



Liberty County Mobility Study

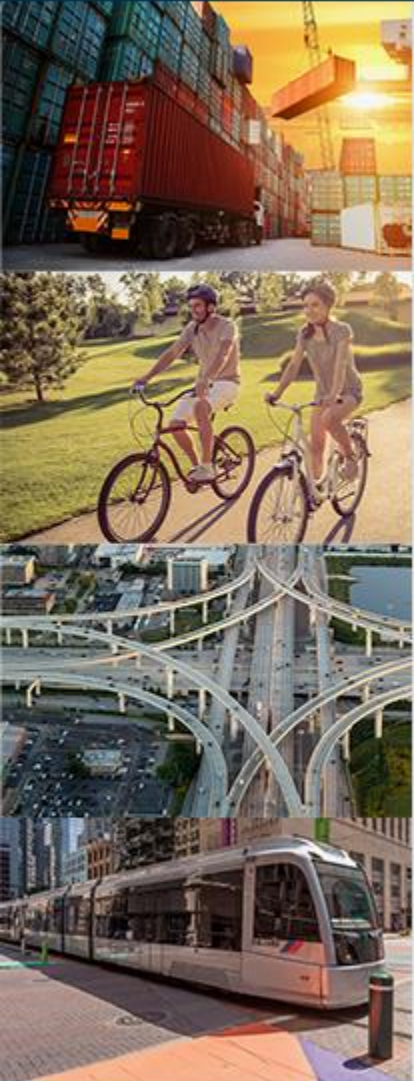


Thomas Gray, AICP
Michael Feeney, PE
Steering Committee Meeting 3 – 09/07/2021

Steering Committee - Meeting 3 Agenda

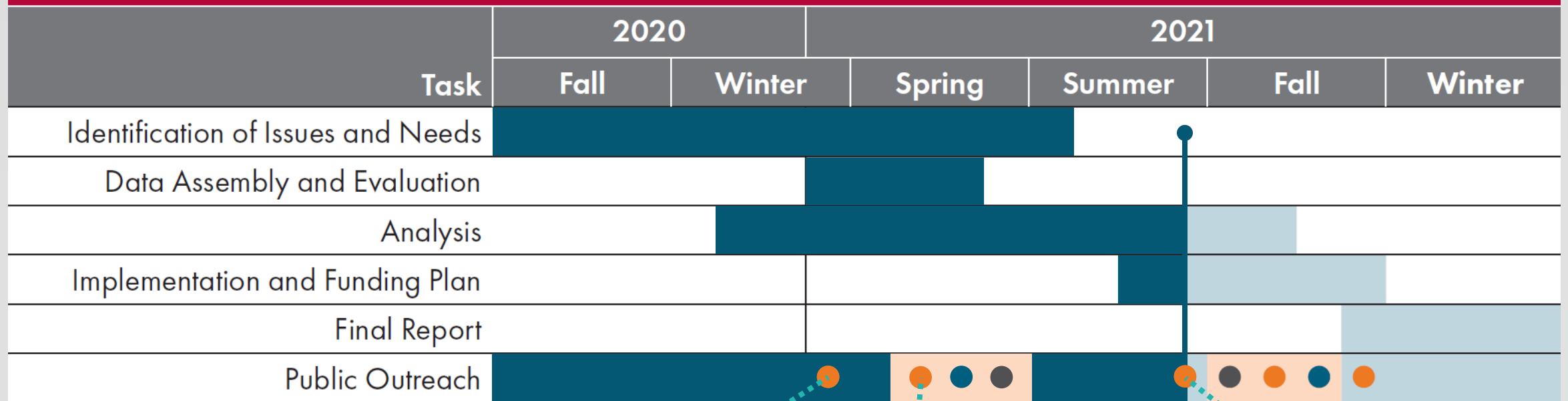
Agenda:

1. Progress Report – 5 minutes
2. Congestion Summary (LOS/Synchro) – 45 minutes
3. Connectivity Analyses – 15 minutes
4. Transit Summary – 5 minutes
5. Bicycle / Ped summary – 5 minutes
6. Policy / Practice Recommendations – 10 minutes
7. Next Steps – 5 minutes



Progress Report

LIBERTY COUNTY MOBILITY STUDY SCHEDULE



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

Vision / goals, existing conditions, issues / needs

Challenges / opportunities, public outreach

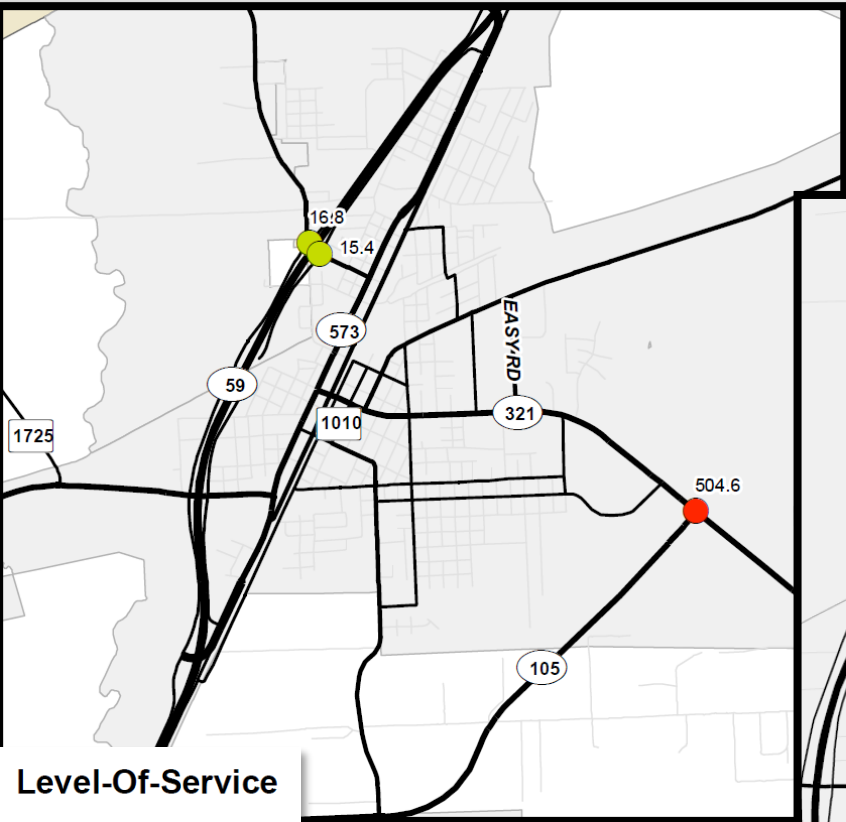
We are here

Congestion summary, bypass, initial recommendations



CONGESTION SUMMARY

Cleveland – 2021 (AM)

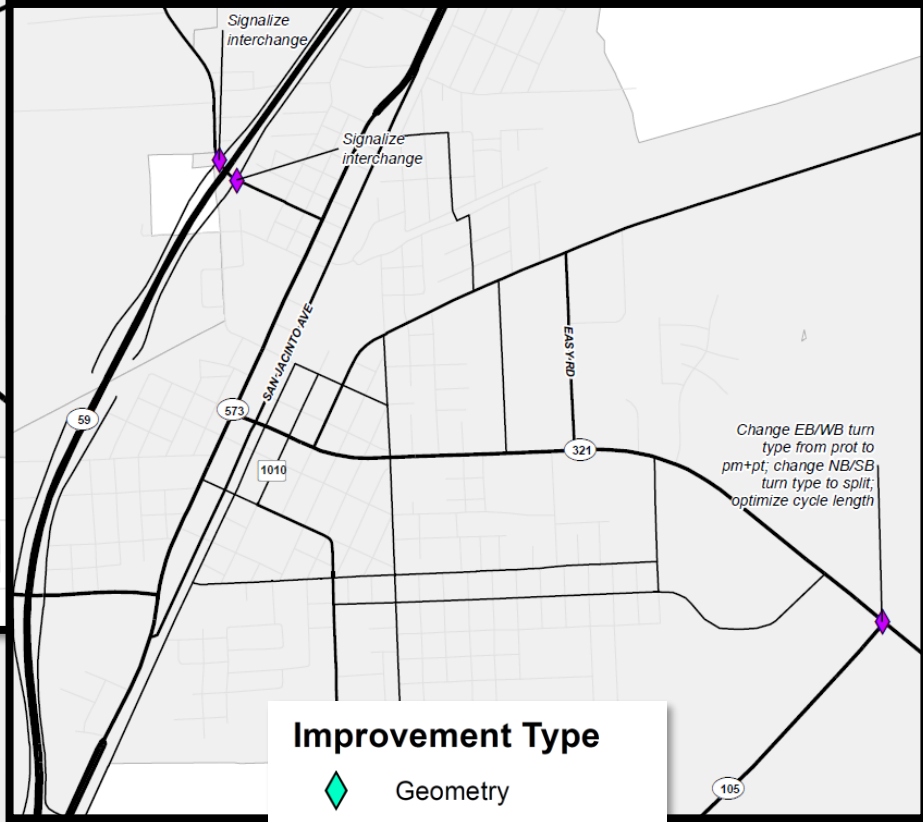


Existing

Level-Of-Service

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

Recommendations



Improvement Type

- ◆ Geometry
- ◆ Signal
- ◆ Signal + Geometry



Improved

Cleveland – 2021 (PM)

Recommendations

Existing

Improved

Level-Of-Service

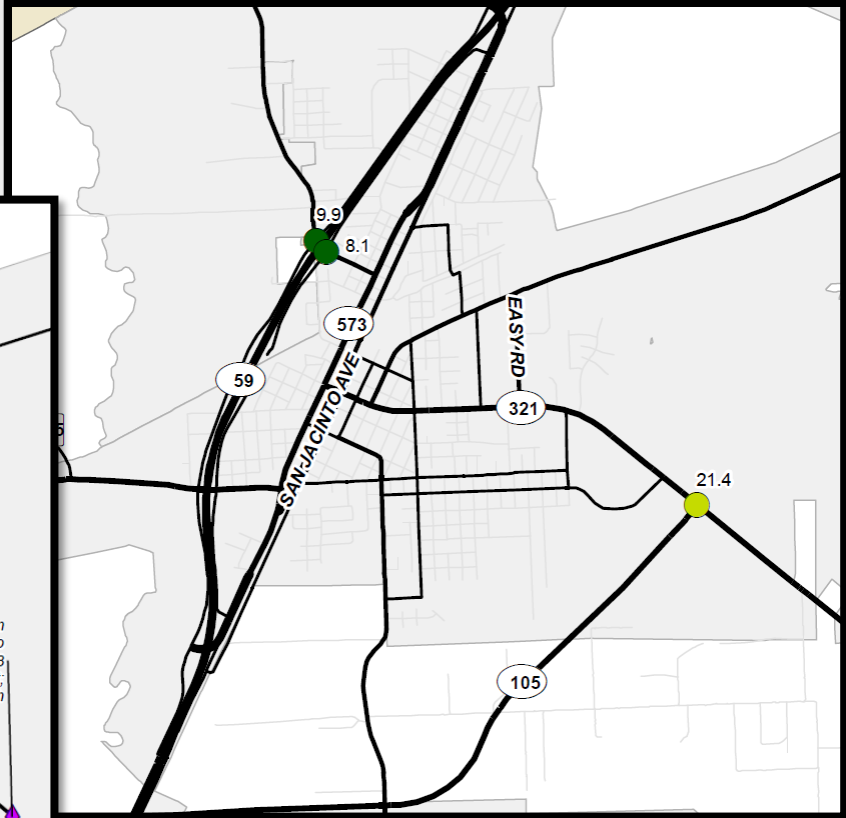
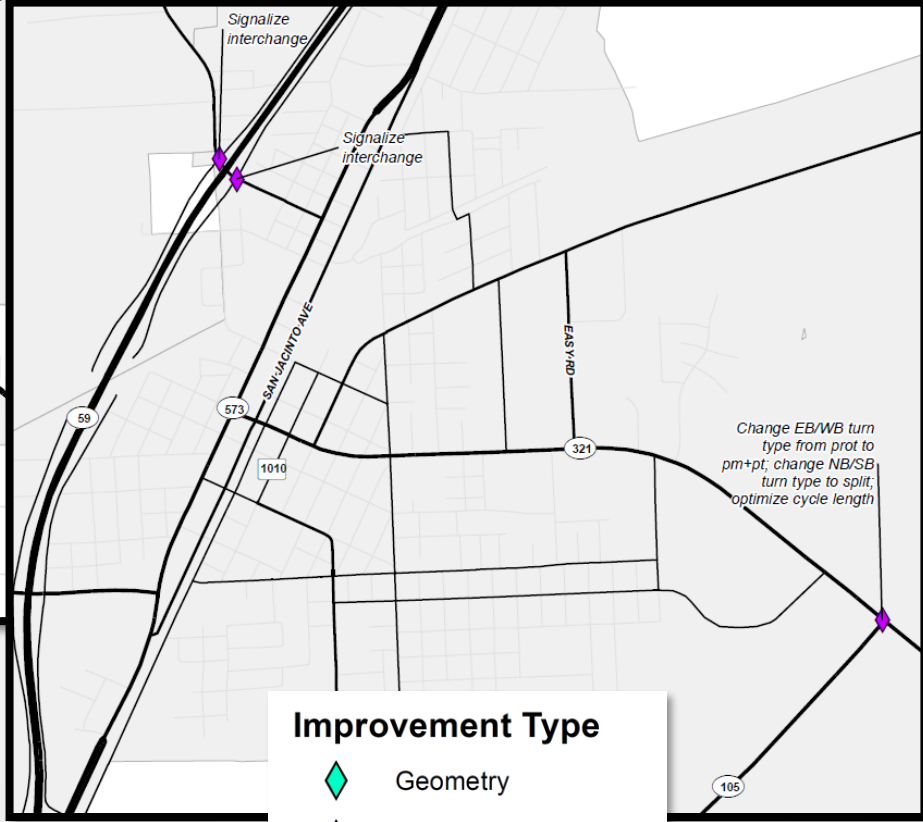
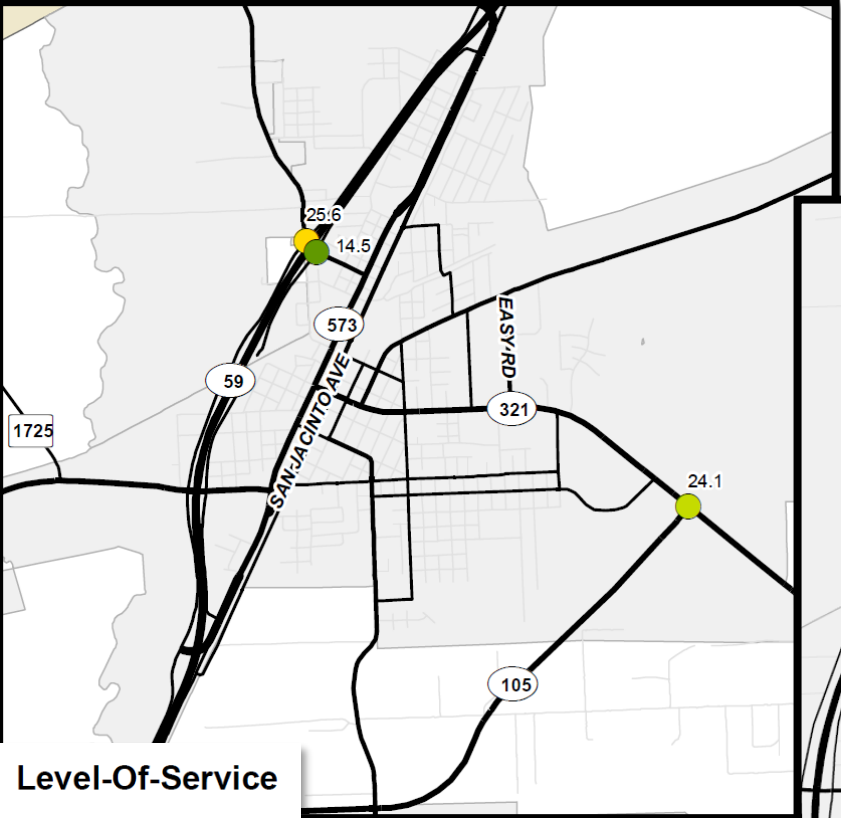
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Improvement Type

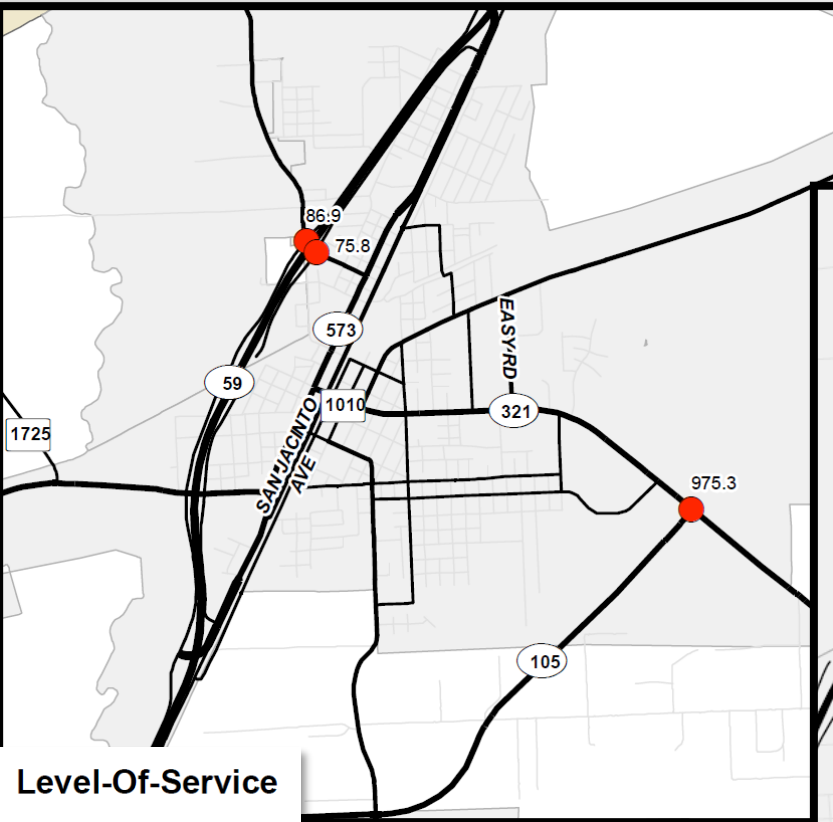
- ◆ Geometry
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Regional Collaboration

