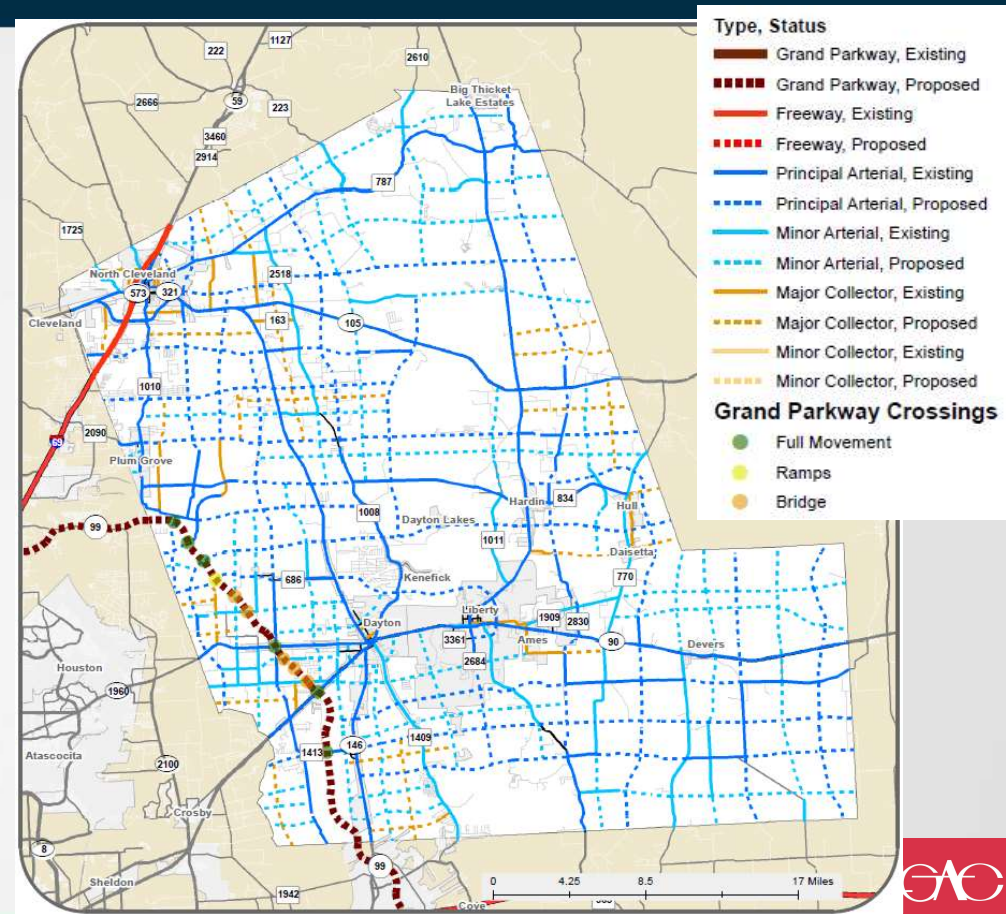
Ultimate recommendation: Update Thoroughfare Plan through legal process

Inputs

- Existing Liberty County Thoroughfare Plan
- Barriers and limitations
- Existing adjacent Thoroughfare Plans

Focus Areas

- Locations without connectivity
- Grand Parkway access

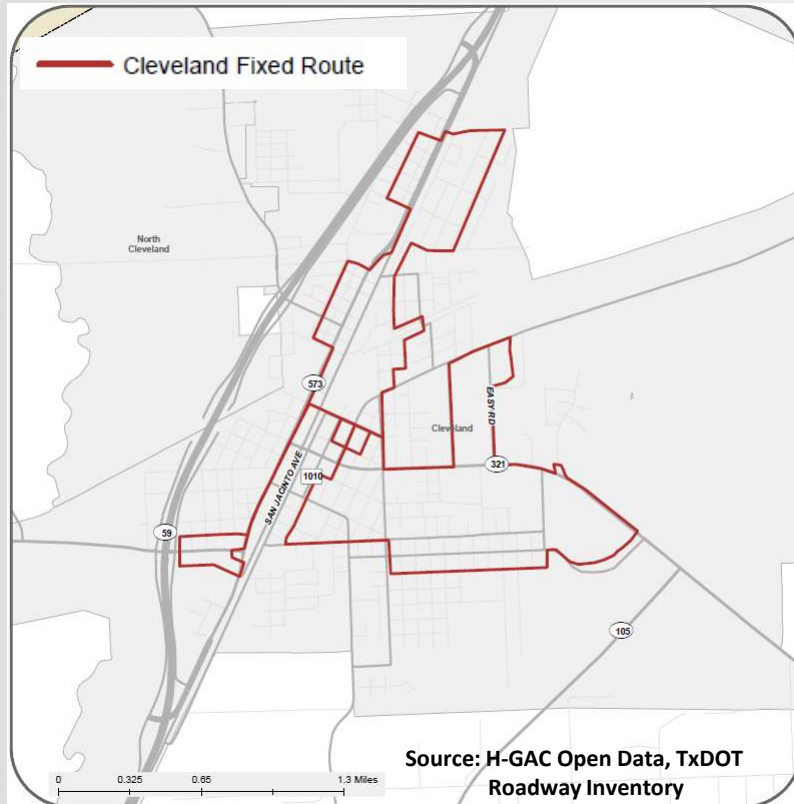


Transit Summary



**BRAZOS TRANSIT
DISTRICT**

City of Cleveland



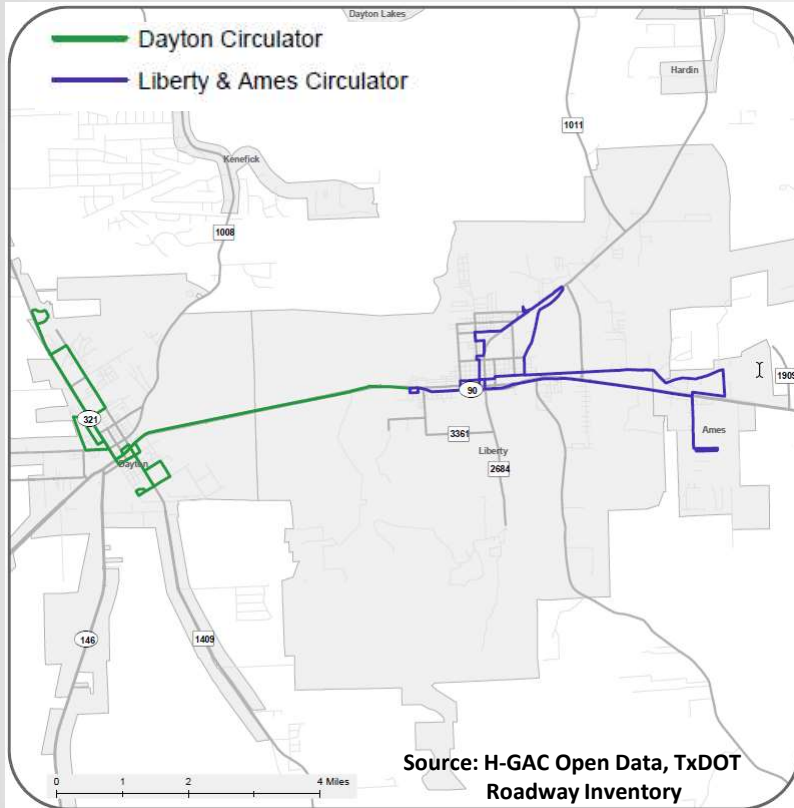
- Cleveland – one fixed route; headways are one hour
- Dayton / Liberty – one fixed route circulates between cities four times per day
- BOTH – no established bus stops (flagged rider system)
- BTD considering more on-demand services

Transit Summary



**BRAZOS TRANSIT
DISTRICT**

Cities of Dayton and Liberty



- Cleveland – one fixed route; headways are one hour
- Dayton / Liberty – one fixed route circulates between cities four times per day
- BOTH – no established bus stops (flagged rider system)
- BTD considering more on-demand services

Transit Recommendations

Build basic passenger facilities at high-ridership stops

- Pads, signage, shelters, sidewalks
- Prioritize according to BTD boarding and alighting data

Plan for a Park and Ride facility in Dayton

- Ideally close to intersection of Grand Parkway and US 90
- Could serve downtown Houston and Texas Medical Center

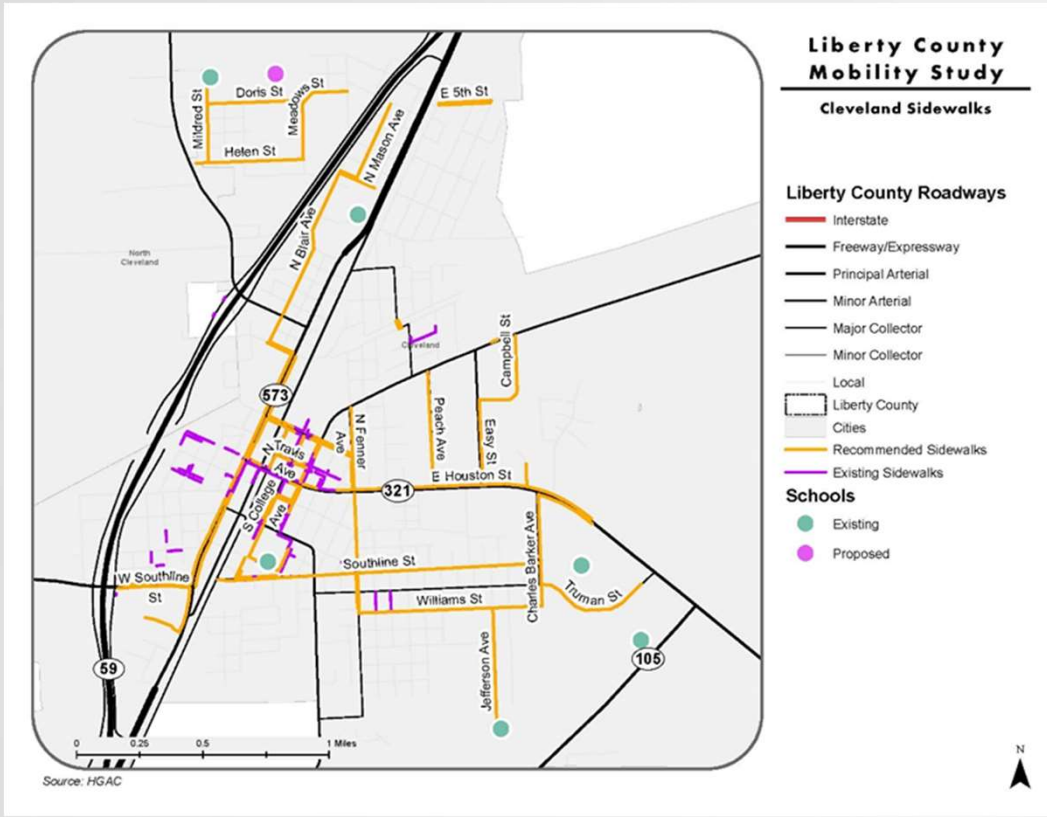
Publish GTFS data for BTD services in Liberty County