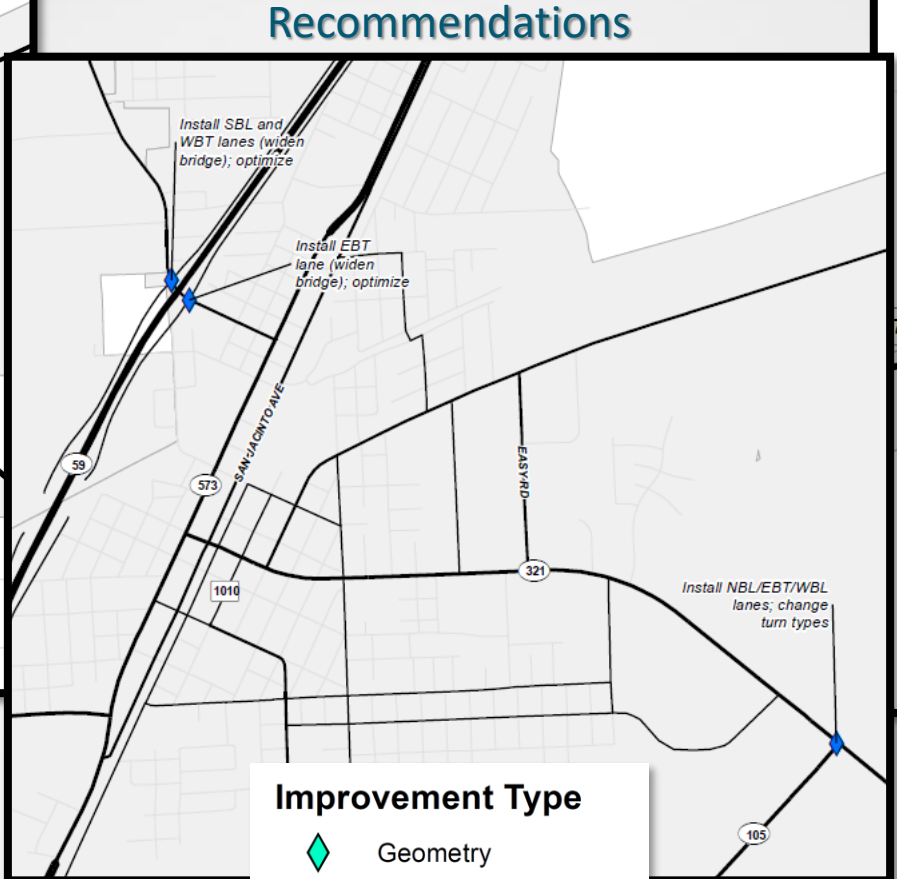
Multimodal Mobility



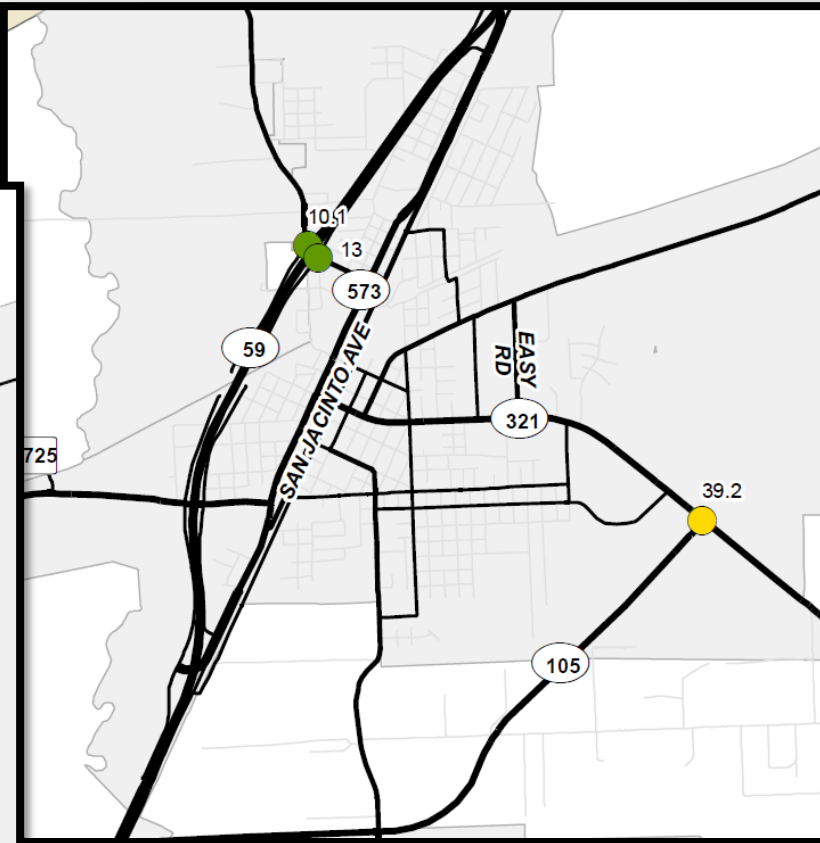
Cleveland – 2045 (AM)



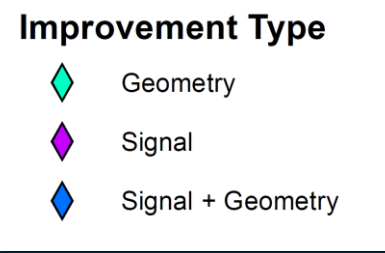
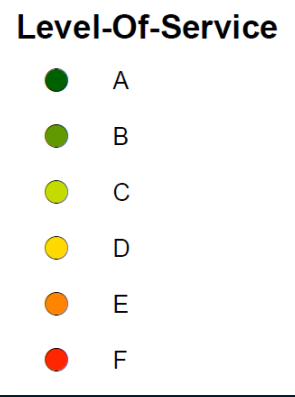
Existing



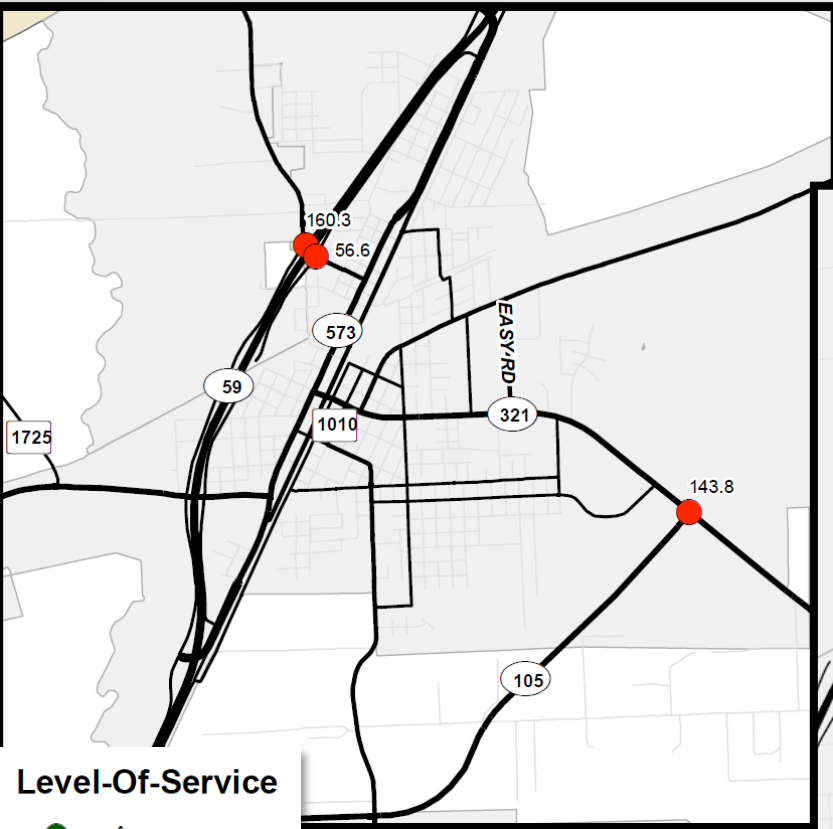
Recommendations



Improved



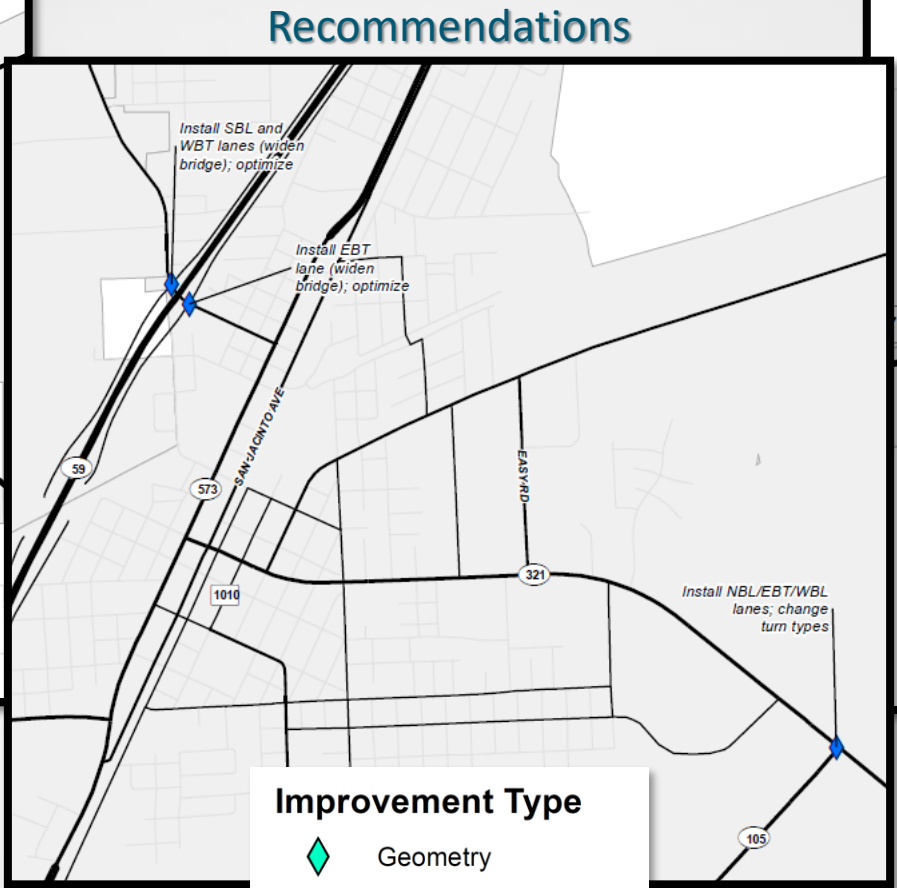
Cleveland – 2045 (PM)



Existing

Level-Of-Service

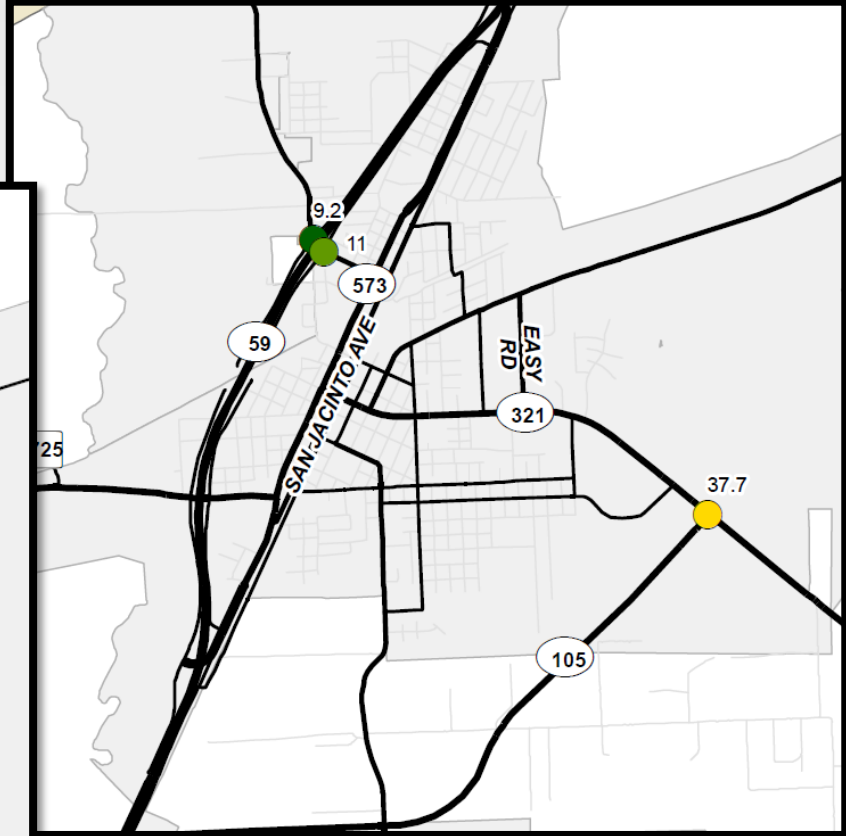
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Recommendations

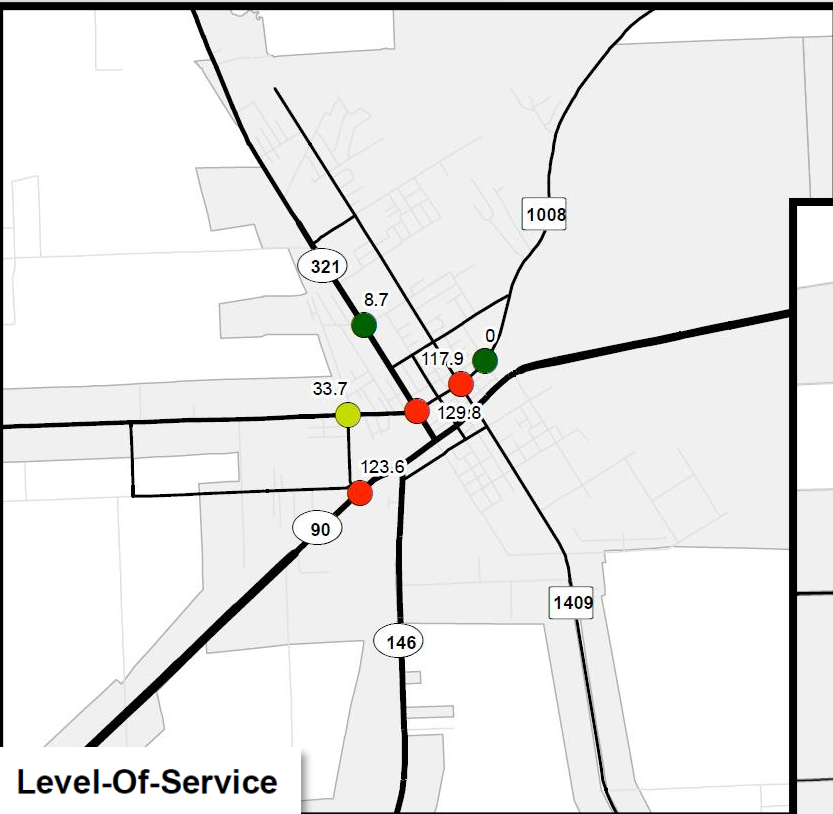
Improvement Type

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Improved

Dayton – 2021 (AM)

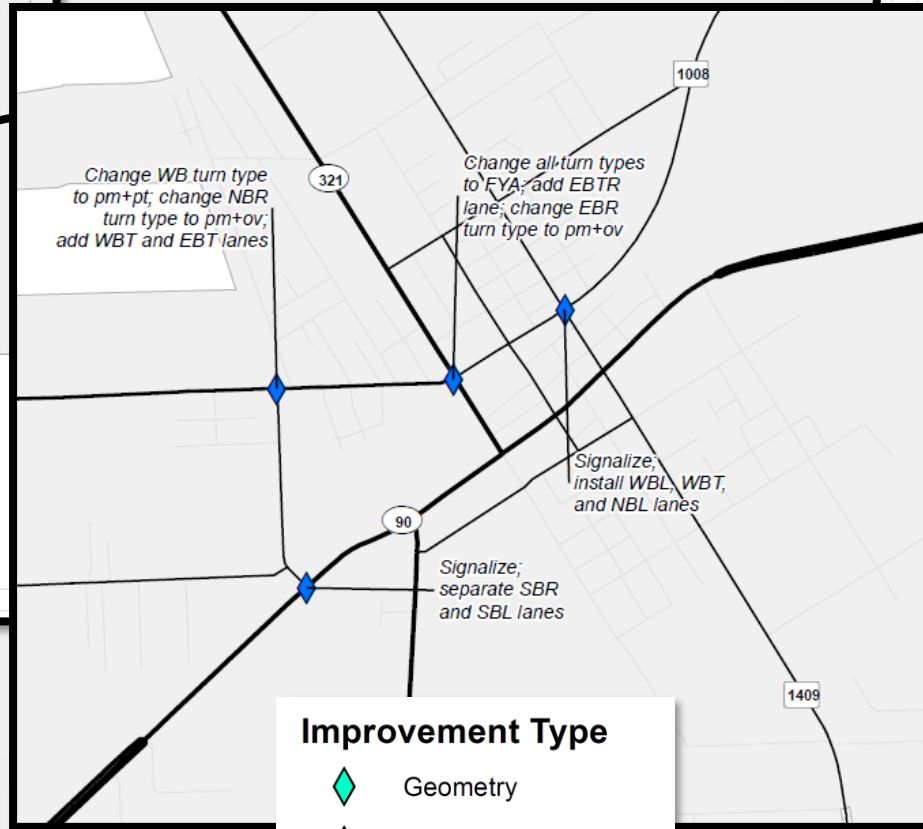


Existing

Level-Of-Service

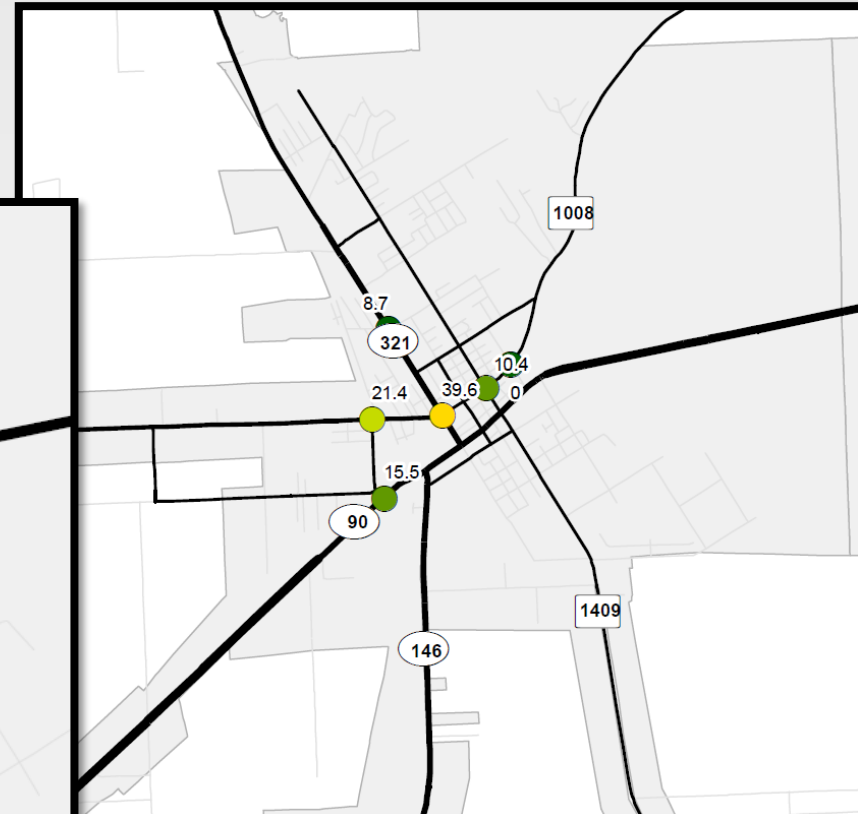
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Recommendations



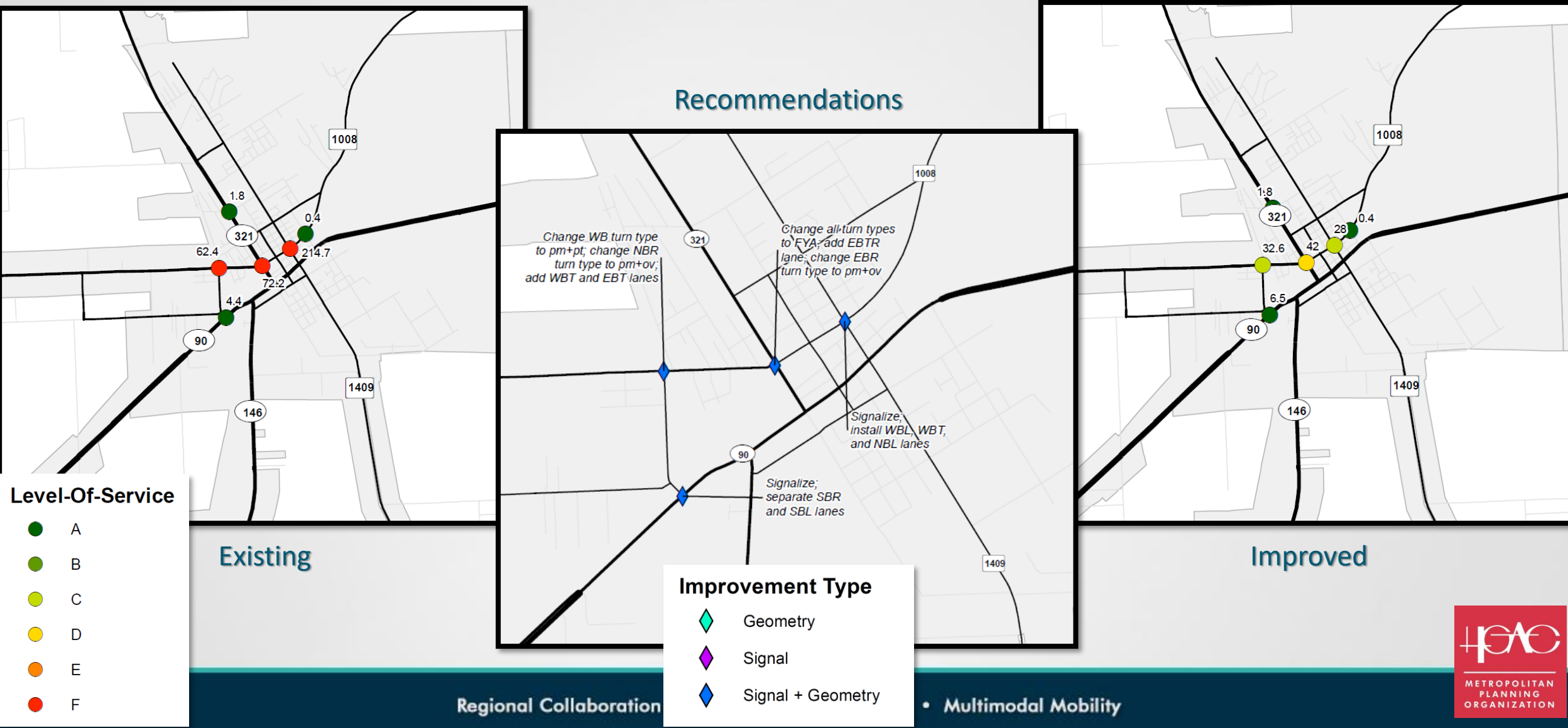
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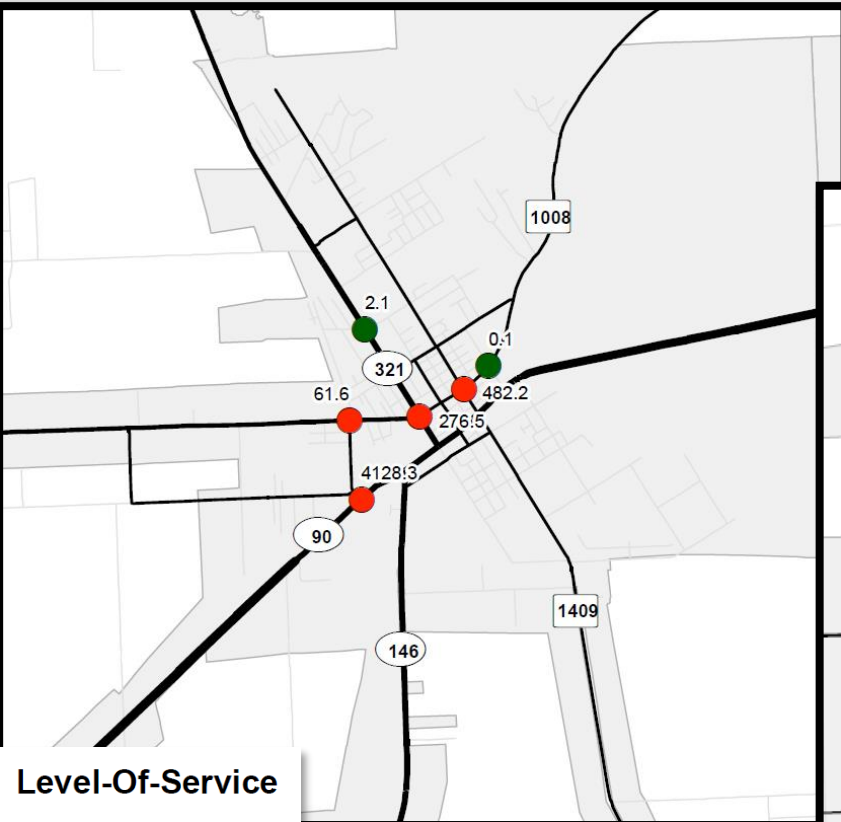


Improved

Dayton – 2021 (PM)



Dayton – 2045 (AM)

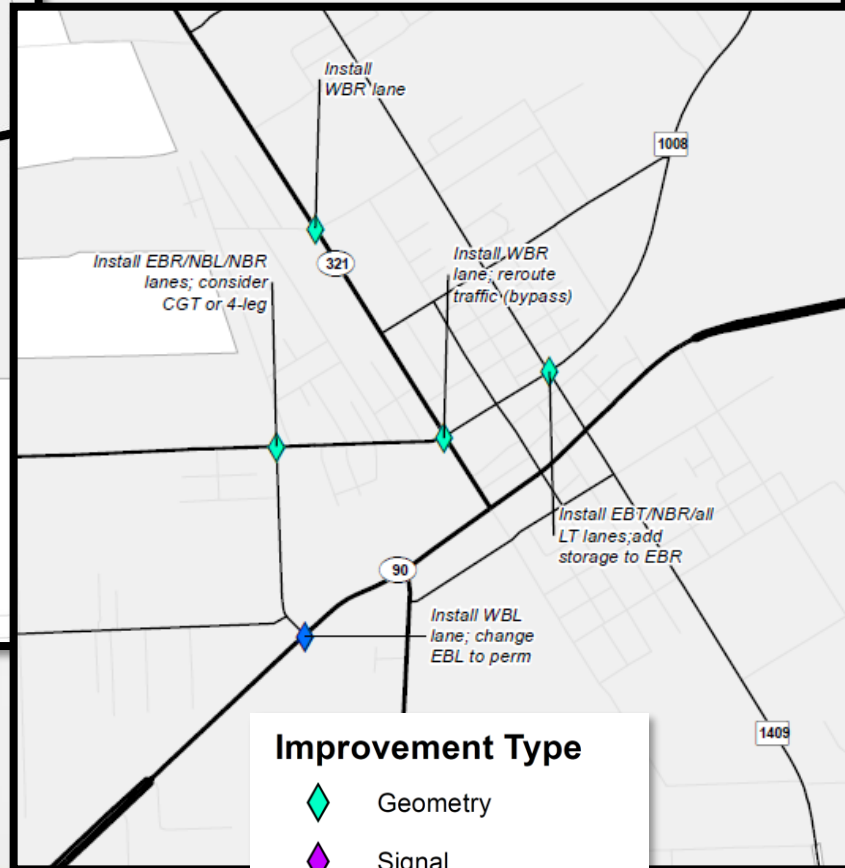


Existing

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Recommendations



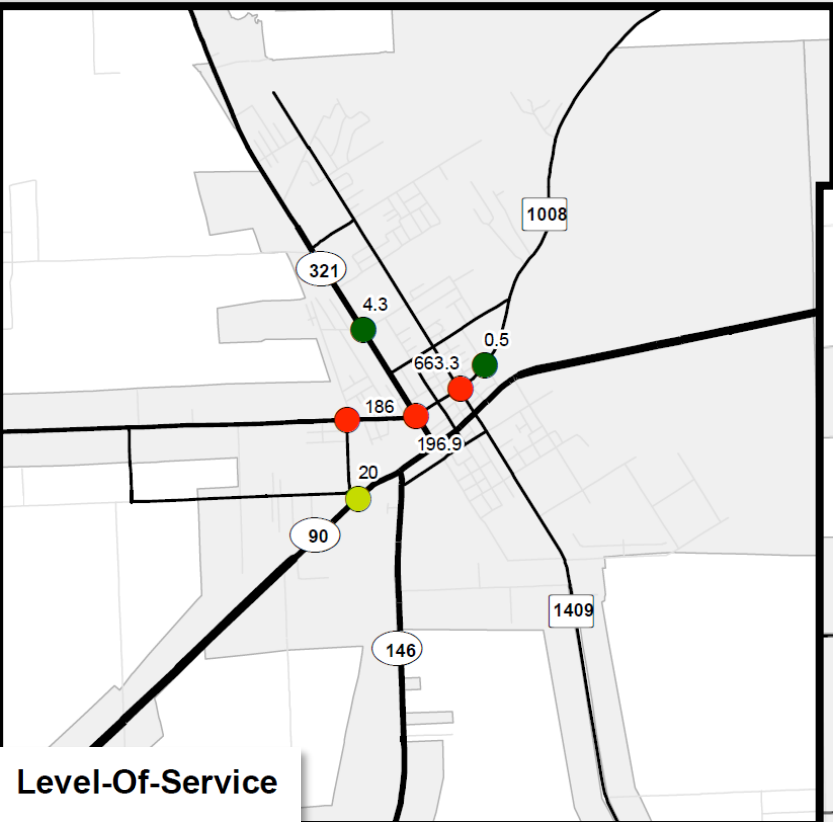
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Improved

Dayton – 2045 (PM)

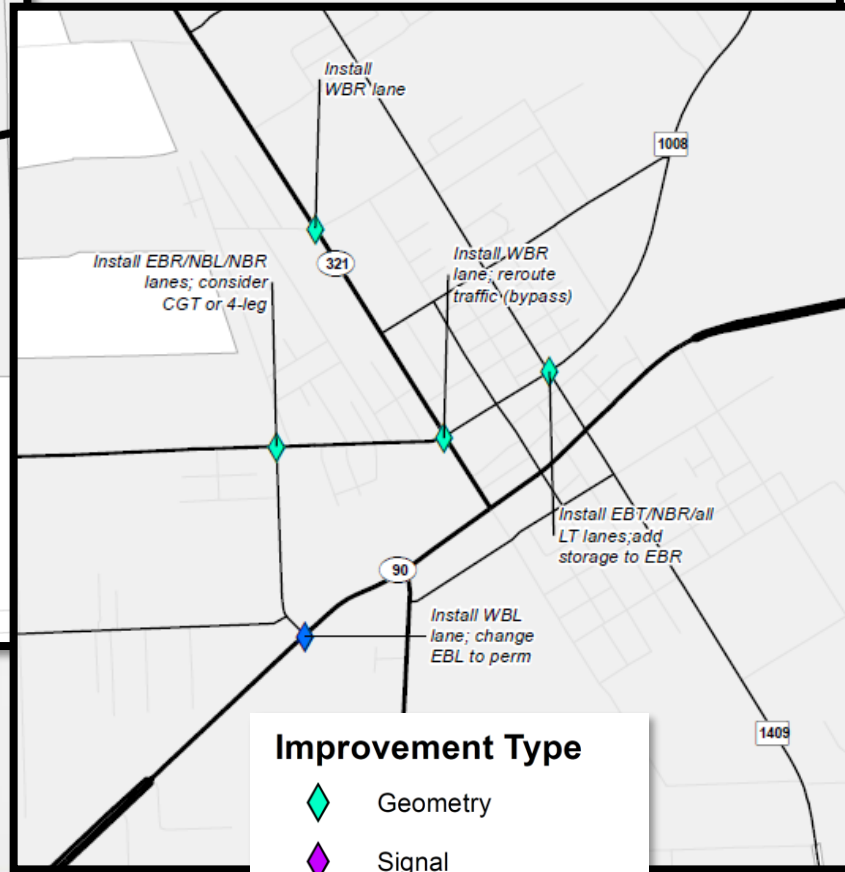


Existing

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Recommendations



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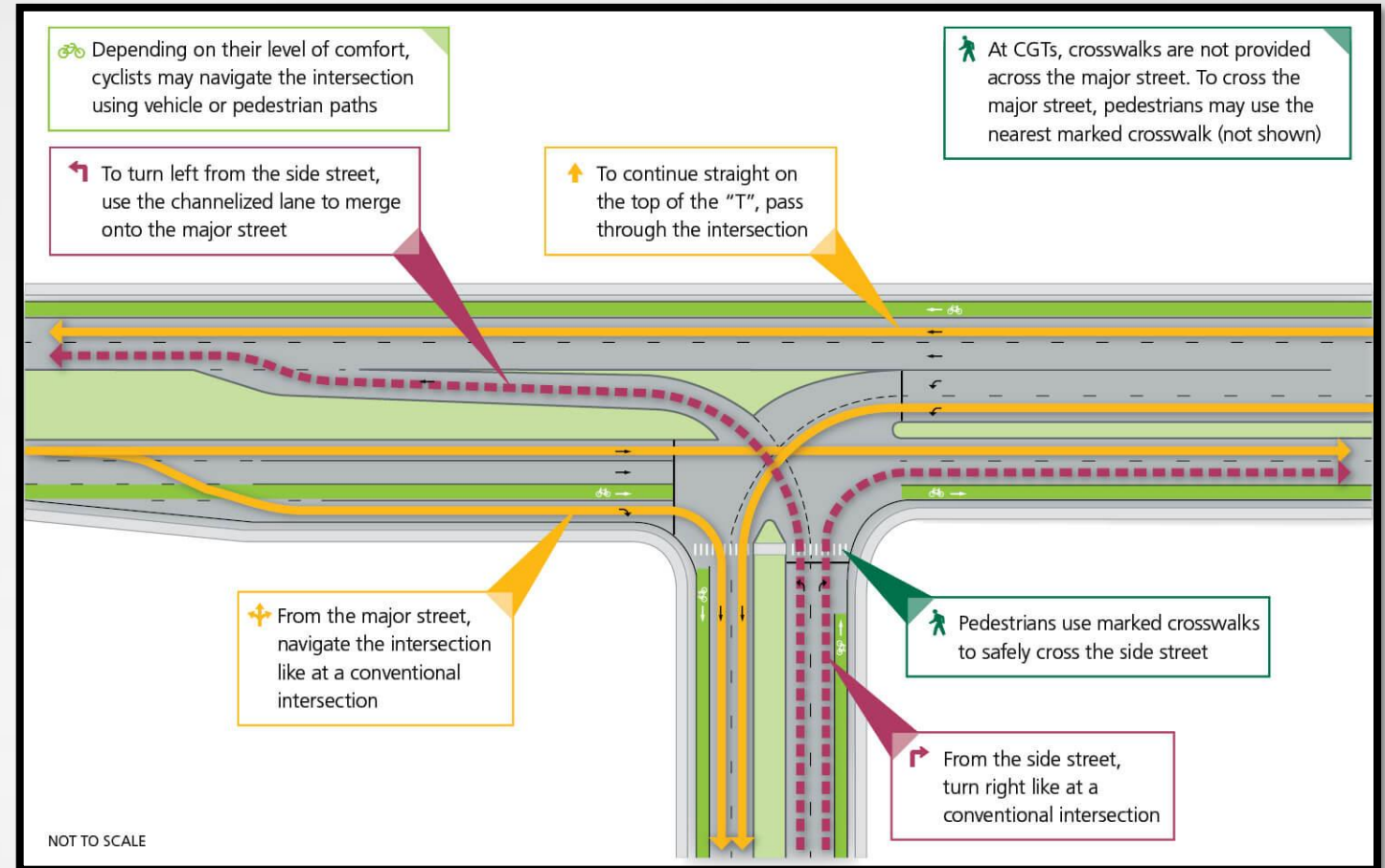
Improved