- Makes service information more accessible for users

Identify additional funding sources to provide local match

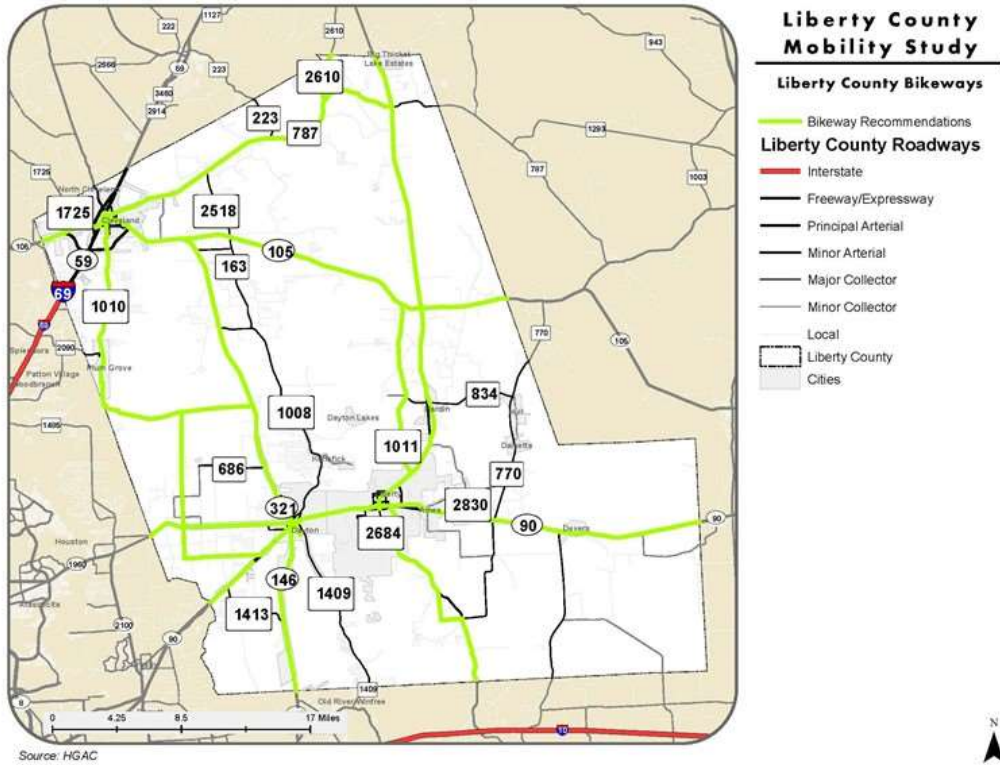
- This is a region-wide problem that is difficult to solve

Pedestrian Recommendations



- Connect and expand sidewalk networks in Cleveland, Dayton and Liberty
- Connect discontinuous networks in downtown areas
- Provide sidewalks along walking routes from neighborhoods to nearby schools
- Sidewalks along transit routes
- Identify priority intersections for high-visibility crosswalks

Bicycle Recommendations



- Utilize existing major thoroughfares with wide shoulders and ROW for bikeway connections between cities
- Develop design guidelines for new roadway construction and maintenance plans that accommodate people biking
- Consider the Trinity River corridor as a future shared hike-and-bike trail to preserve natural habitat

Policy / Practice Recommendations

LIBERTY COUNTY

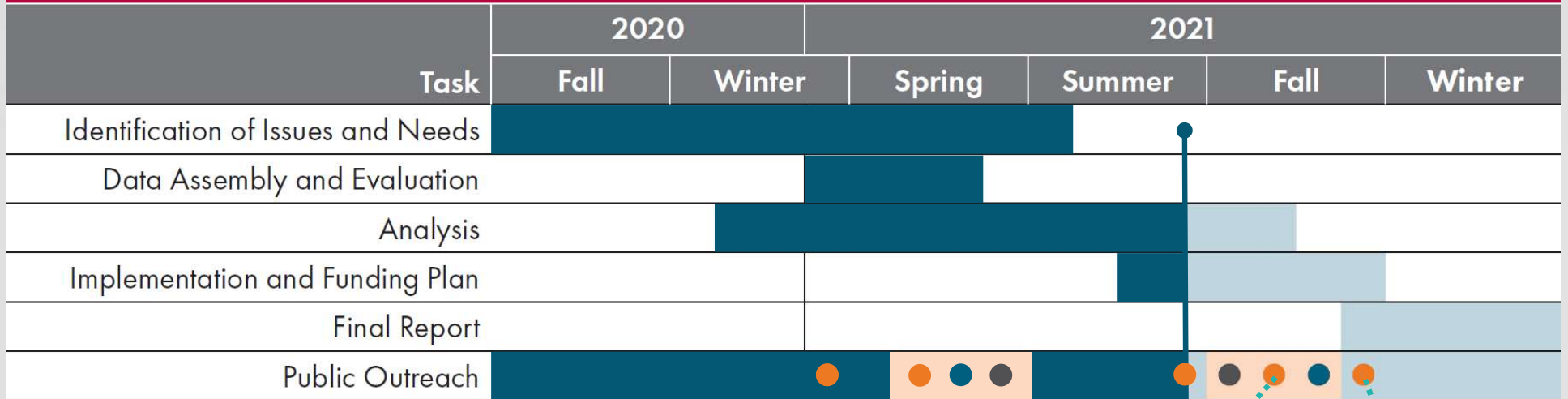
- Submittal requirements
 - Require a plat for all subdivisions
 - General Plan submittal for all contiguously-owned property
 - Digital submission process
 - Revise the plat submittal checklist
- General subdivision requirements
 - Common platting regulations / general street requirements
 - Points of access, block length, curve requirements, ROW widths, etc.
 - Consistent provisions for requiring ROW dedication for properties along MTP
 - Adopt Dayton's current sidewalk requirements
- Create roadway and utility Design and Construction standards

CITIES

- Adopt Liberty County regulations and standards; can apply more restrictive requirements if desired

Next Steps

LIBERTY COUNTY MOBILITY STUDY SCHEDULE



- Duration of Task
- Steering Committee meeting
- Stakeholder meeting
- Public meeting
- Online engagement activity

We are here

Recommendations and implementation

Report Draft

Thank You!



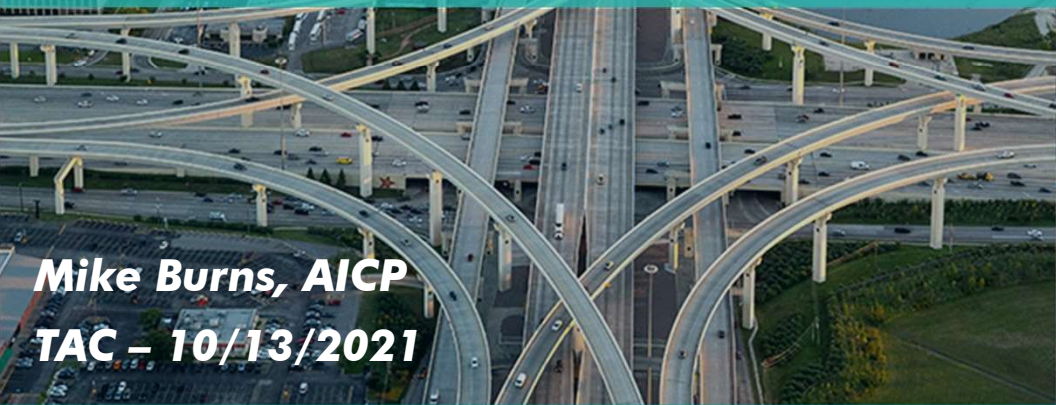
For More Information:

- www.engage.h-gac.com
- Thomas Gray, AICP
 - Thomas.Gray@h-gac.com
- Allie Isbell, AICP
 - Allie.Isbell@h-gac.com