Continuous Green-T (CGT) Intersection

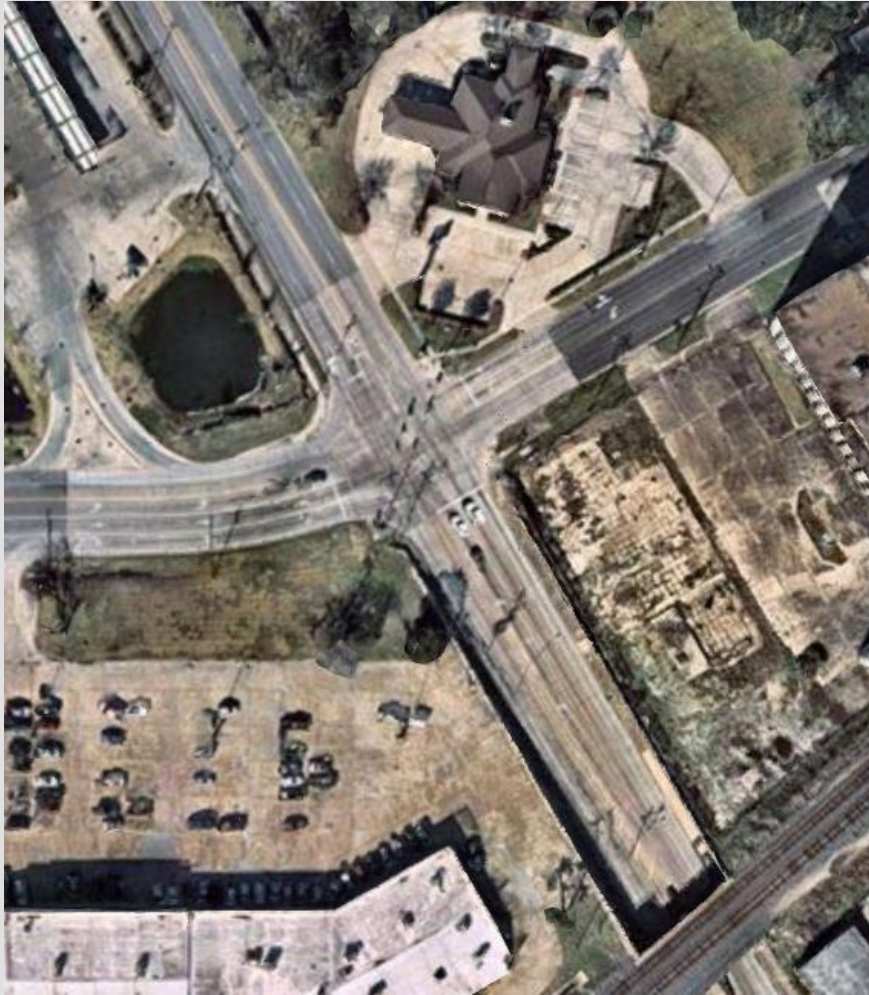
- Waco St & FM 1960
 - High EB-WB thru volumes
 - Accommodates active modes



Source: VDOT

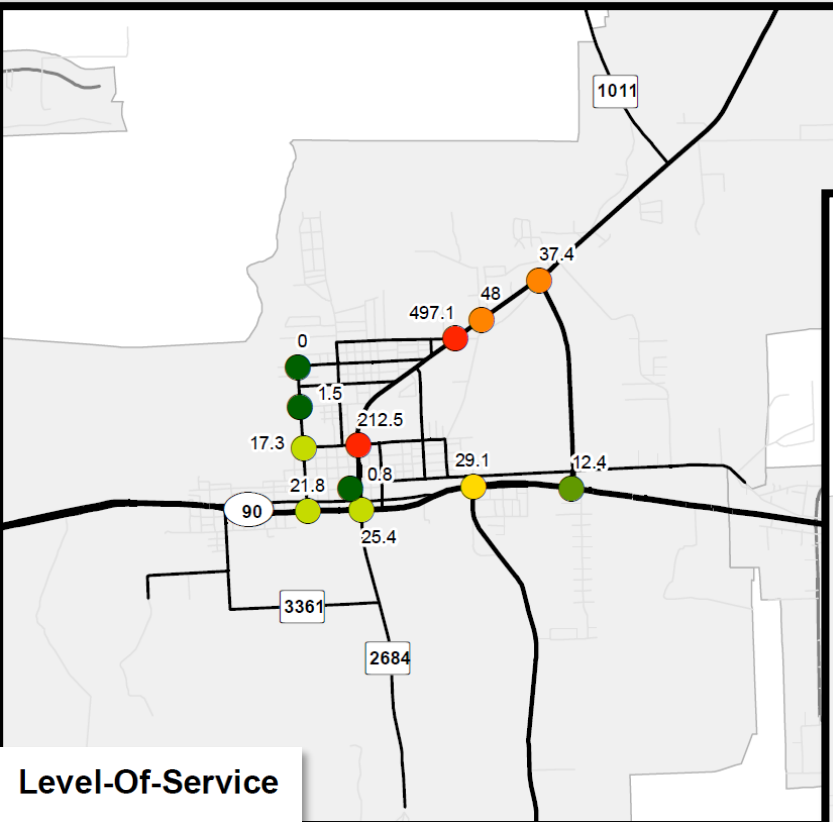


FM 1960 at Cleveland Street

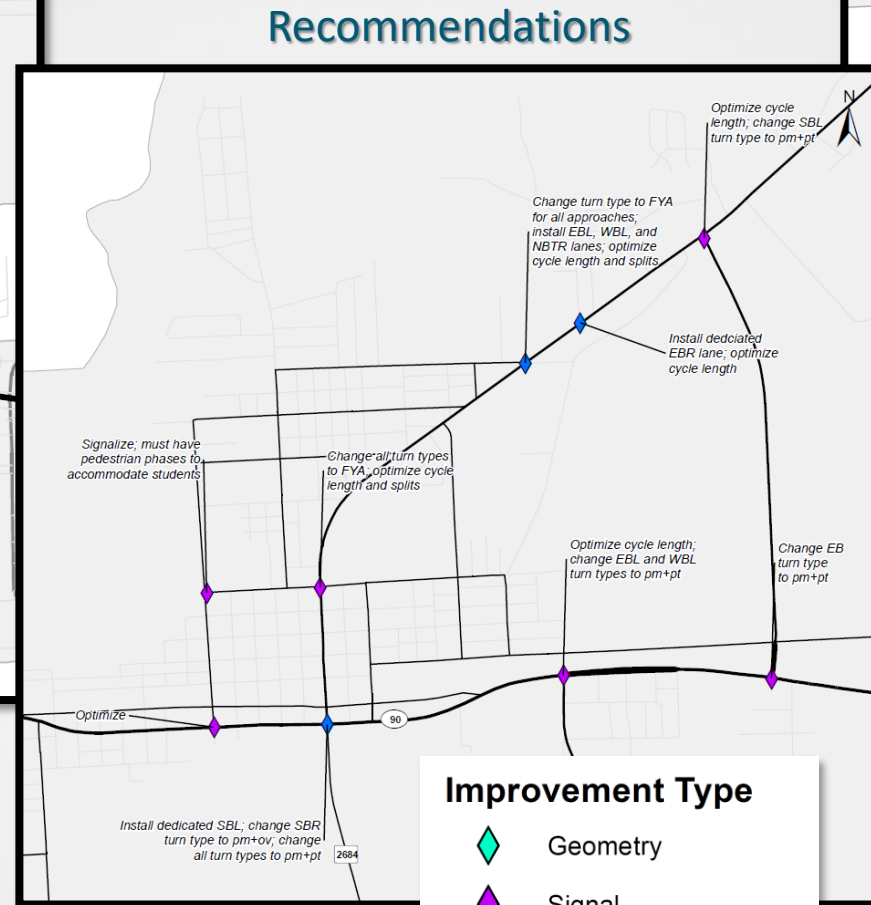


- Minor Widening
 - Buys Several Years
 - Not Long-Term Solution
- Major Widening
 - Addresses Future Congestion
 - Major Cost
 - Widen Railroad Underpass
 - ROW Takings
 - Changes Character
- Bypass Option
 - Reduces Volumes

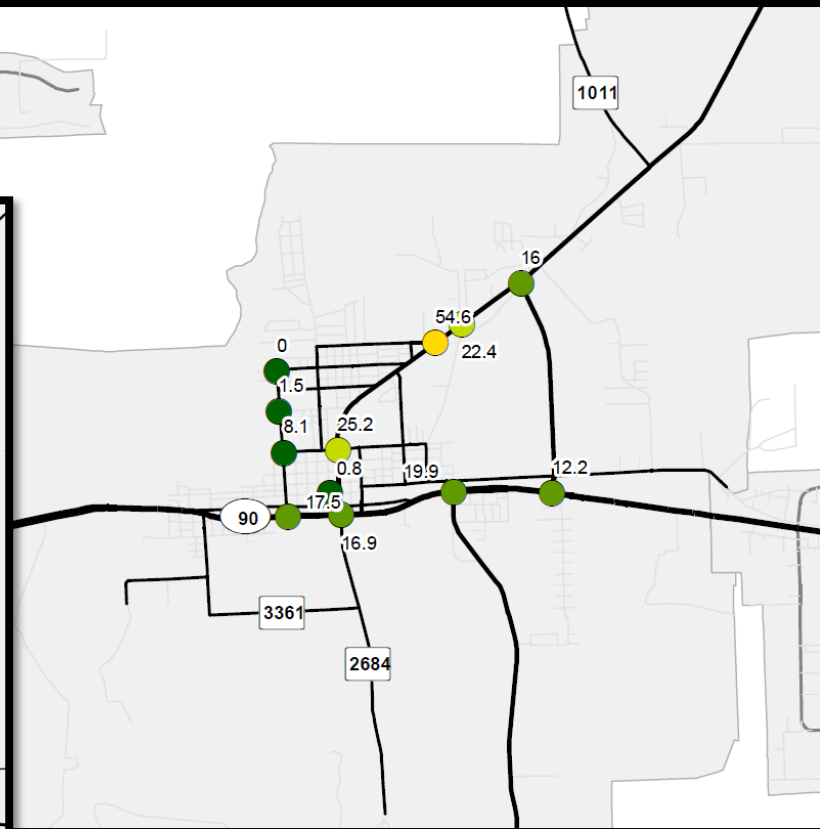
Liberty – 2021 (AM)



Existing



Recommendations



Improved

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Liberty – 2021 (PM)

Recommendations

Existing

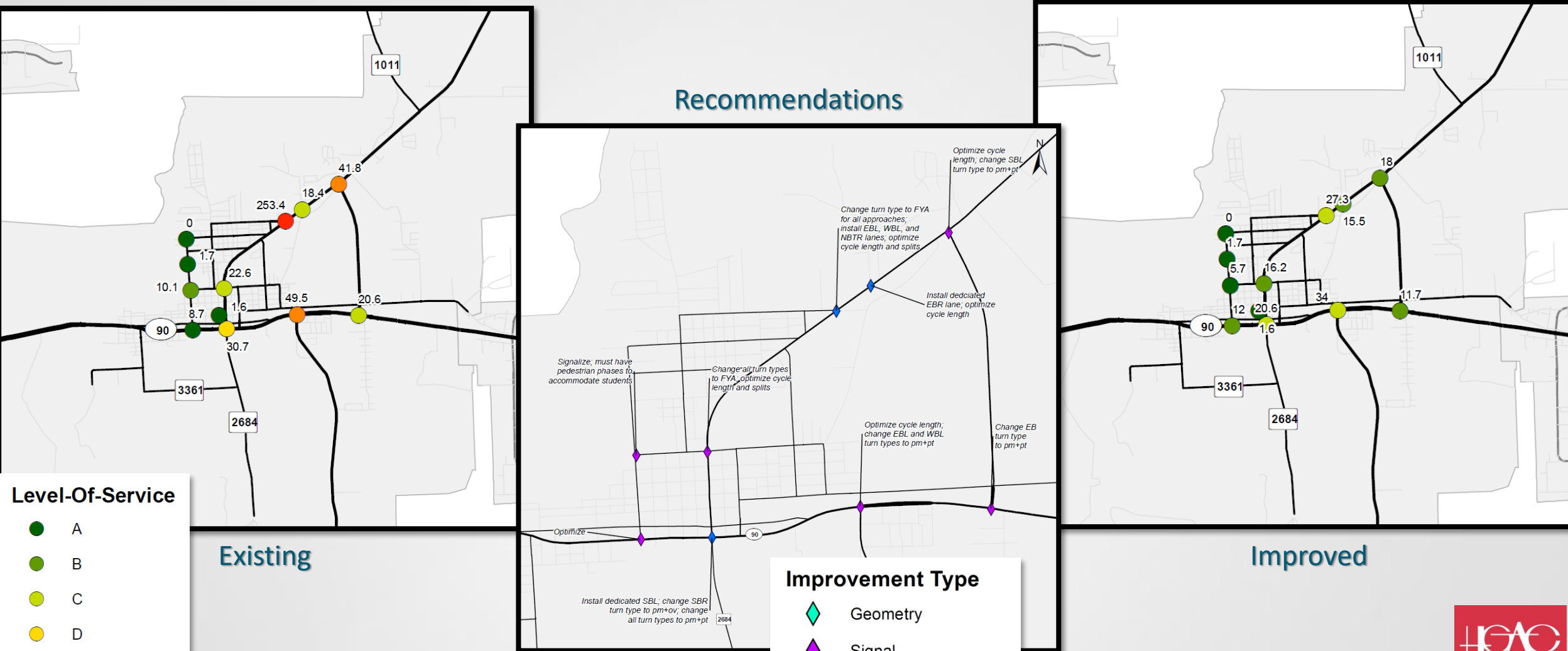
Improved

Level-Of-Service

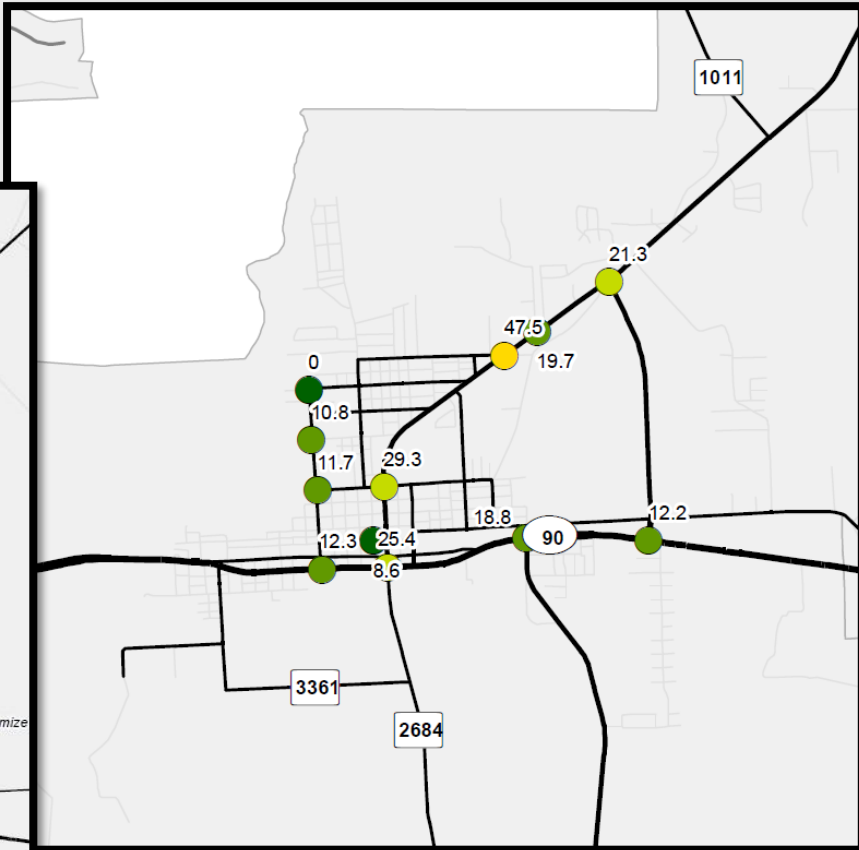
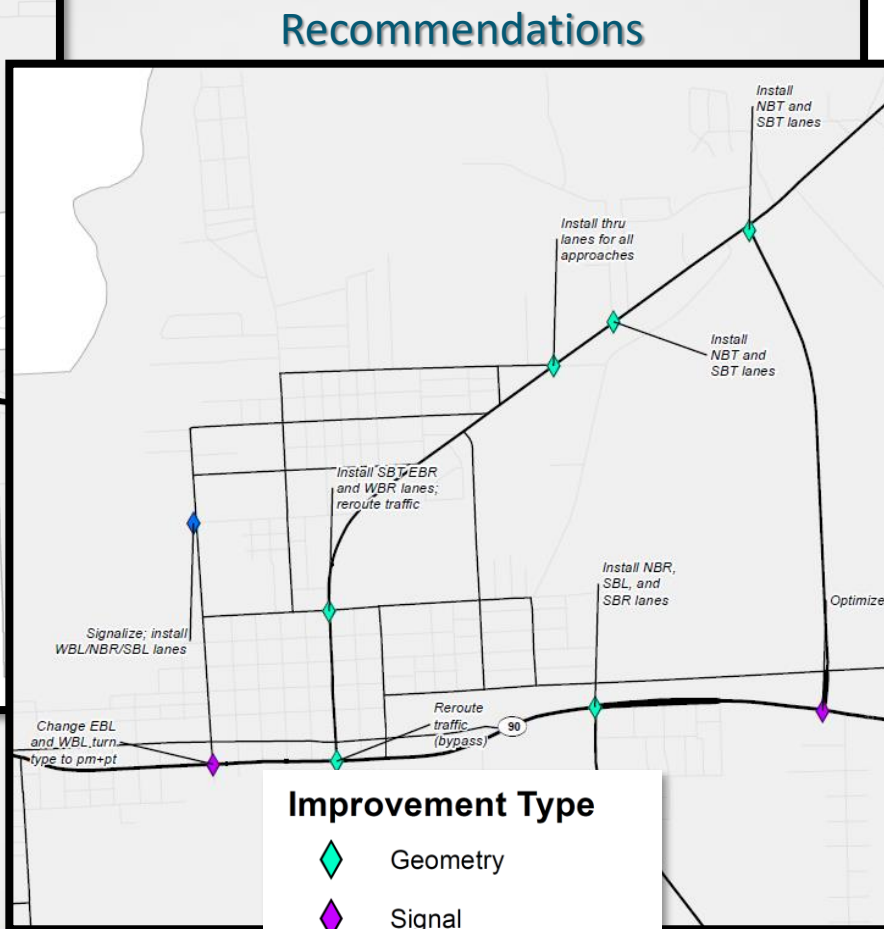
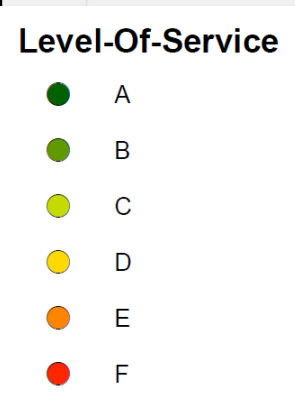
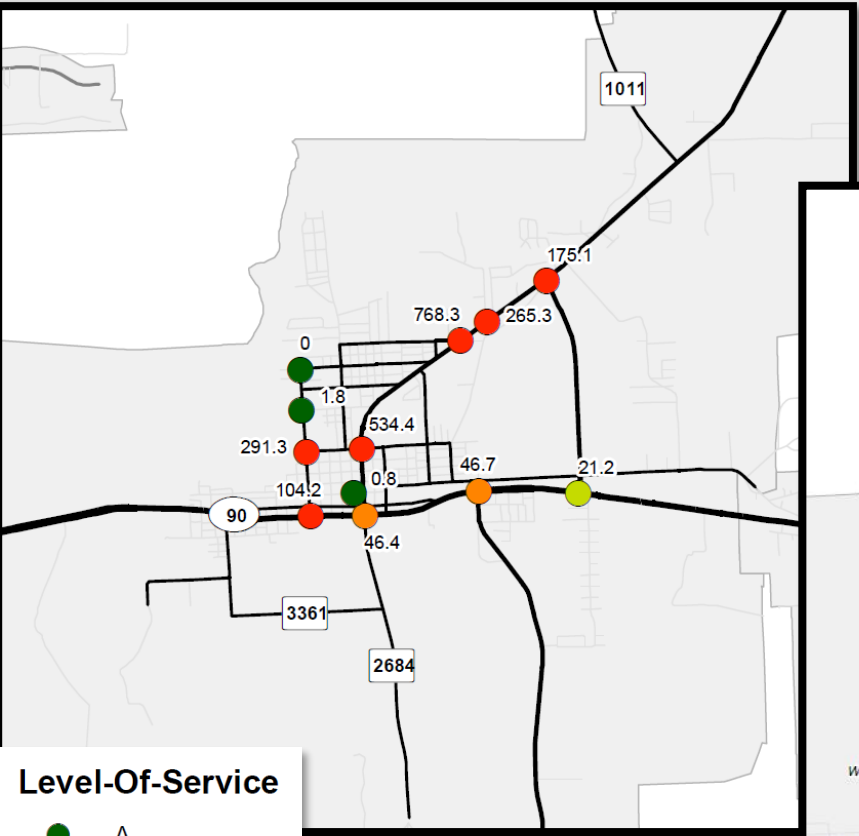
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Improvement Type

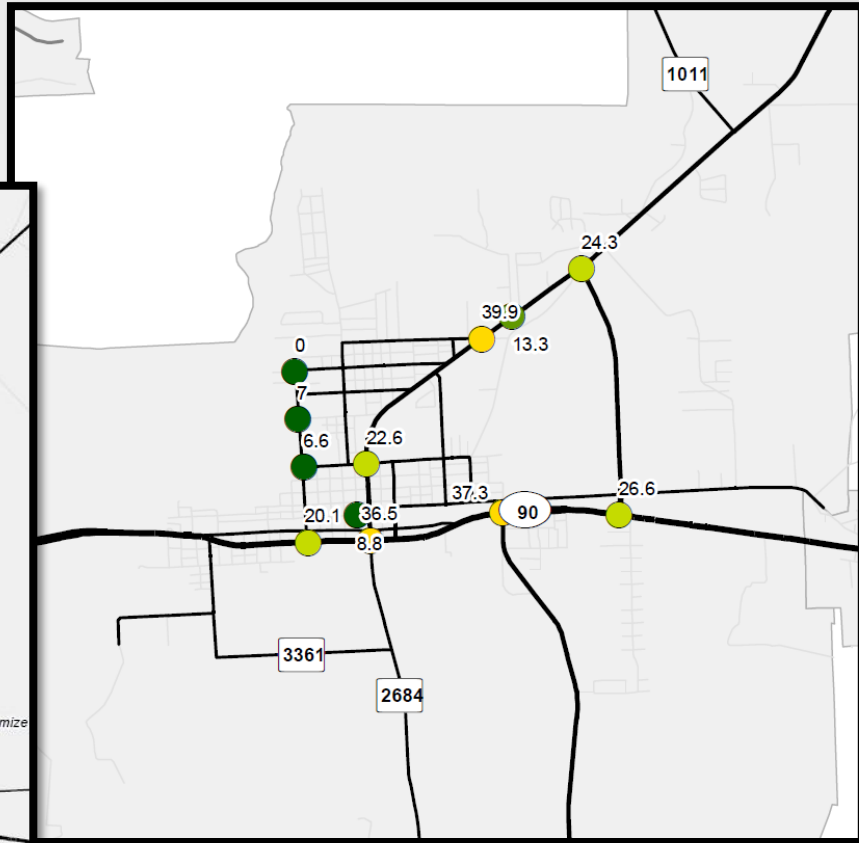
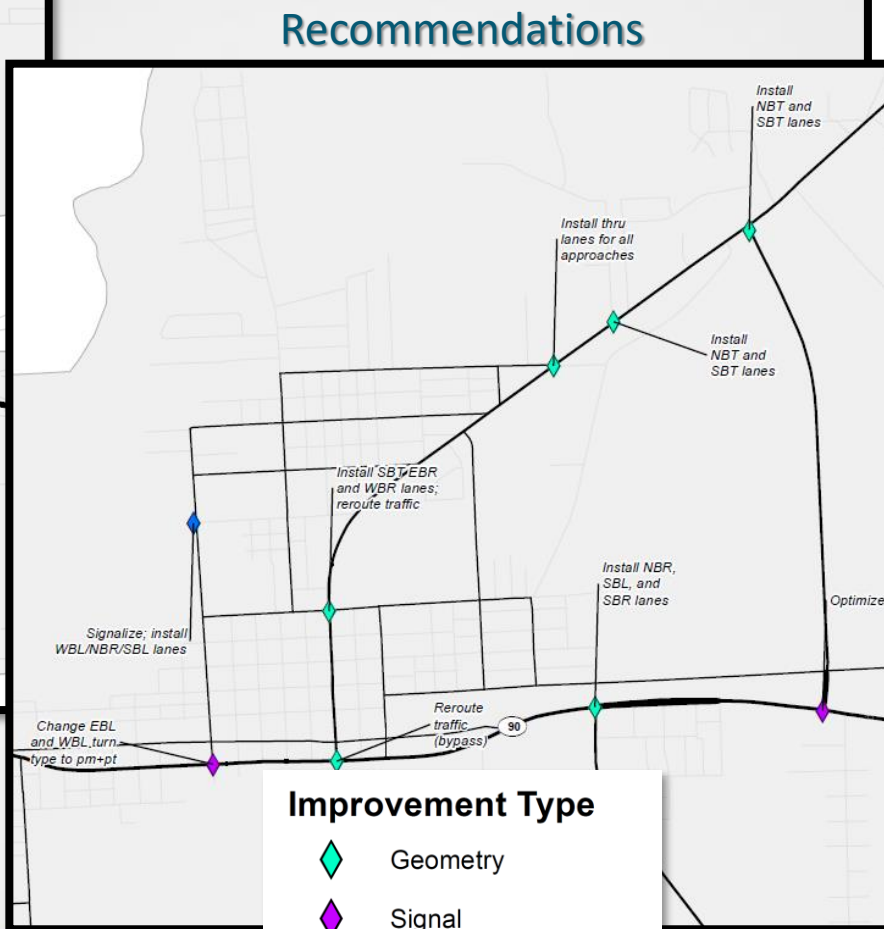
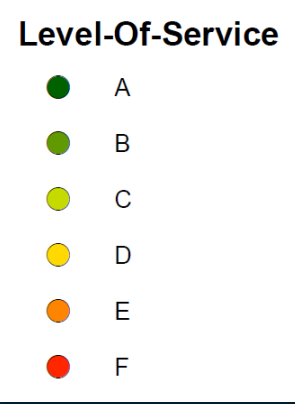
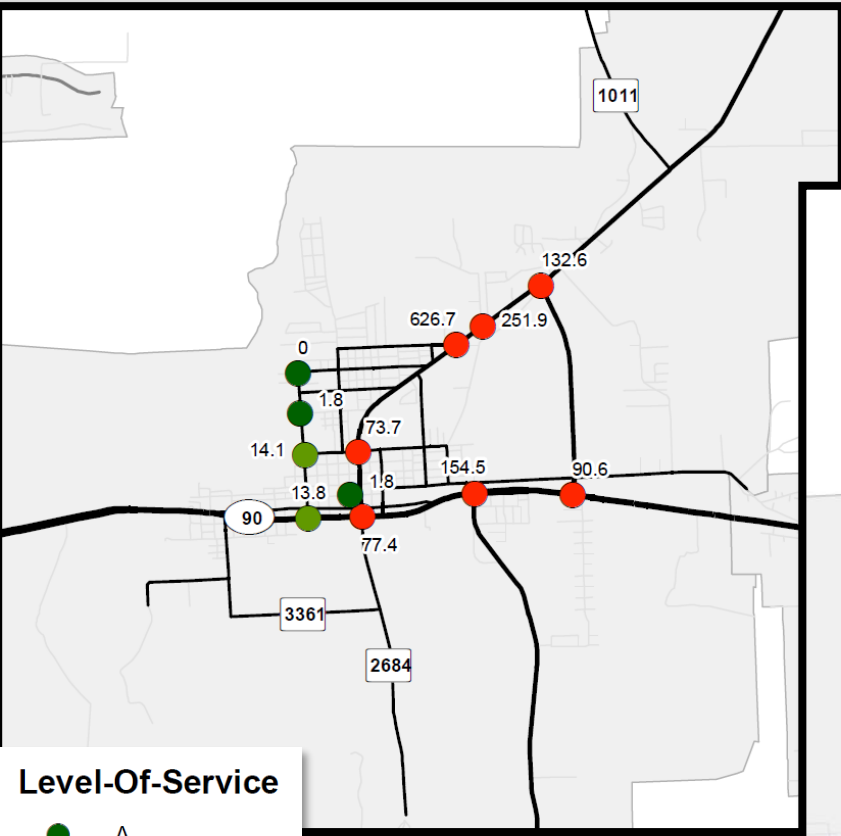
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Liberty – 2045 (AM)



Liberty – 2045 (PM)



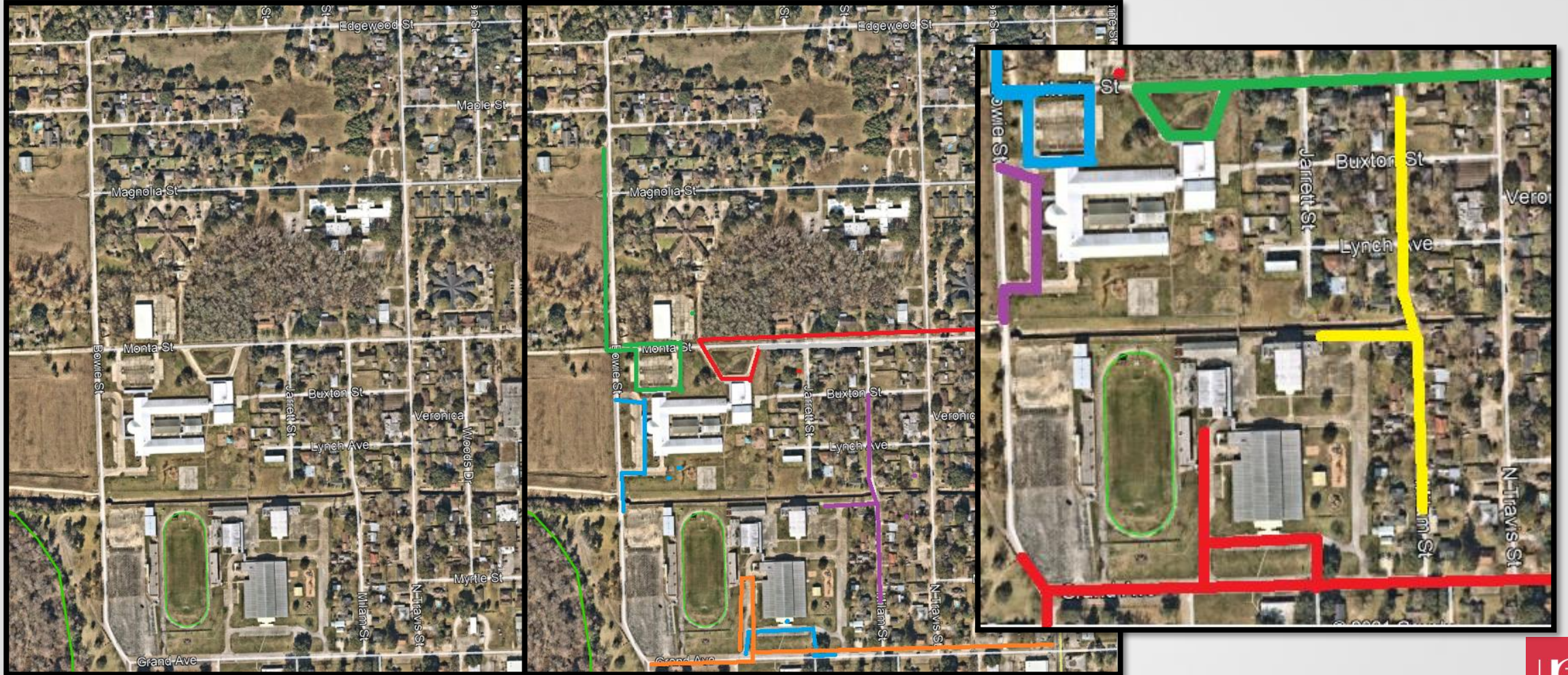
Corridor Character



Main Street Corridor

- **Narrow ROW & Building Setbacks**
- **Wholesale Improvement**
 - **Changes Character**
 - **Business Takings**
 - **Fixes Mobility & Safety**
- **Medium Improvement**
 - **Keeps Most Character**
 - **Requires Some ROW Takings**
 - **Better Mobility**
 - **Better Safety**
- **Limited Improvement**
 - **Keeps Character**
 - **Improves Safety**
 - **Minor Mobility Improvements**