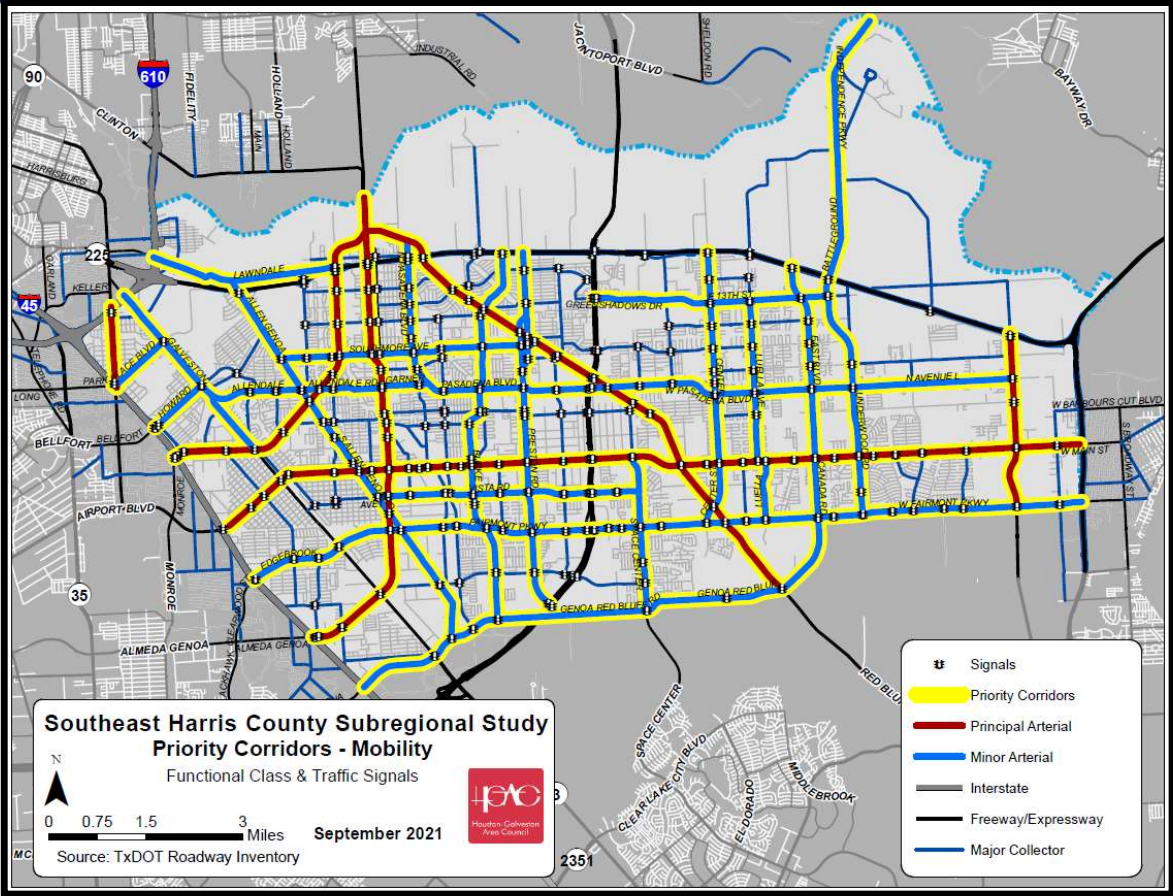


Update on the Southeast Harris County Subregional Study



Mike Burns, AICP
TAC – 10/13/2021

Study Area



Steering Committee

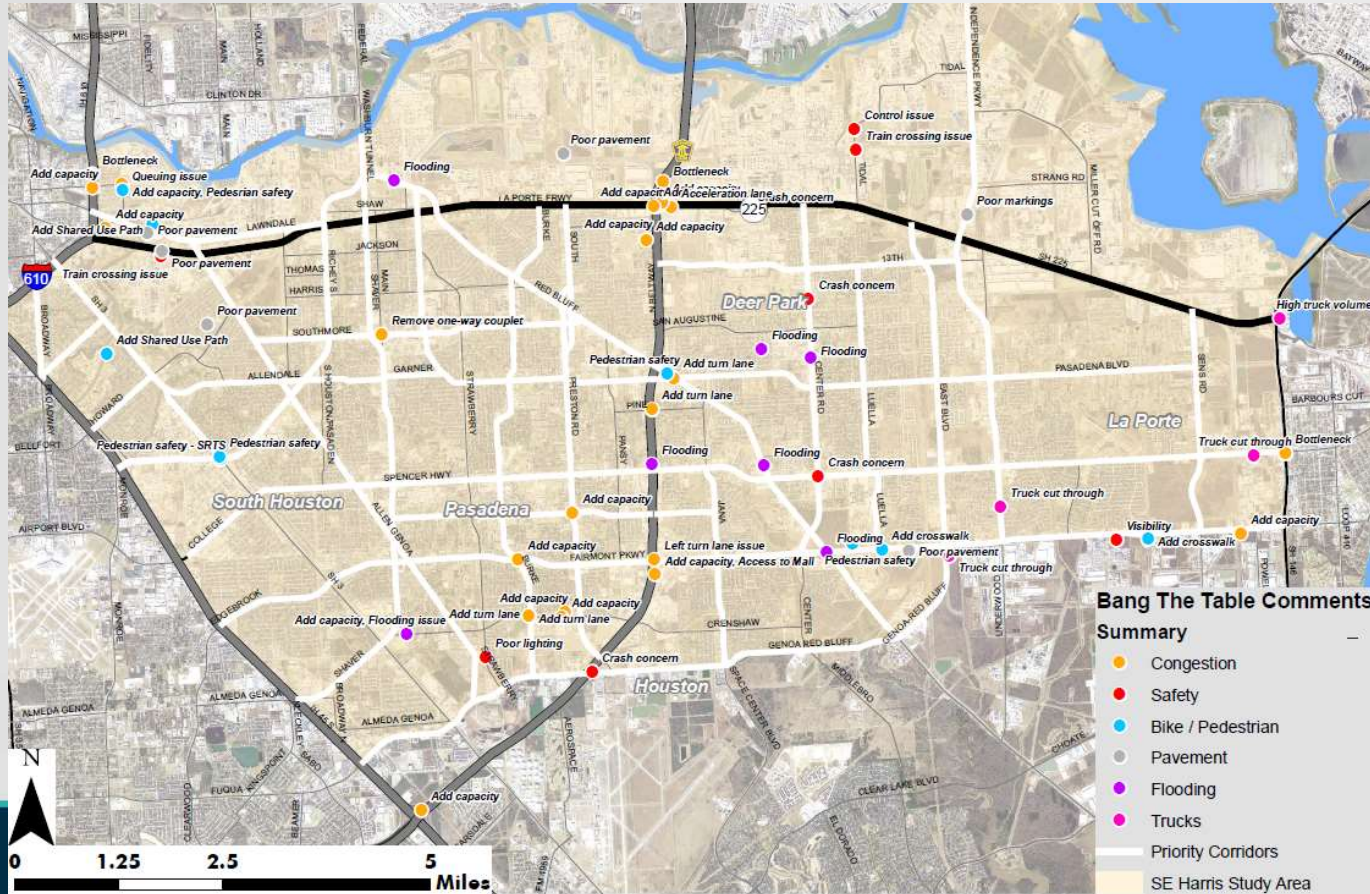
Representing	Name	Title
Port Houston	Bruce Mann	Director, Freight Mobility
Harris County	Bryan Brown	Senior Planner - Engineering Dept
Economic Alliance Houston Port Region	Chad Burke	President and CEO
City of Houston Public Works	Donald Buaku	Principal Planner
TXDOT	Jeffrey English	TxDOT
Gulf Coast Rail District	Katherine Parker	Executive Director
Harris County Transit	Ken Fickes	Director - Transit Services
Harris County Precinct 2	Milton Rahman	Director of Engineering
La Porte Police Dept	Sgt Bennie Boles	Police Sergeant
La Porte	Teresa Vazquez-Evans	Planning & Development Director
City of South Houston	Arthur Olivera	Street and Bridge
Deer Park	Adam Ballesteros	City Engineer
Pasadena	Sarah Benavides	Senior Assistant Director, Public Works
Harris County	Loyd Smith	ALTERNATE - Harris County
City of Houston Planning	Sharon Moses-Burnside	ALTERNATE - City of Houston