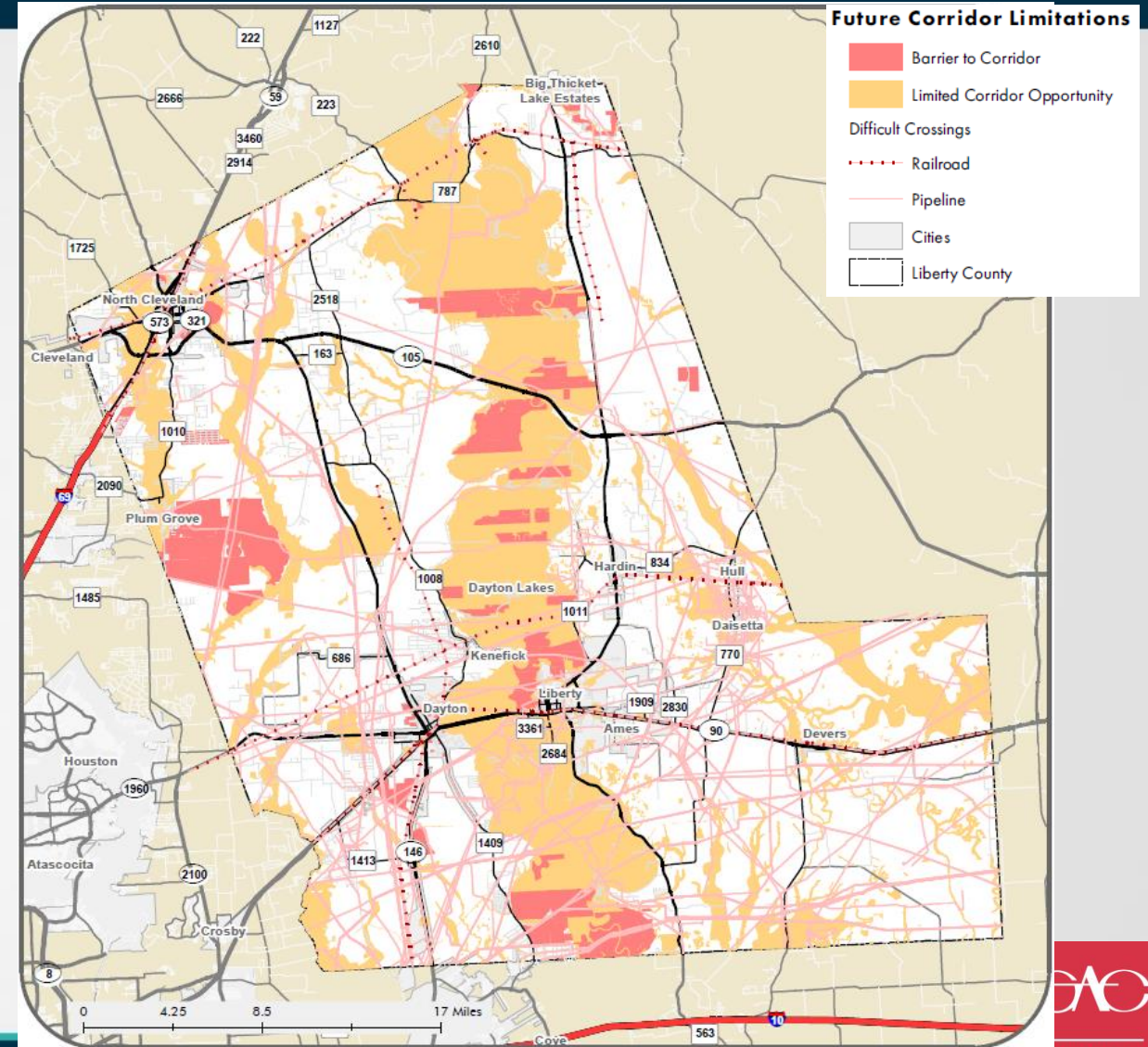
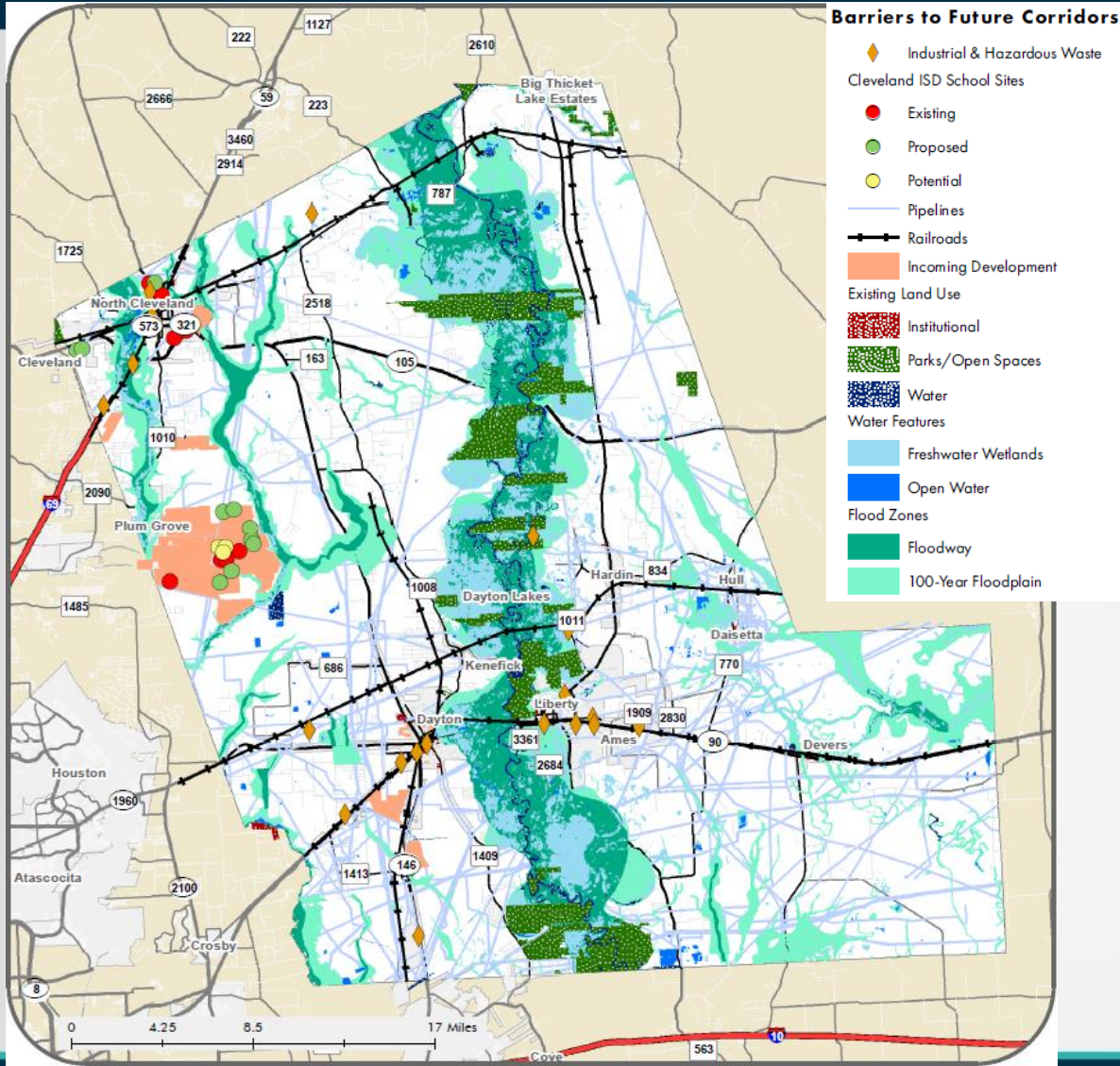
Liberty ISD School Congestion



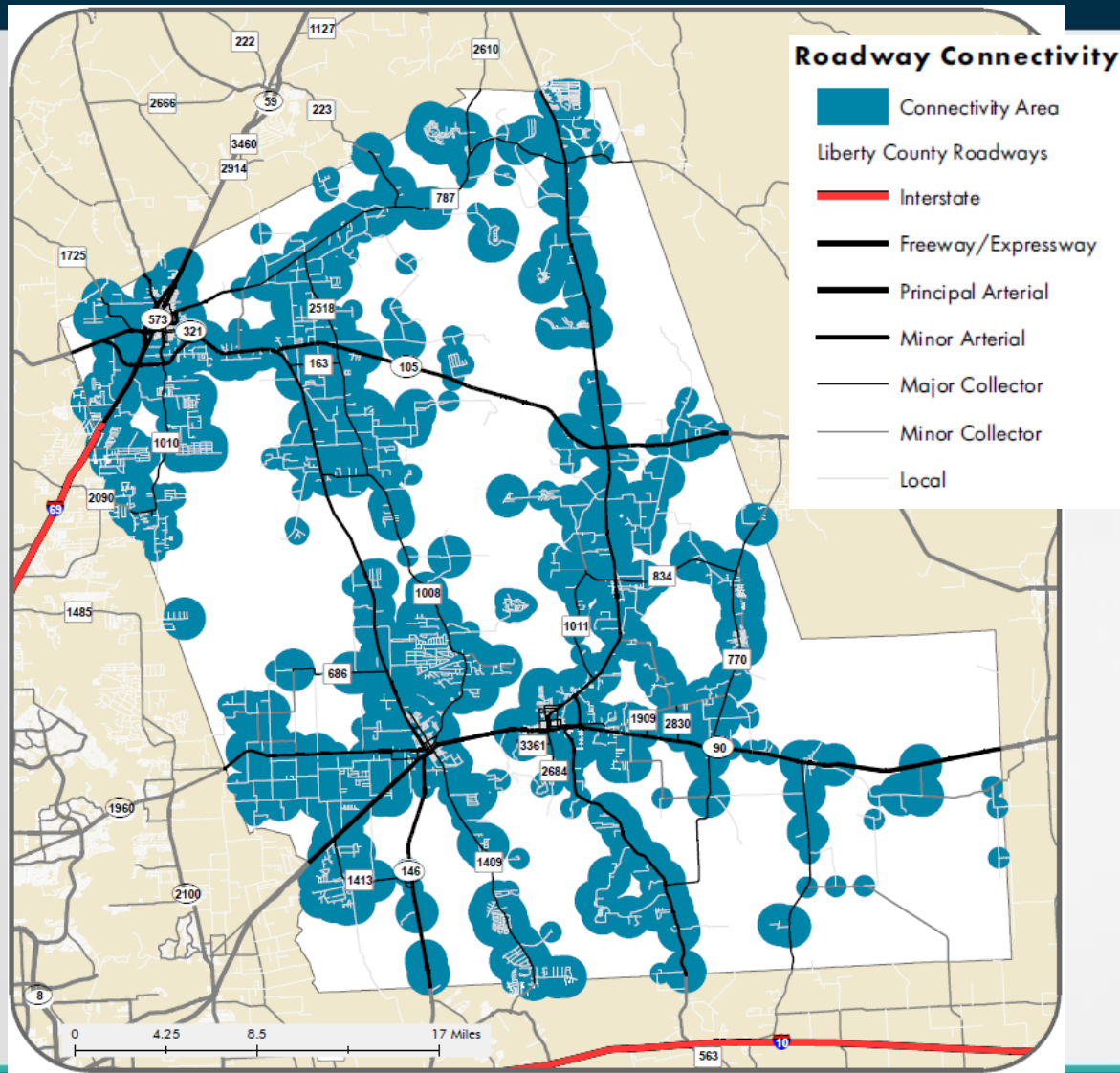
A wooden signpost with three directional signs. The top sign points left and reads "HOUSTON 38 MI". The middle sign points left and reads "GALVESTON 20 MI". The bottom sign points right and reads "BEAUMONT 47 MI". The background is a blue-tinted image of trees and a building.

CONNECTIVITY ANALYSES

Corridor Barriers and Limitations



Connectivity Analysis



- <3-legged intersection = .5-mile connectivity
- 4-legged intersection = 1-mile connectivity

Thoroughfare Recommendations

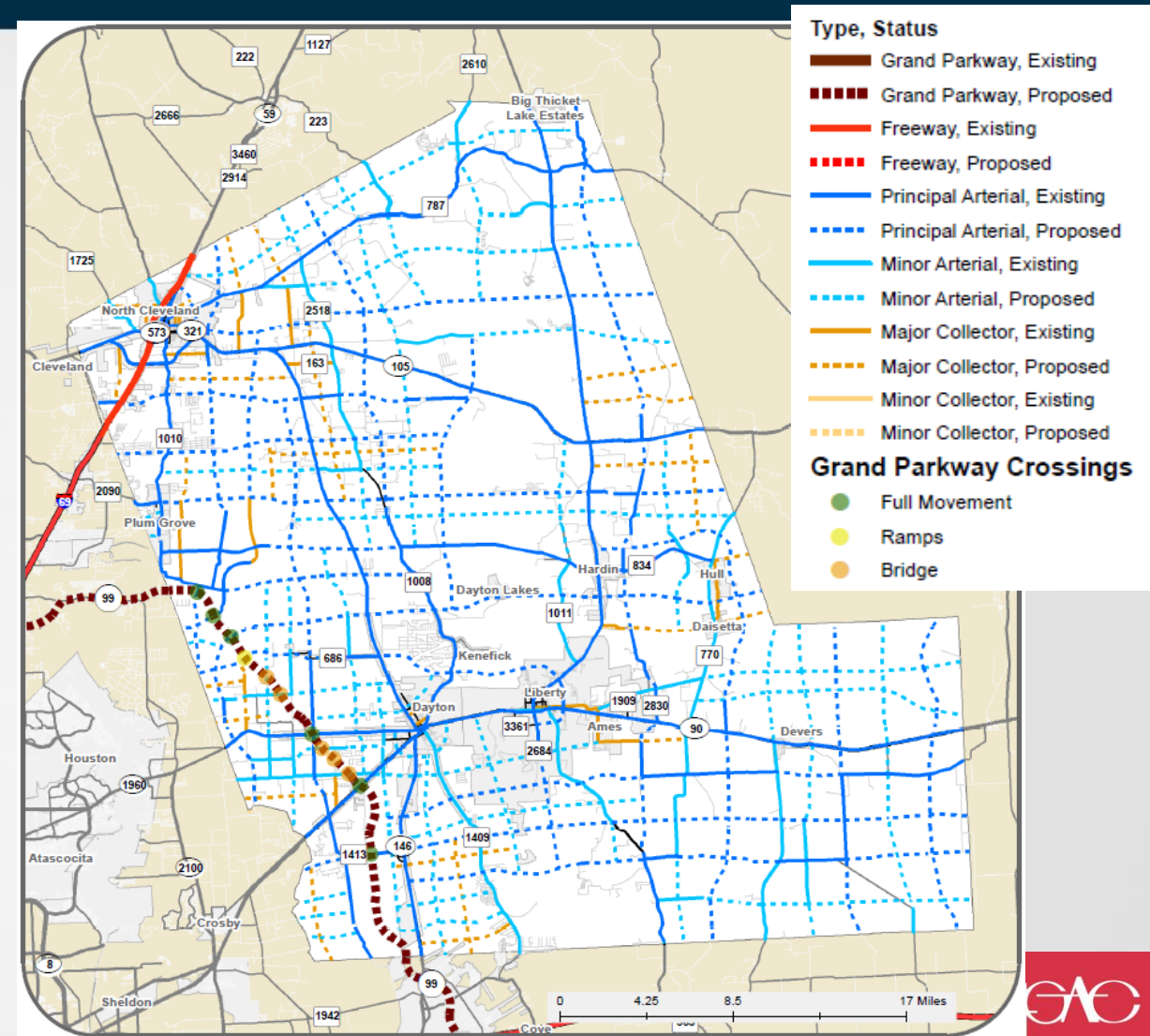
Ultimate recommendation: Update Thoroughfare Plan through legal process