Measurable Goals

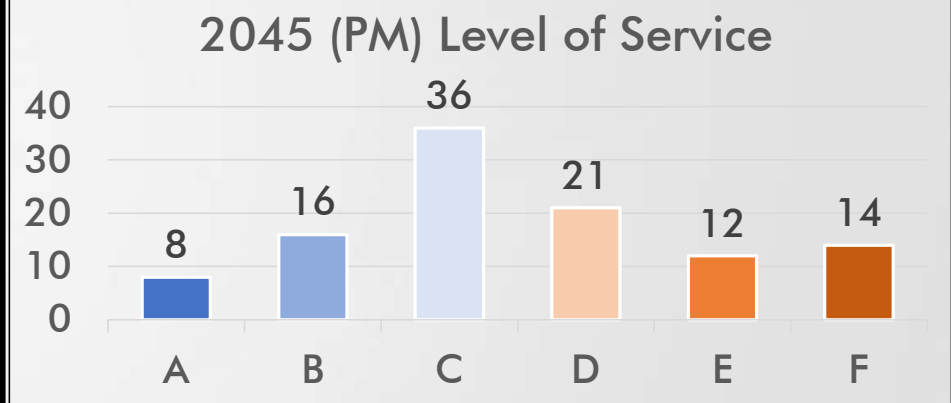
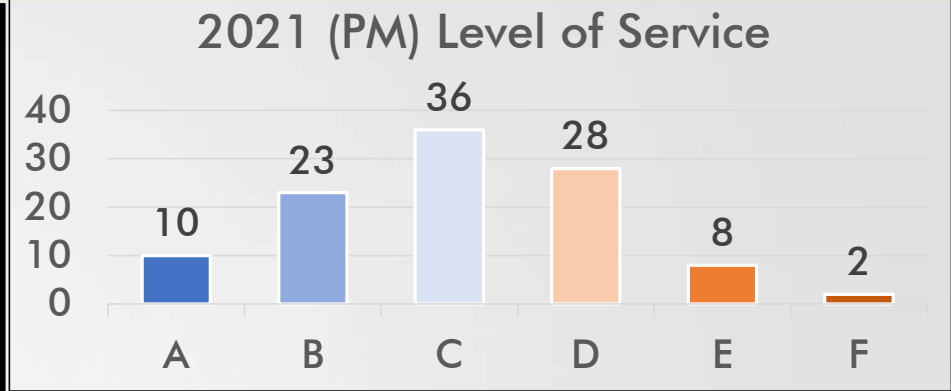
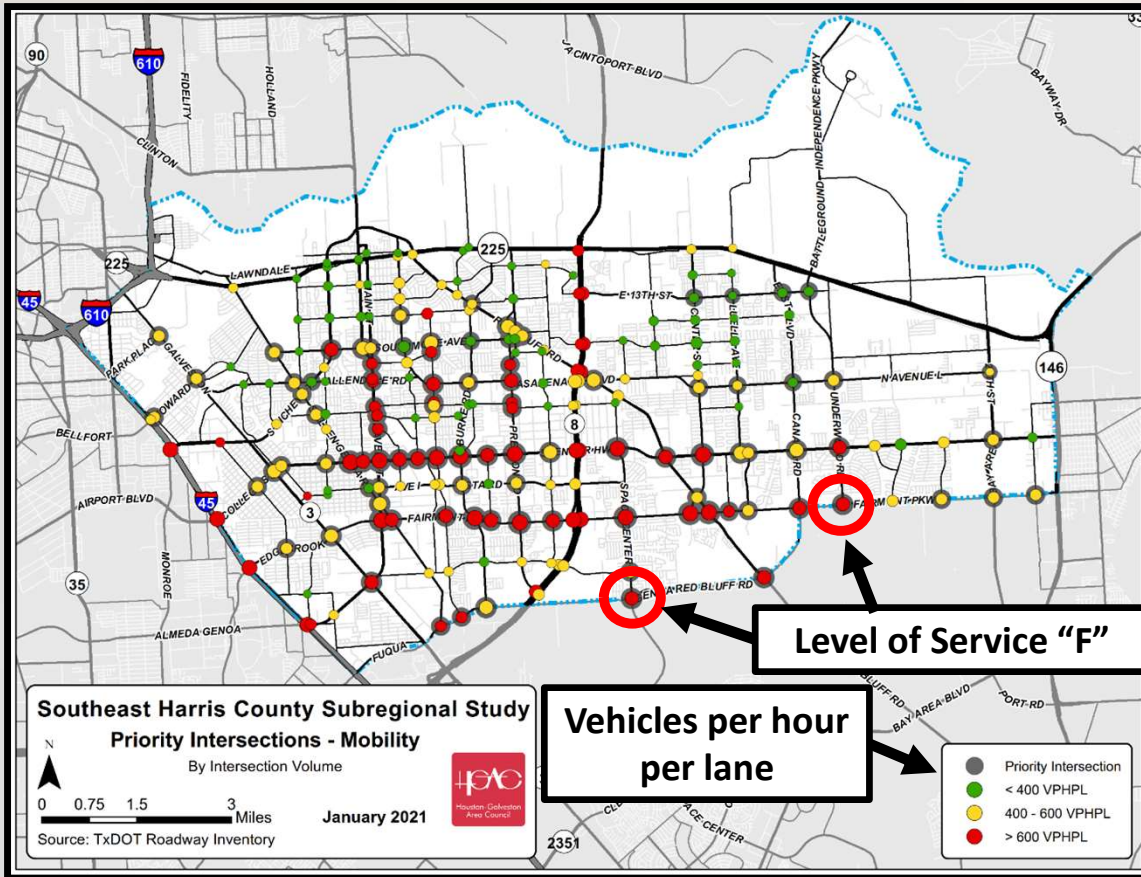
Goal	Description	Measures
Safety	Improve safety on the Vision Zero high-injury network with a goal of zero fatalities	Predicted changes to crash rates, number of conflict points
Mobility	Expand and accommodate all roadway users by incorporating Complete Streets principles, as context-appropriate	Connectivity, gaps, cross section, multimodal
Mobility	Increase operational efficiency and reliability of major intersections and roadways	V/C, LOS, travel time
Economic	Provide mobility options for residents and visitors	Connectivity, cross section, economic impact, broadband
Economic	Increase truck travel time reliability on the regional freight network	Travel time, delay, stops
Maintenance	Achieve a state of good repair for transportation assets	Pavement section & condition, funding, policy
Maintenance	Improve transportation asset resiliency and stormwater capacity	Pavement section, cross section, truck routes, best practices
Natural / Cultural Resources	Reduce transportation emissions	Emissions, delay, stops
Natural / Cultural Resources	Minimize impacts requiring mitigation	ROW required, access

Existing Conditions – Public Comments

Engage.H-GAC.com – Map Tool

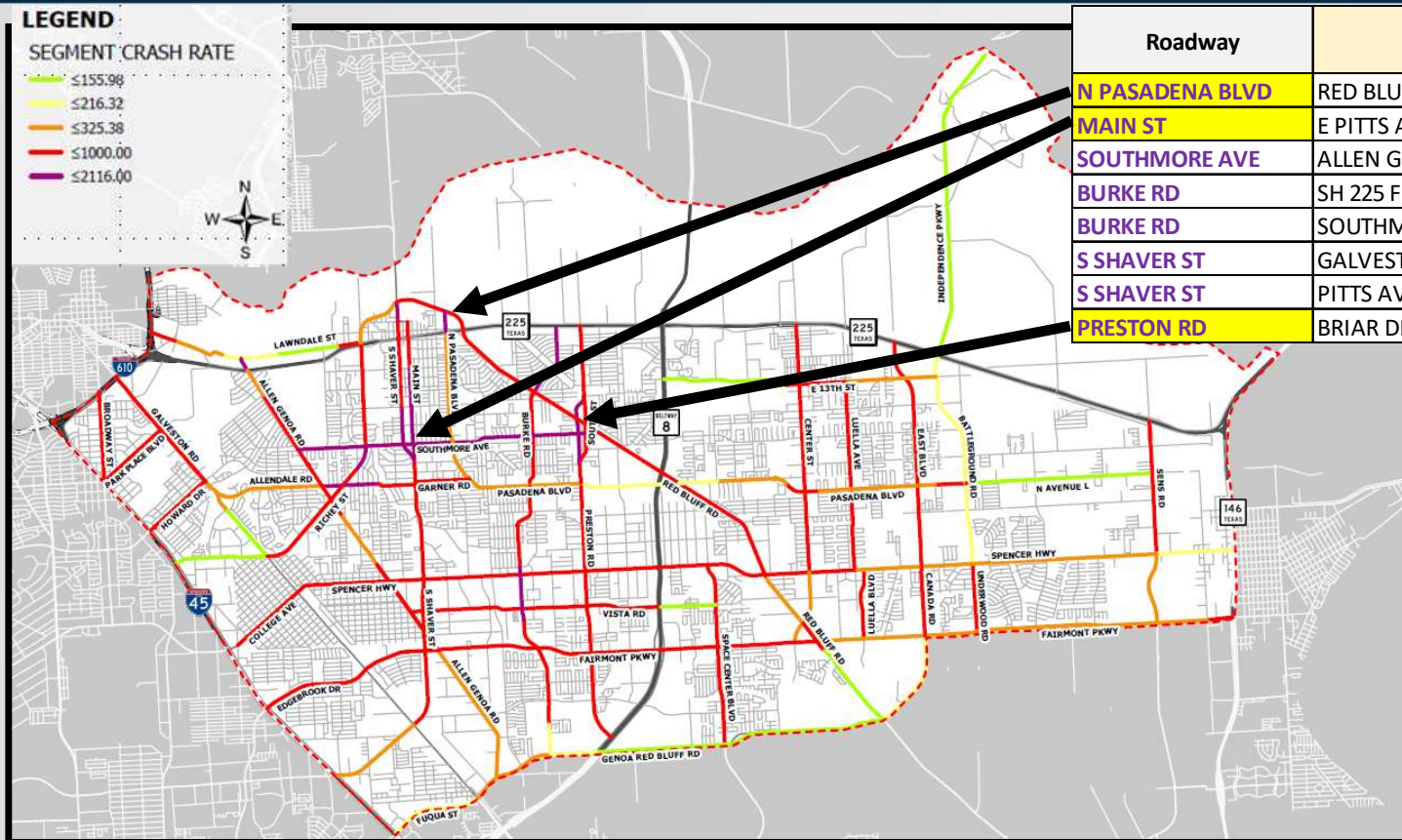


Existing Condition – Intersection Congestion



Note: 1% Annual Growth Rate

Existing Conditions – Corridor Safety

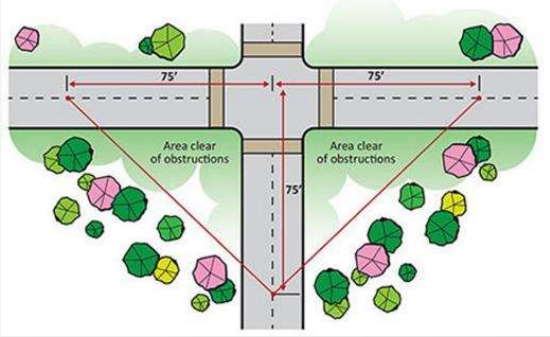
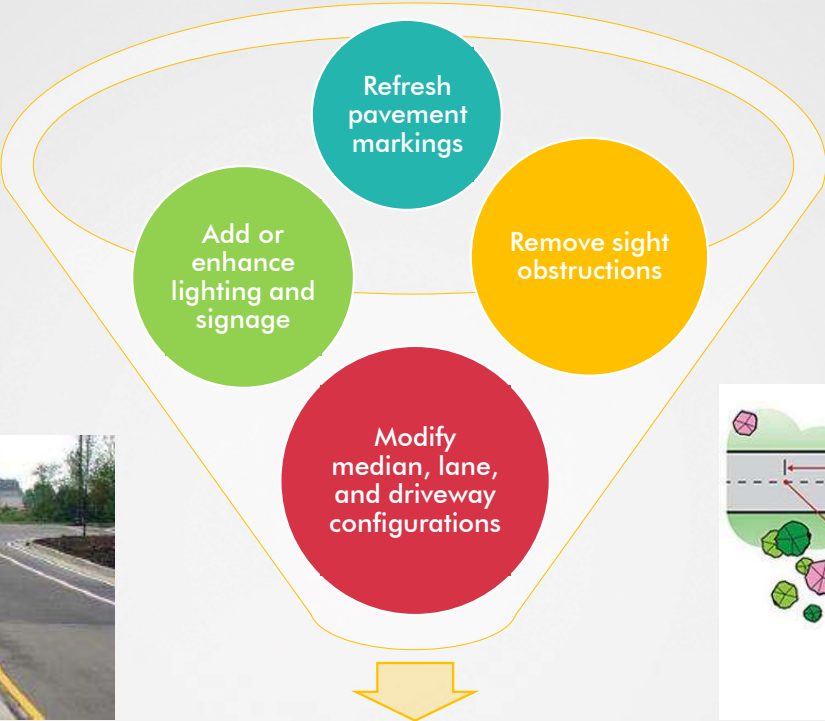


Roadway	From	To	Crash Rate	CrashFactor
N PASADENA BLVD	RED BLUFF RD	SH 225 FRONTAGE RD	1,332.1	4.1
MAIN ST	E PITTS AVE	SHAVER ST	1,310.6	4.0
SOUTHMORE AVE	ALLEN GENOA RD	S RICHEY ST	1,254.3	3.9
BURKE RD	SH 225 FRONTAGE RD	RED BLUFF RD	1,056.1	4.9
BURKE RD	SOUTHMERE AVE	PASADENA BLVD	1,056.1	4.9
S SHAVER ST	GALVESTON RD	HOUSTON AVE	1,055.1	3.2
S SHAVER ST	PITTS AVE	RED BLUFF RD	1,055.1	3.2
PRESTON RD	BRIAR DR	AUSTIN AVE	1,031.7	6.6

6,246 total crashes 2015-2019

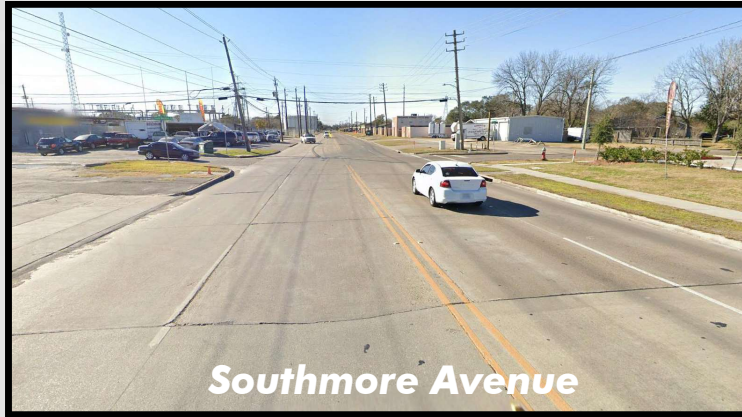
- Pedestrian 54
- Bicyclist 27
- Speeding 1,158
- Poor surface conditions 1,030

Safety – Mitigation “Toolbox”



Improve driver vision and awareness
Reduce conflict points

Safety – Median Improvements



Southmore Avenue



Red Bluff Road

**Two-Way
Left-Turn
Lane
(TWLTL)**



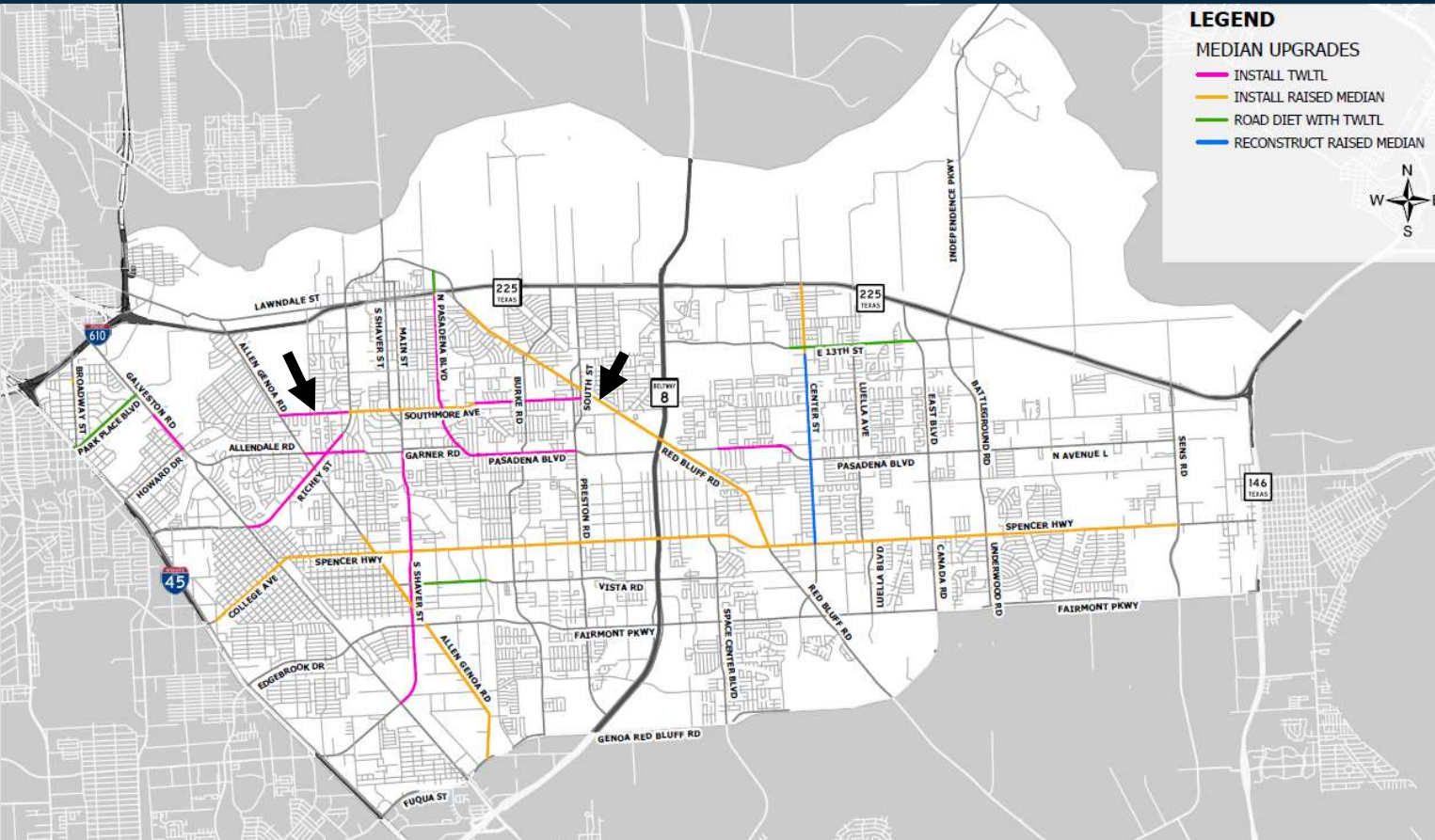
TWLTL Example

**Raised
Median**



Raised Median Example

Safety – Median Improvements



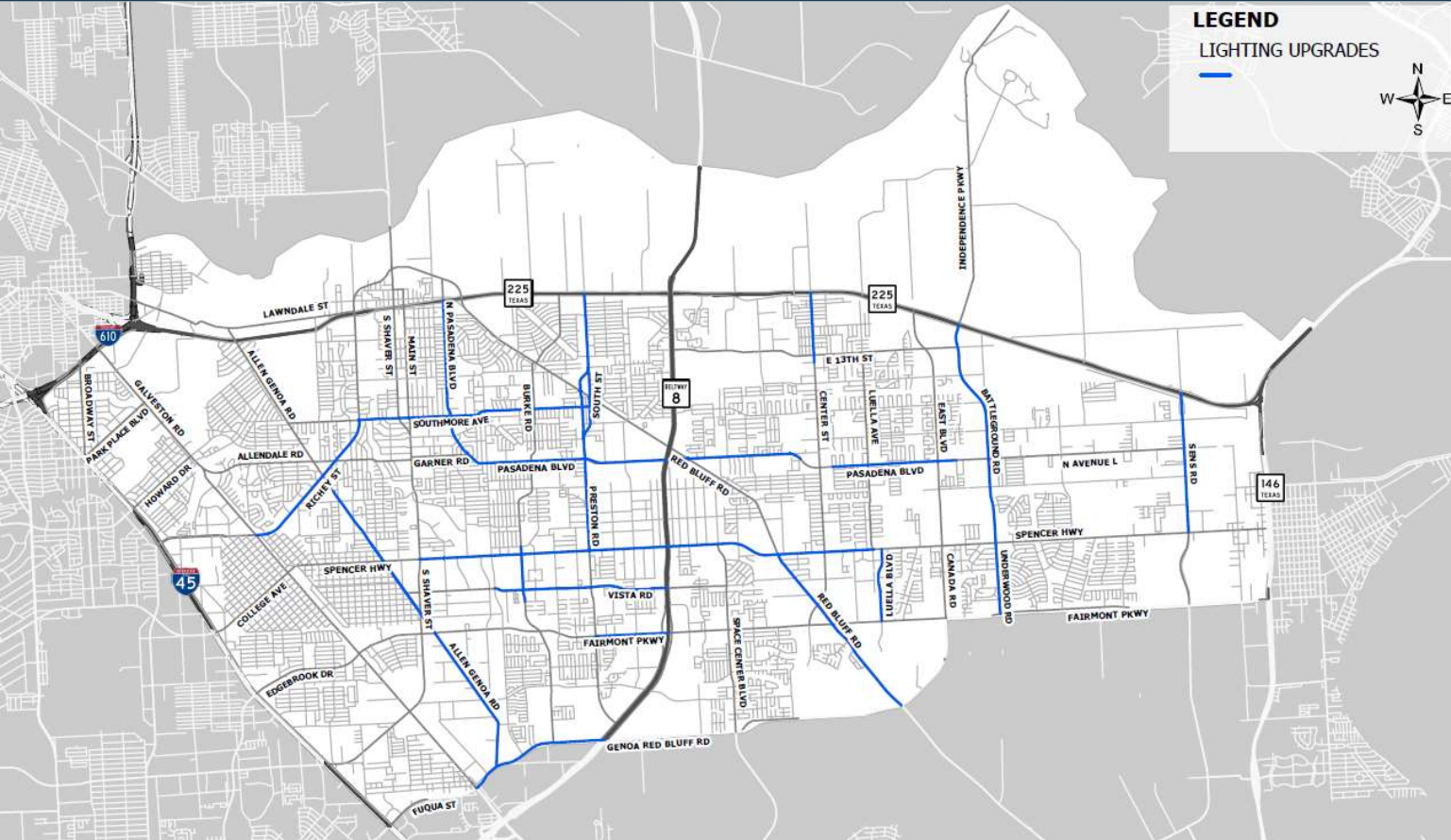
■ **Considerations**

- Crash data
- Turning traffic
- Land uses
- Number of driveways
- Right of way

■ **Recommendations**

- Raised median – 25 miles
- Two-way Left Turn Lane (TWLTL) – 13 miles
- Road diet – 4 miles
- Reconstruct raised median – 2 miles