Inputs

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

Focus Areas

- Locations without connectivity
- Grand Parkway access



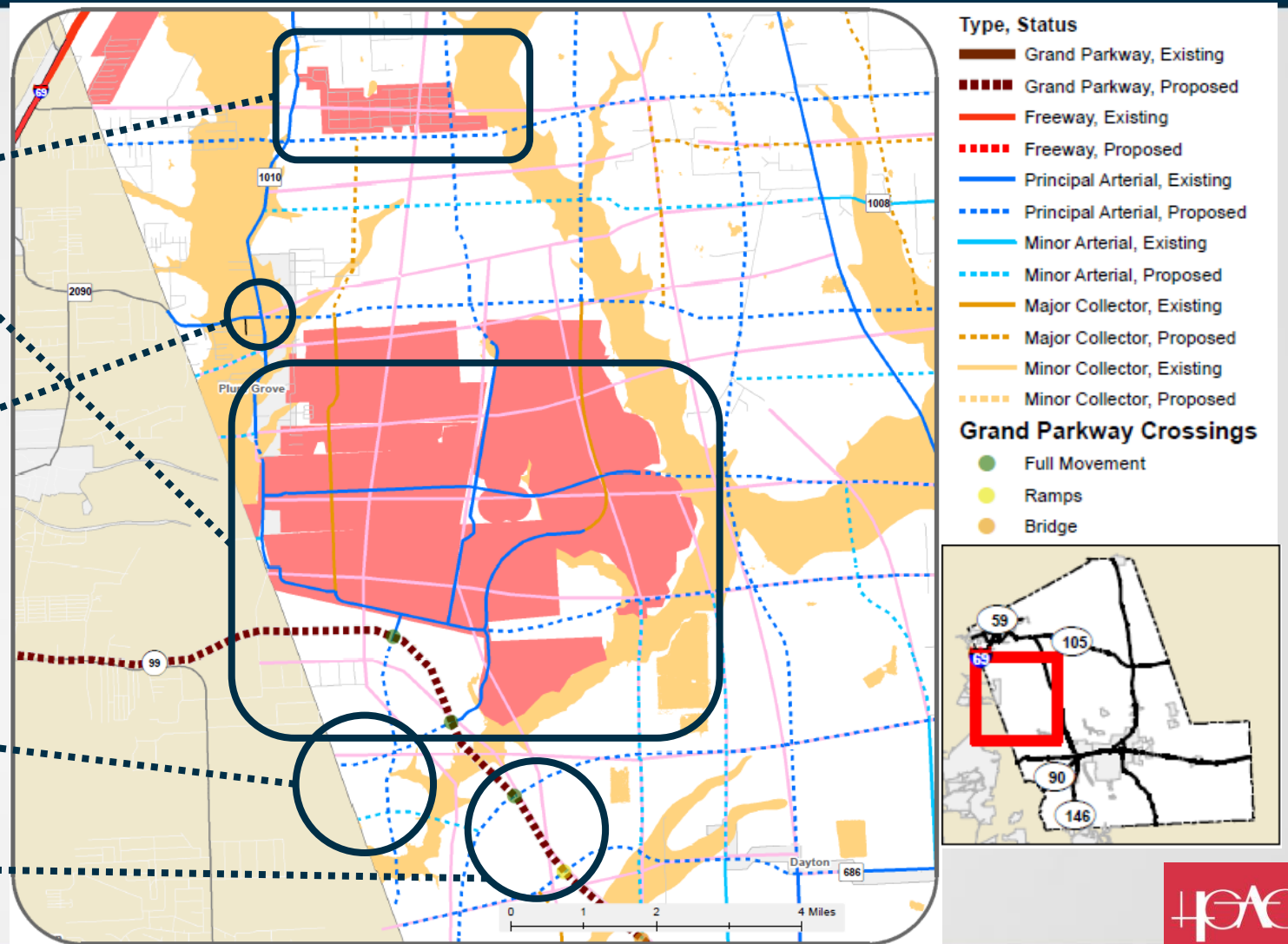
Thoroughfare Recommendations

Realigned proposed thoroughfares based on existing / platted development

Improved regional connectivity

Coordinated with existing City of Houston Thoroughfare Plan

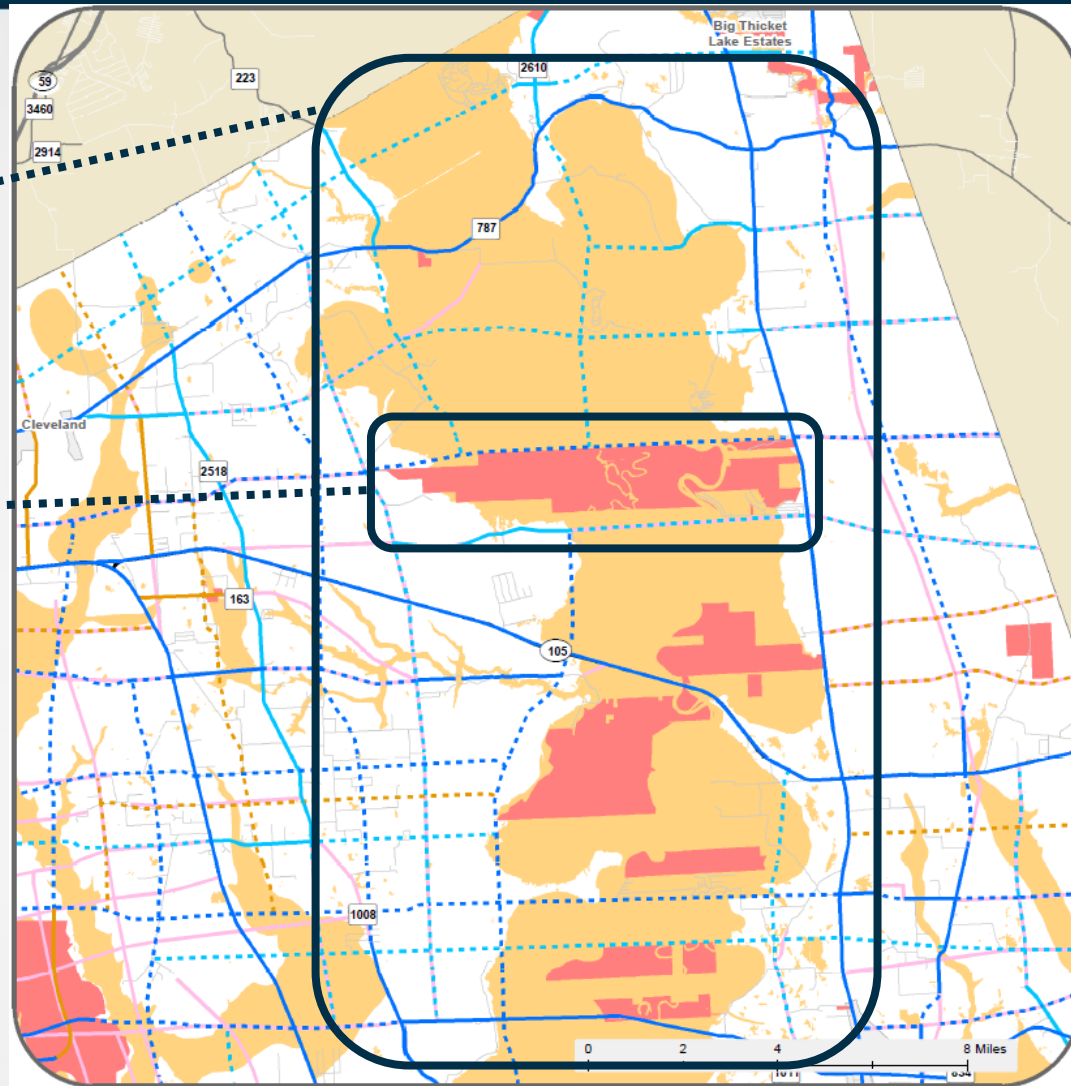
Coordinated with existing planned connections to the Grand Parkway



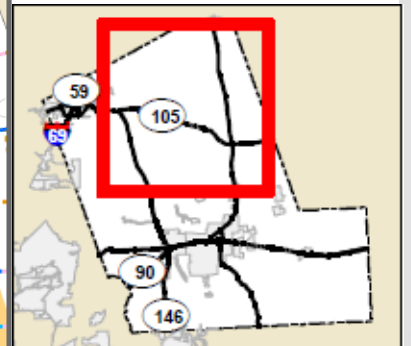
Thoroughfare Recommendations

Recommended alignments not previously on Thoroughfare Plan

Avoided long-term barriers



- Type, Status**
- Grand Parkway, Existing
 - Grand Parkway, Proposed
 - Freeway, Existing
 - Freeway, Proposed
 - Principal Arterial, Existing
 - Principal Arterial, Proposed
 - Minor Arterial, Existing
 - Minor Arterial, Proposed
 - Major Collector, Existing
 - Major Collector, Proposed
 - Minor Collector, Existing
 - Minor Collector, Proposed
- Grand Parkway Crossings**
- Full Movement
 - Ramps
 - Bridge

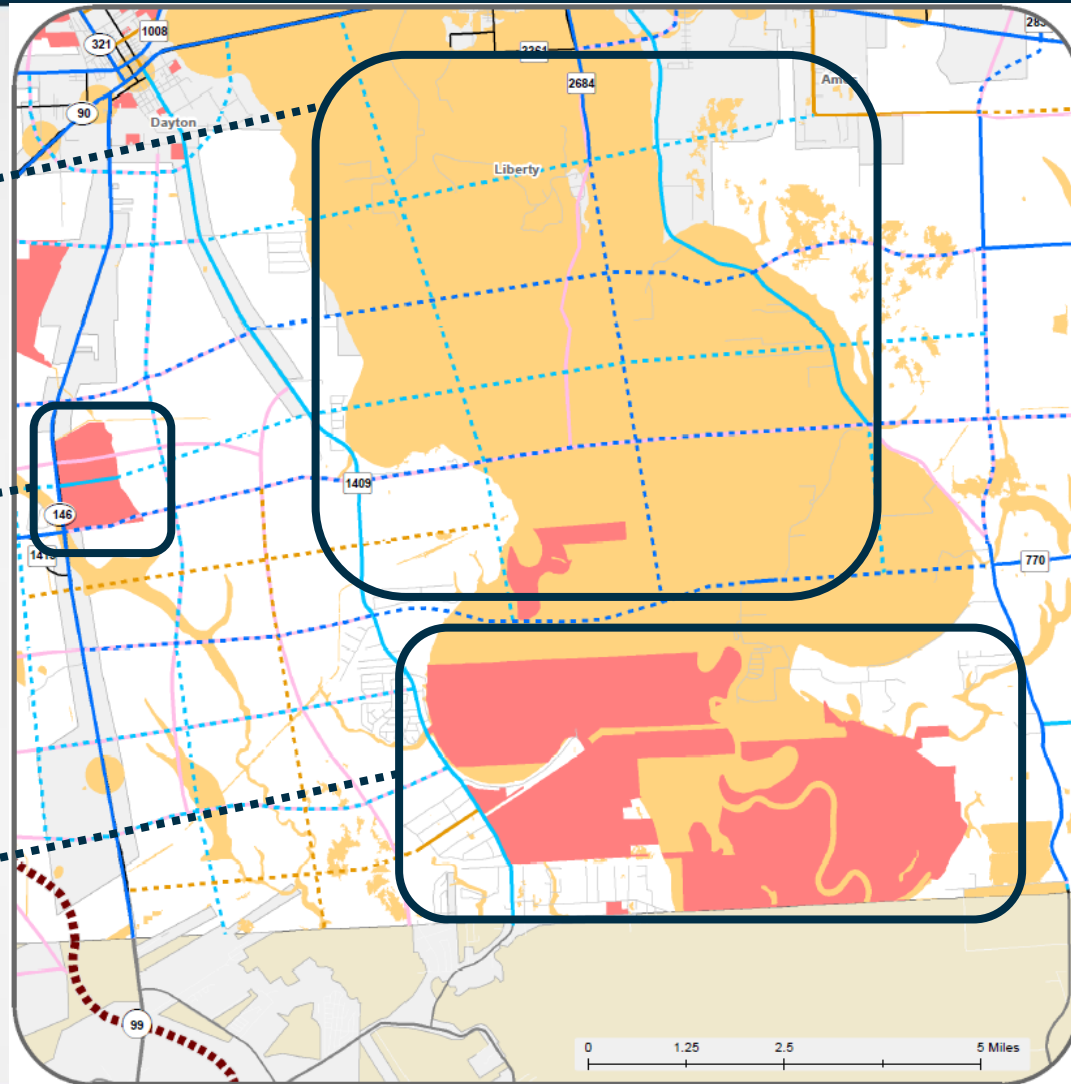


Thoroughfare Recommendations

Recommended alignments not previously on Thoroughfare Plan

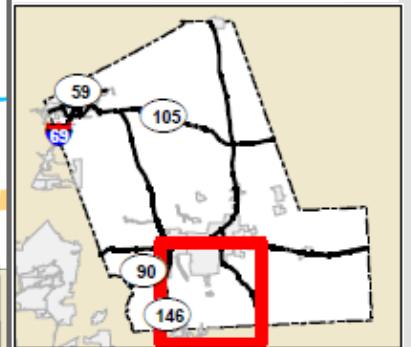
Realigned proposed thoroughfares based on existing / platted development

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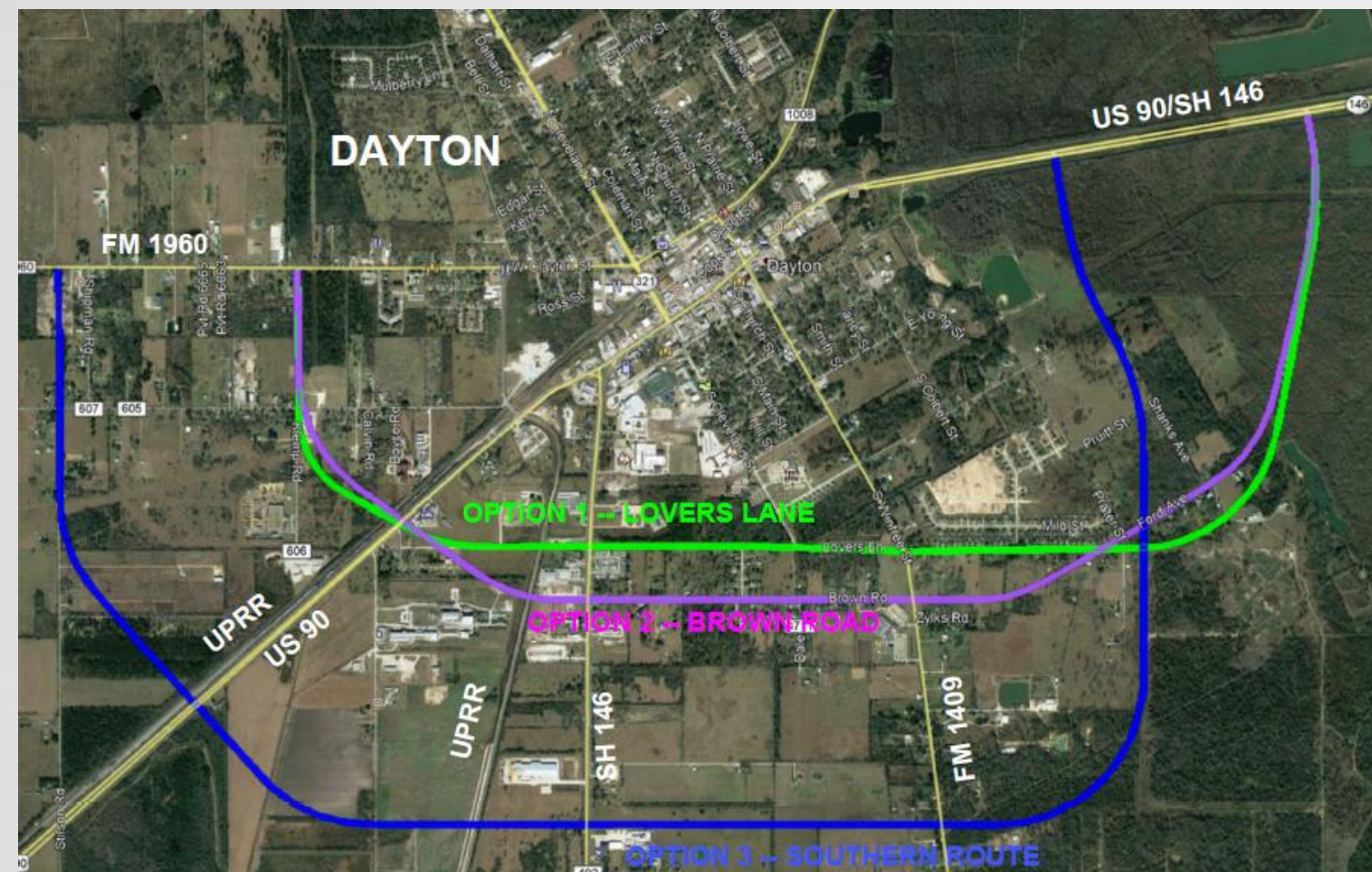


Type, Status	
	Grand Parkway, Existing
	Grand Parkway, Proposed
	Freeway, Existing
	Freeway, Proposed
	Principal Arterial, Existing
	Principal Arterial, Proposed
	Minor Arterial, Existing
	Minor Arterial, Proposed
	Major Collector, Existing
	Major Collector, Proposed
	Minor Collector, Existing
	Minor Collector, Proposed

Grand Parkway Crossings	
	Full Movement
	Ramps
	Bridge

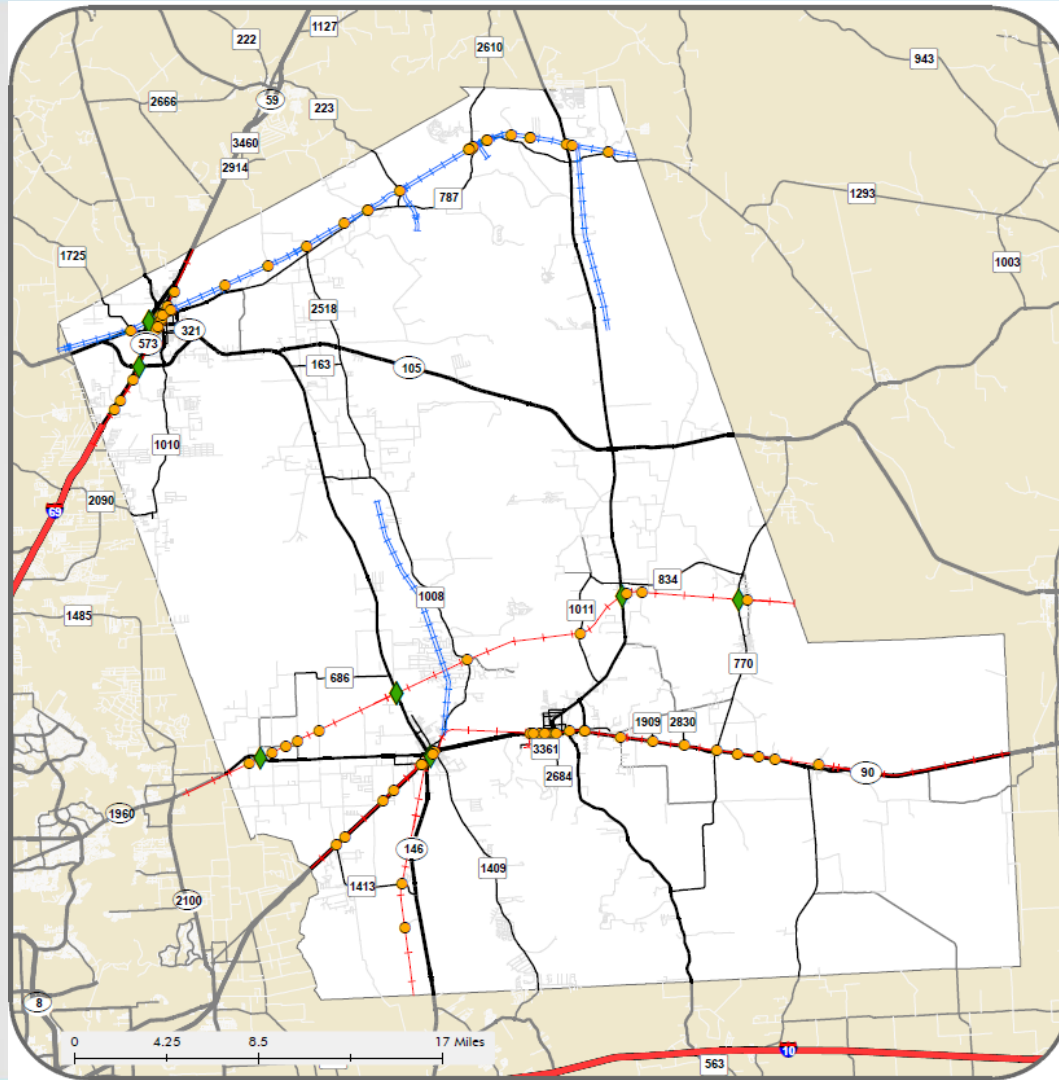


Dayton Bypass Alternatives



	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

Railroad Crossings



Railroad Crossings

- At-grade (79)
- ◆ Grade separated (11)