Safety – Lighting Improvements



- Study corridors with inadequate lighting
 - 44 miles (32%)
- Total Bus Stops – 80
 - Inadequate – 34 (43%)
 - Adequate – 46 (57%)

Capacity – Example Mitigations



Level of Service with Improvements (2045 PM)

LOS Before and After



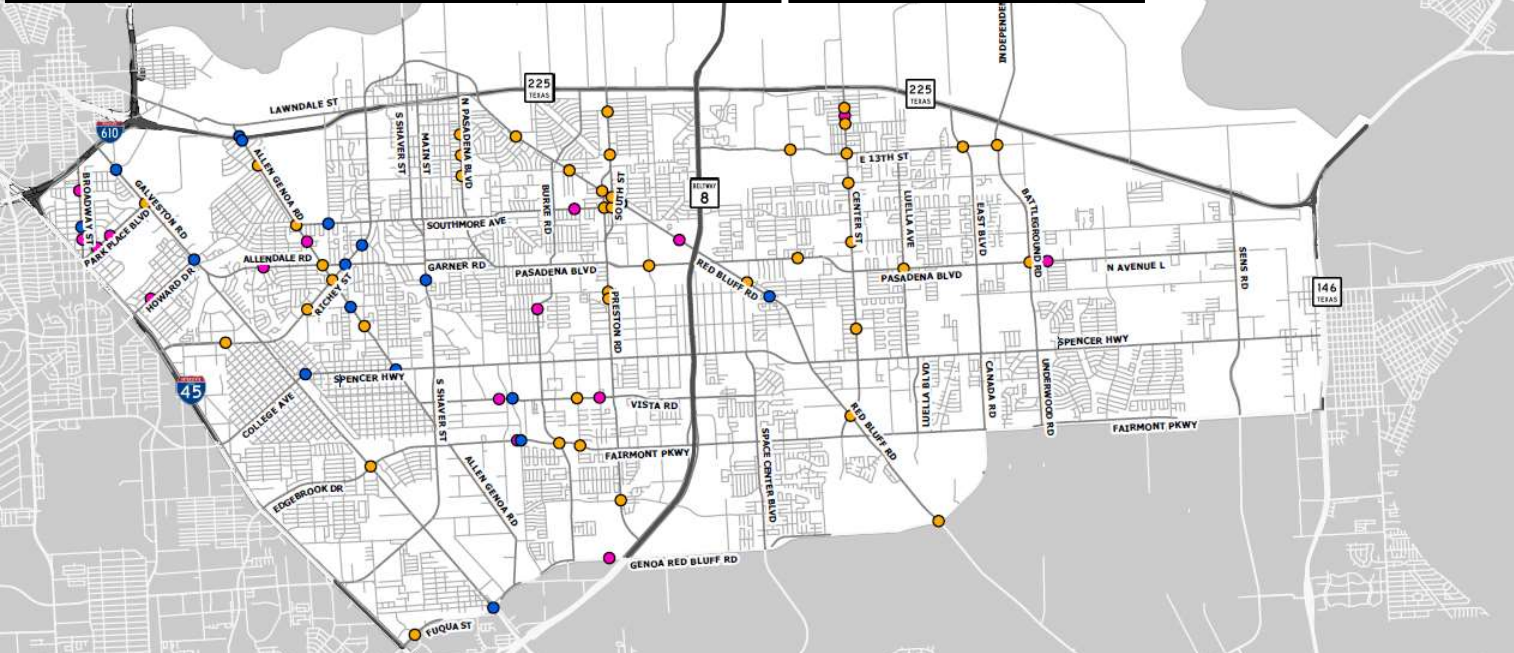
Mobility - Traffic Signal Improvements



LEGEND

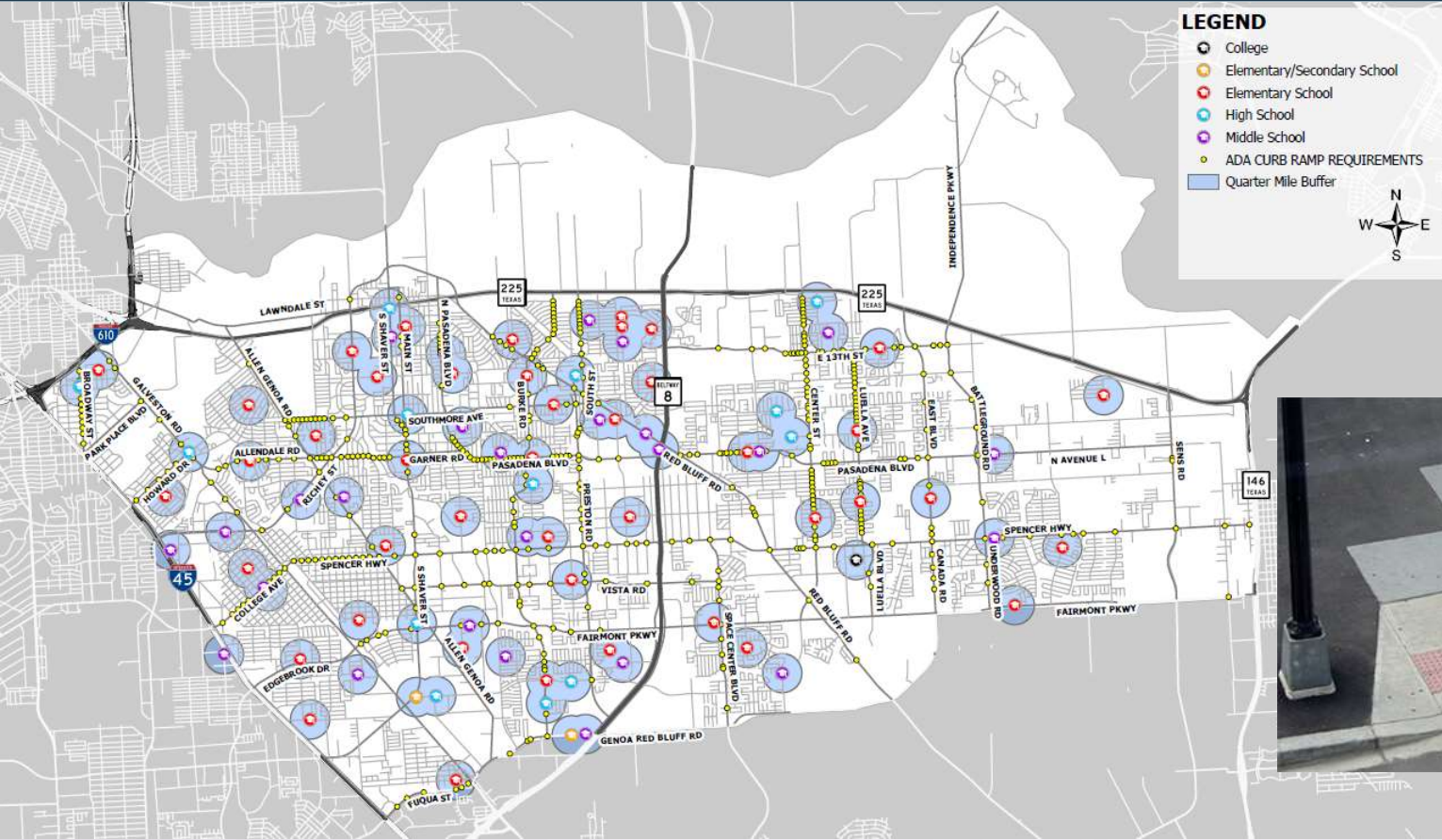
TRAFFIC SIGNAL UPGRADES

- SIGNAL UPGRADES - PEDESTRIAN ELEMENTS
- SIGNAL UPGRADES - OTHER SIGNAL INFRASTRUCTURE
- PROPOSED PEDESTRIAN SIGNALS (RRFB/HAWK)



- Mid-block pedestrian crossings
 - 16 crossings
- Pedestrian facilities at intersections
 - 41 signals
- Traffic signal upgrades / repairs
 - 16 signals

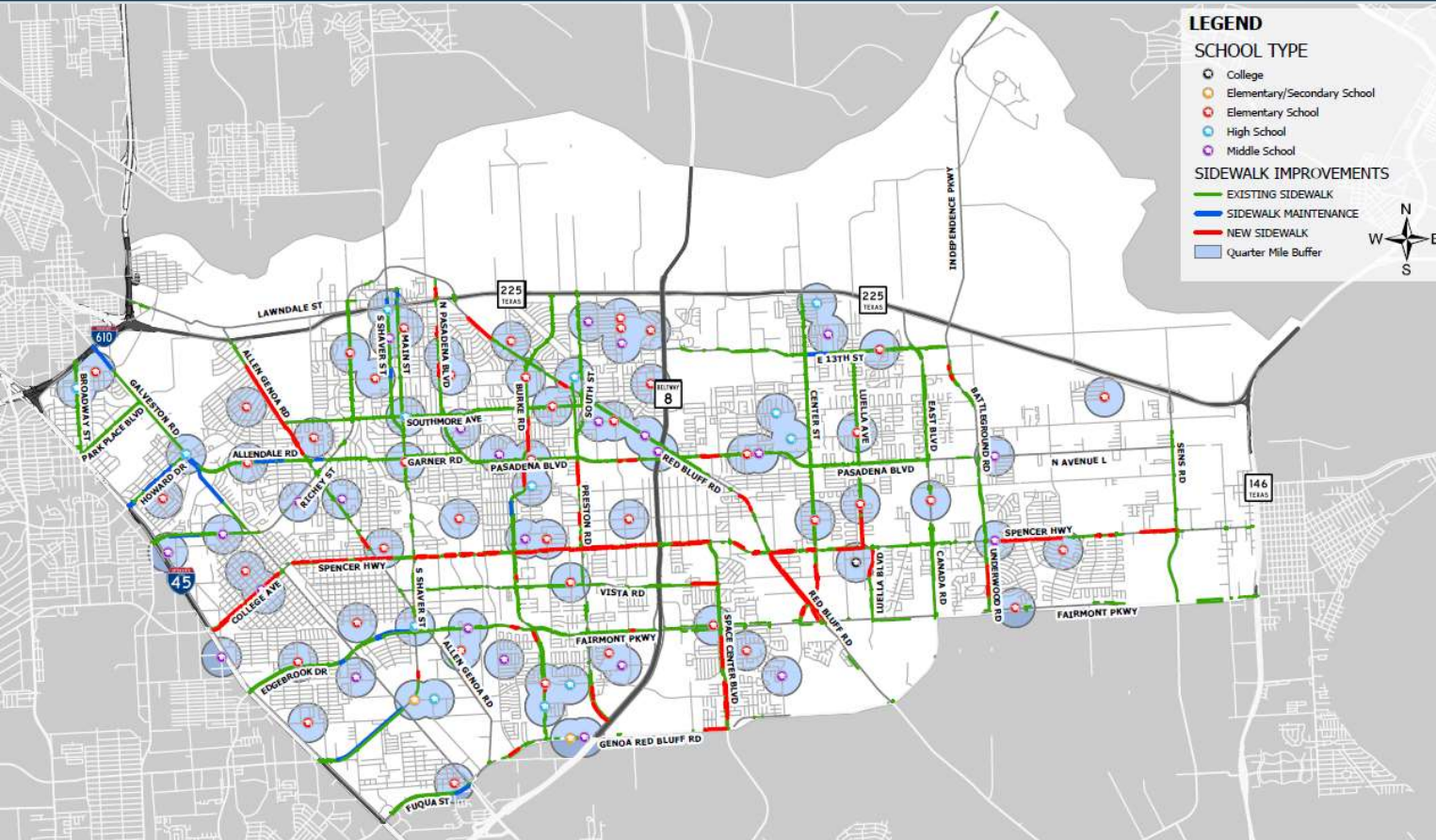
Mobility - Curb Ramp Improvements



- **470 intersections** along study corridors short-listed for improvements
- **174 intersections** within a 5-minute walking distance of schools (along study corridors)



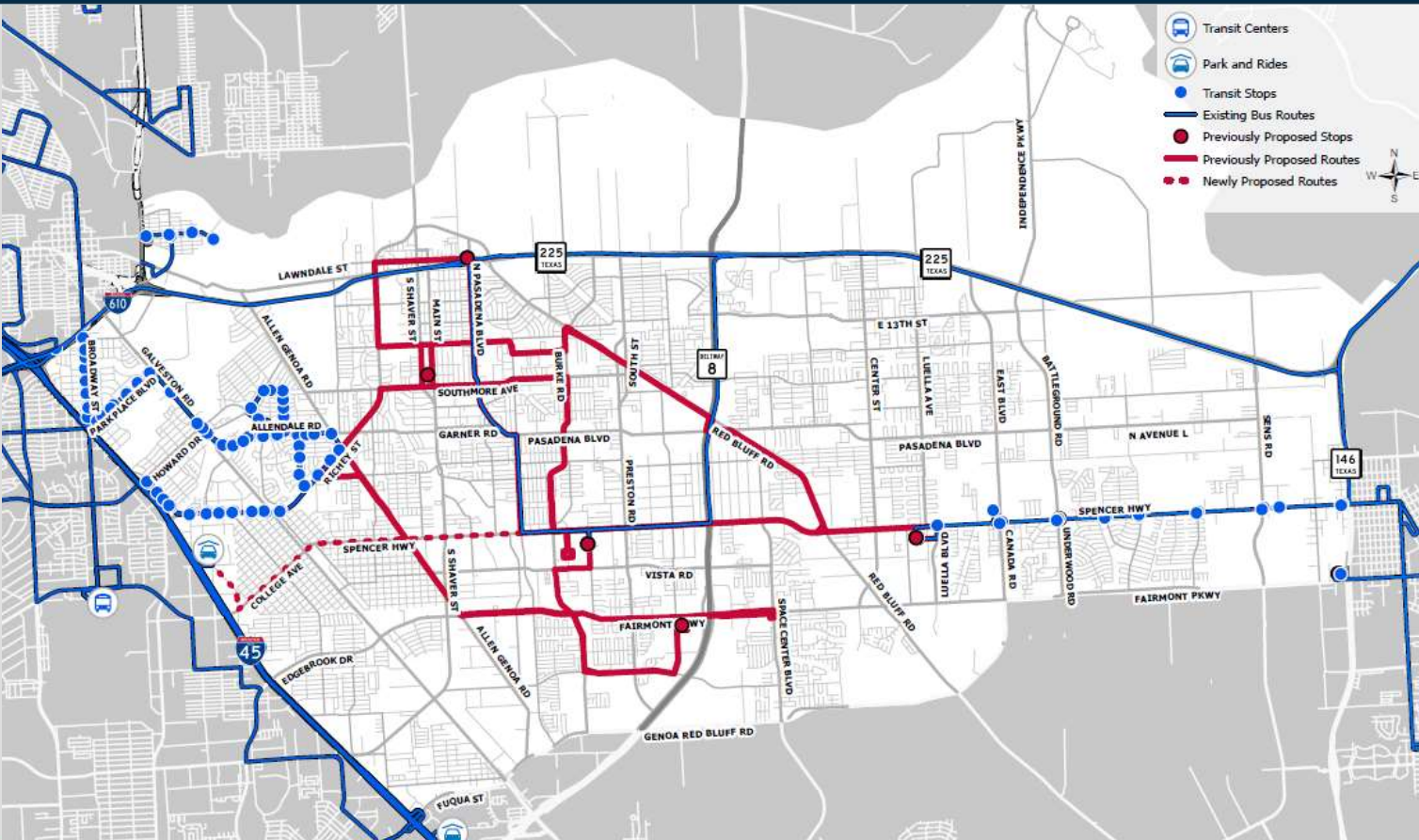
Mobility - Sidewalk Improvements



- Total existing sidewalk
 - 132 miles
 - May be substandard width
- New sidewalks
 - 20 miles
- Maintenance needed
 - 7 miles

Note: Only along study corridors

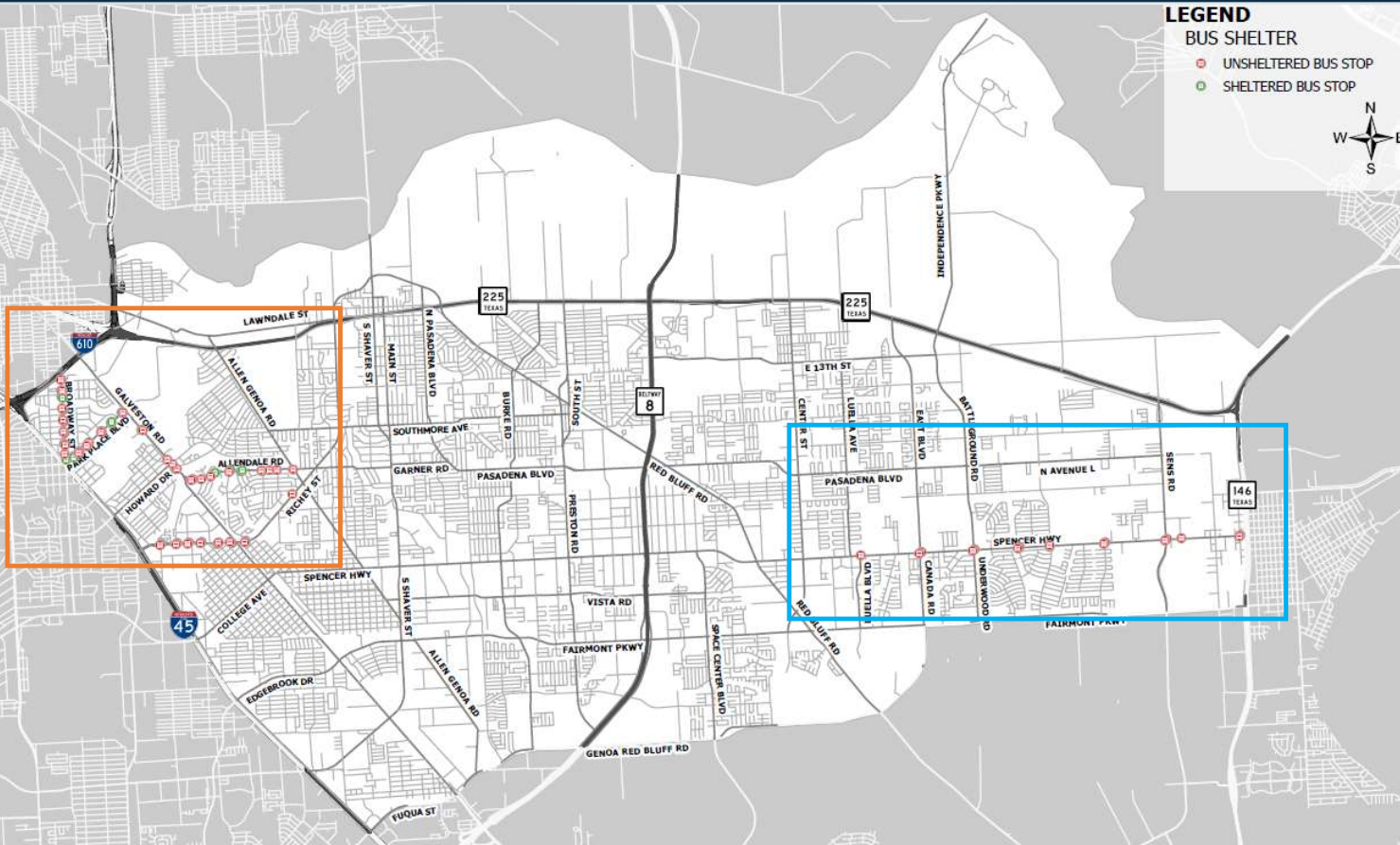
Mobility - Transit Recommendations



- Documents previous Harris County Transit recommendations
 - Completed using ridership data and public outreach
- Proposes one new connection to park and ride

Note: Feasibility study is recommended

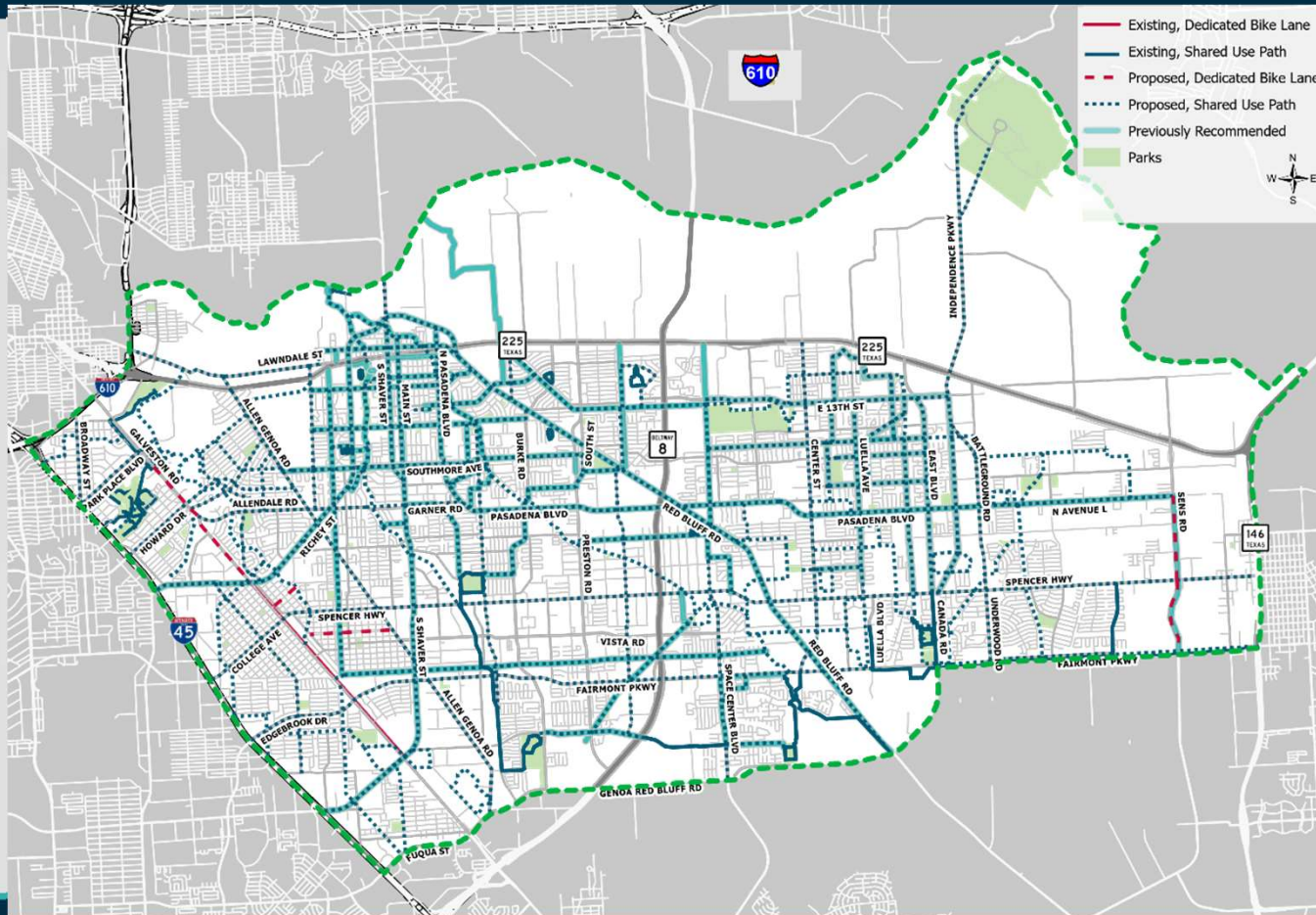
Mobility - Bus Stop Shelters



- Total Bus Stops – 80
- Unsheltered – 67 (84%)
- Sheltered – 13 (16%)



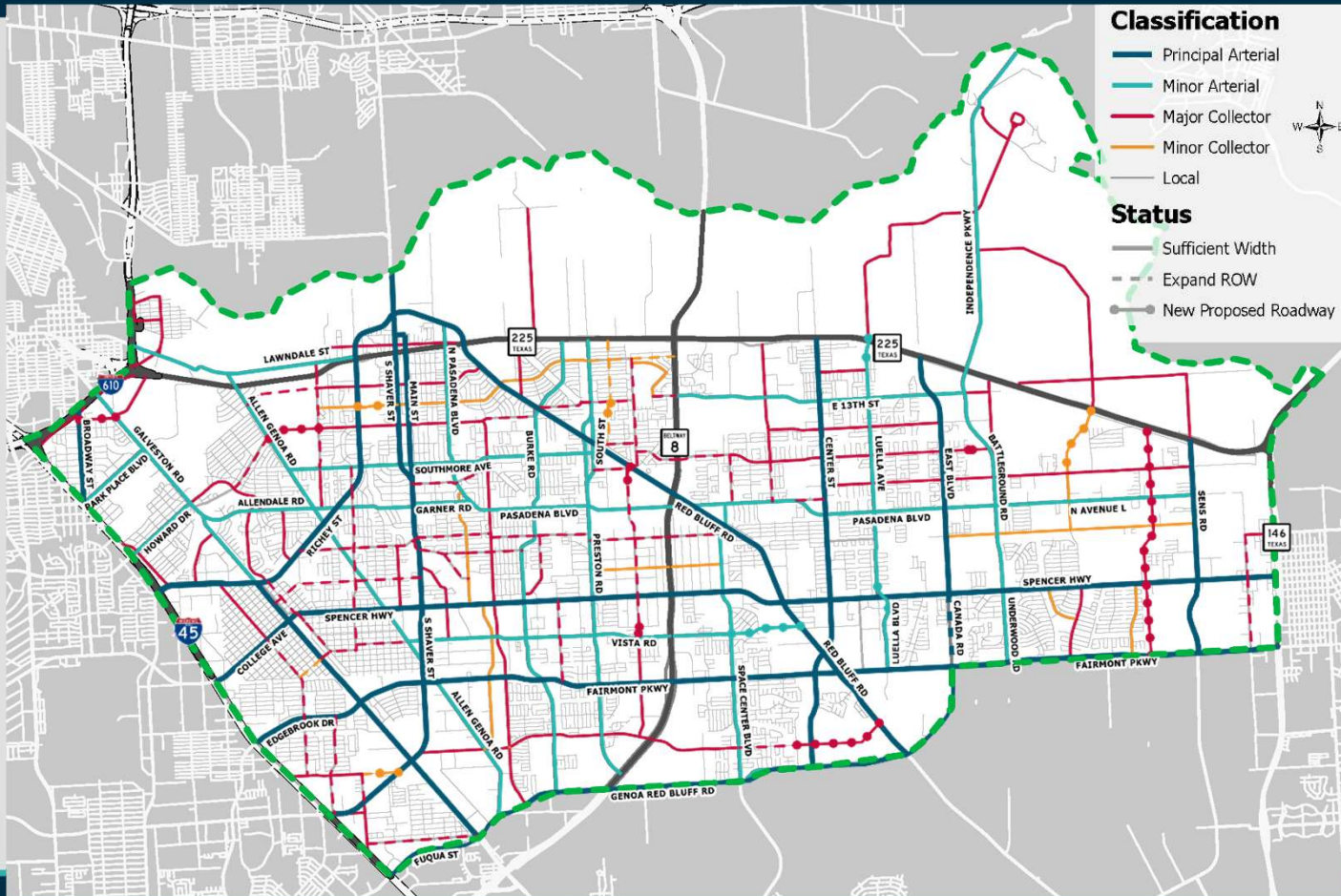
Mobility - Active Modes Recommendations



- Documents existing facilities (91 miles)
- Uses proposed facilities from other planning efforts
- Proposes high comfort bicycle facilities (244 miles)

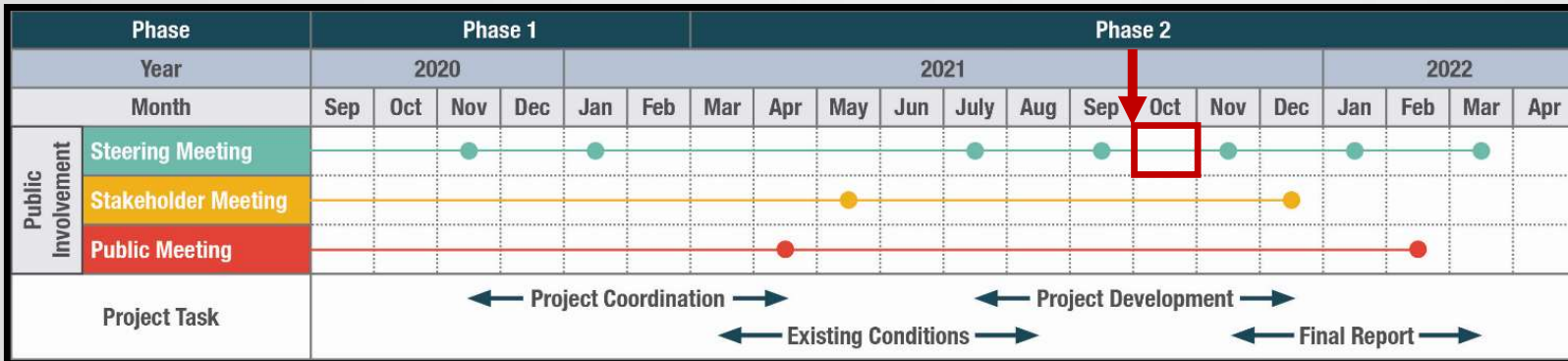
Note: Additional design-level analysis is needed; ROW may be required

Mobility - Thoroughfare Recommendations



- Right of Way Needs
 - Shared Use Path
 - Travel/Turn Lanes
- Future Connections
- Intersection Realignments

Schedule



- Follow Up Meetings
- H-GAC Modeling Results
- Revised Draft Improvements
- Steering Committee Review

- Draft Final Improvements
- Steering Committee Review
- Final Improvements

- Stakeholder Meetings Part II
- Public Meeting
- Steering Committee Review

- Draft Report
- Steering Committee Review
- Final Report

Thank You!



For More Information:

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