Railways

- ▬▬▬ BNSF
- +— UP

Liberty County Roadways

- ▬ Interstate
- ▬ Freeway/Expressway
- ▬ Principal Arterial
- ▬ Minor Arterial
- ▬ Major Collector
- ▬ Minor Collector
- ▬ Local

	Cleveland	Dayton	Liberty	Liberty County
<i>Miles of Railway</i>				
<i>BNSF</i>	5	0	0	37
<i>Union Pacific</i>	6	13	14	103
<i>Number of Railroad Crossings</i>				
<i>Railroad Crossings</i>	20	13	14	90
<i>At-Grade</i>	16	9	14	79
<i>Grade Separated</i>	4	4	0	11

ACTIVE TRANSPORTATION

1604

DAYTON LIBERTY



Need a Ride... Call 1-800-272-0039



Brazos Transit District

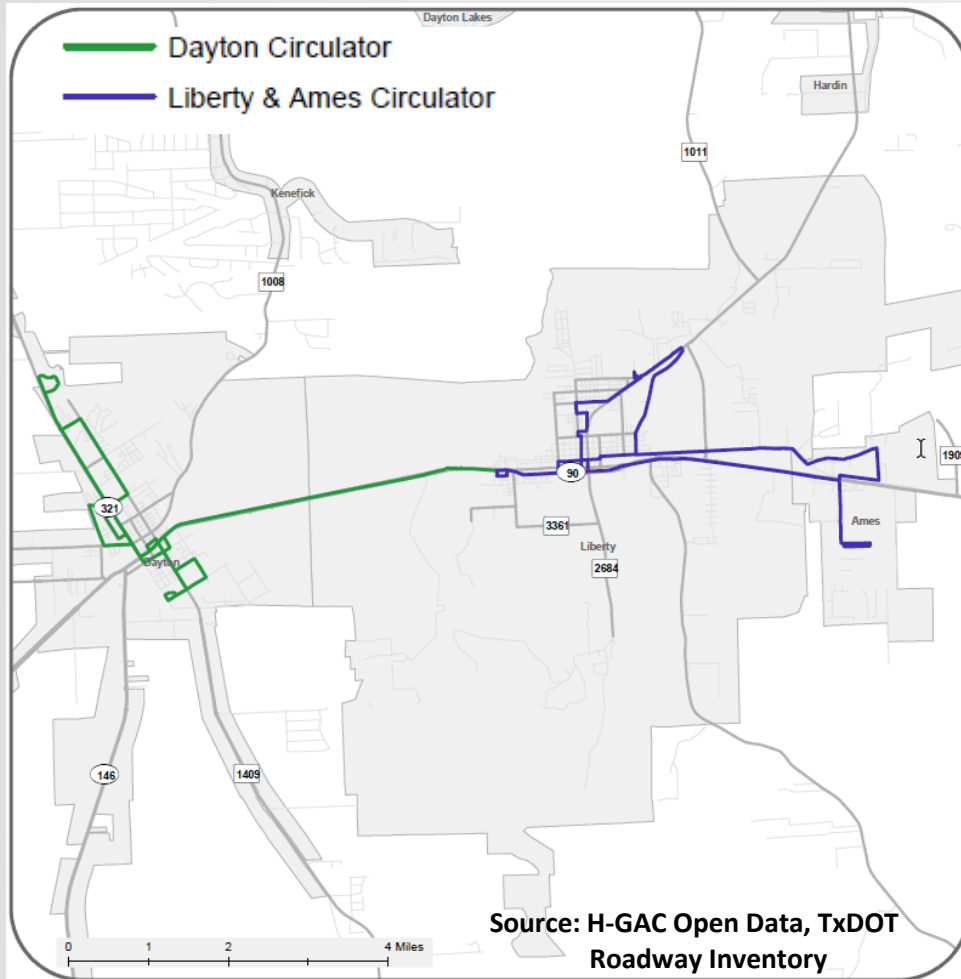
PROTECH

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

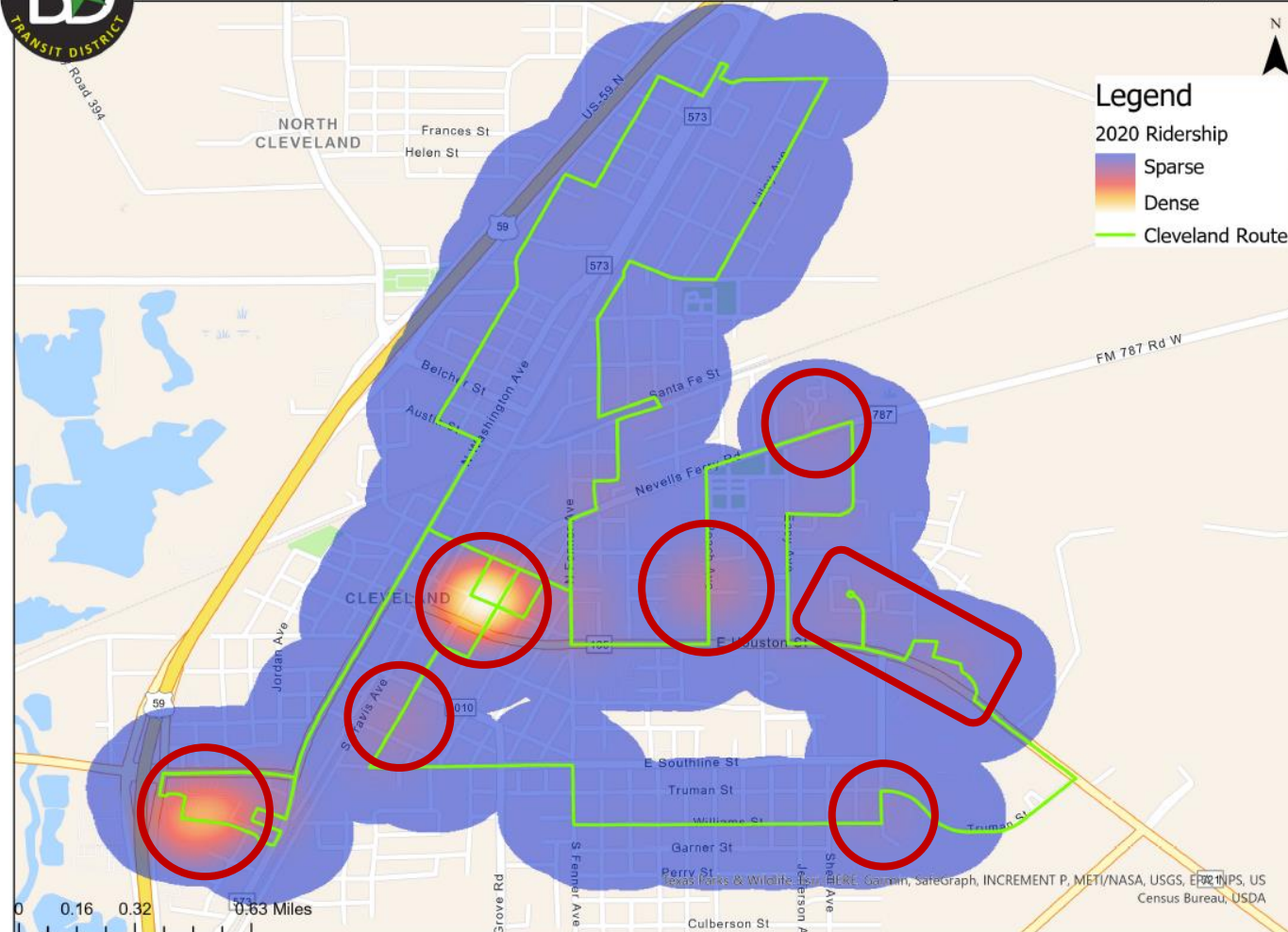
Transit Summary



BRAZOS TRANSIT DISTRICT



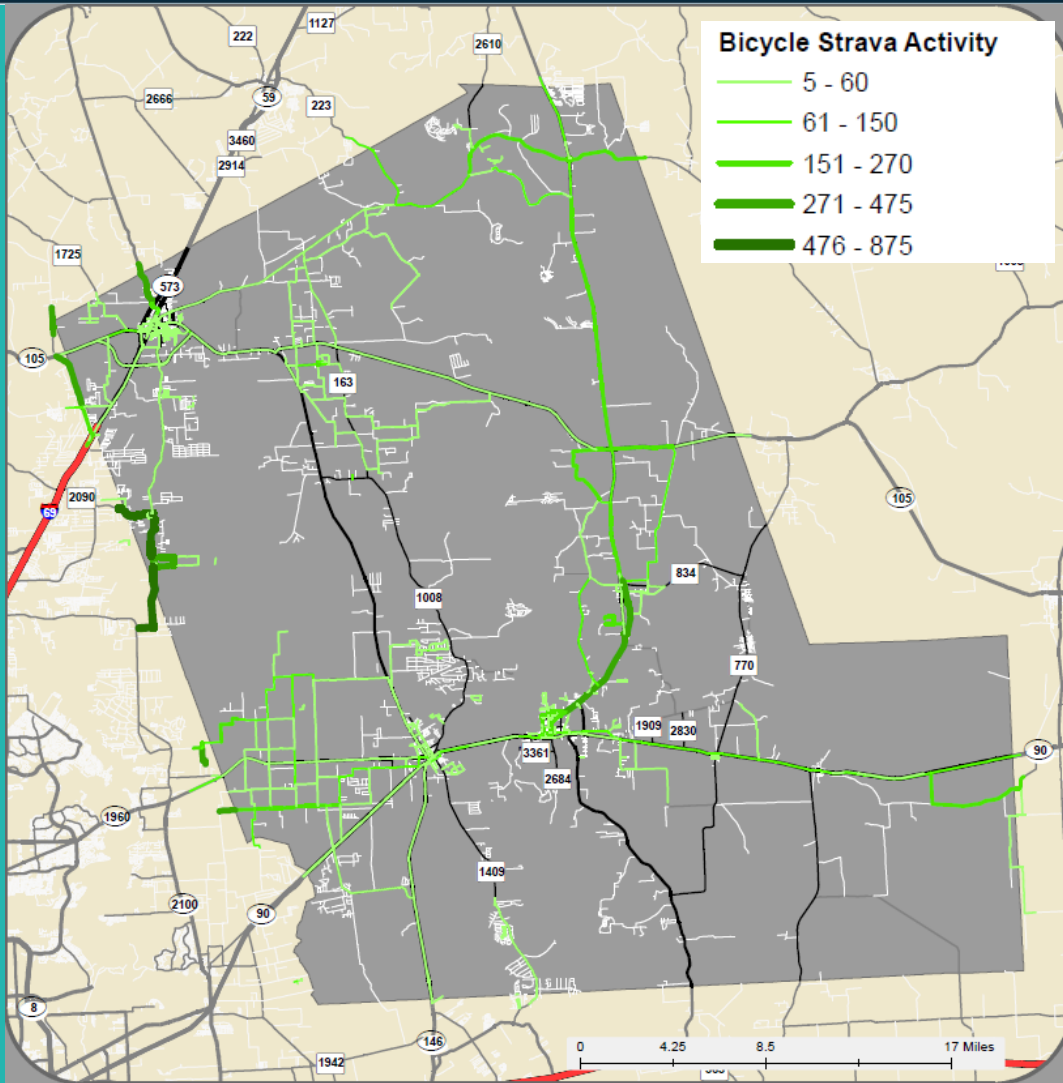
BTD 2020 Fixed Route Ridership - Cleveland, TX



- Transit activity near:
 - Shopping centers
 - Schools
 - Senior housing / apartment complexes

Bicycle Summary

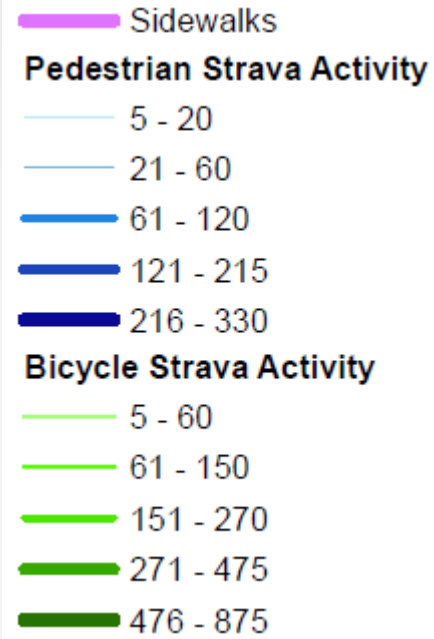
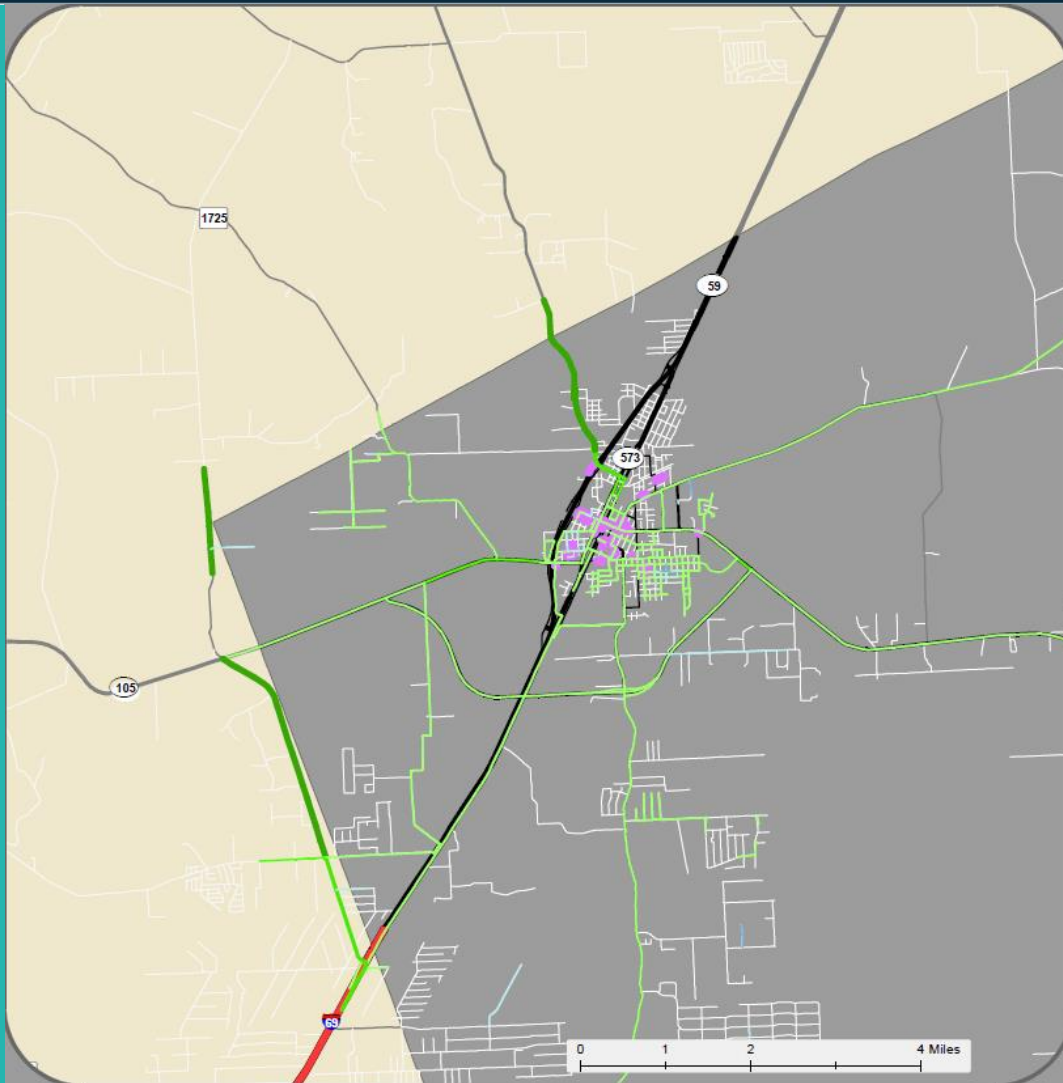
LIBERTY COUNTY



- No designated on-street facilities
- Activity closely aligns with major roadway facilities
 - Plum Grove Road
 - SH 146
 - US 90
- Some shared biking and walking trails within natural areas
- Biggest challenges per bicycle advocates:
 - Lack of route options
 - Lack of funding
 - Roadway maintenance

Pedestrian Summary

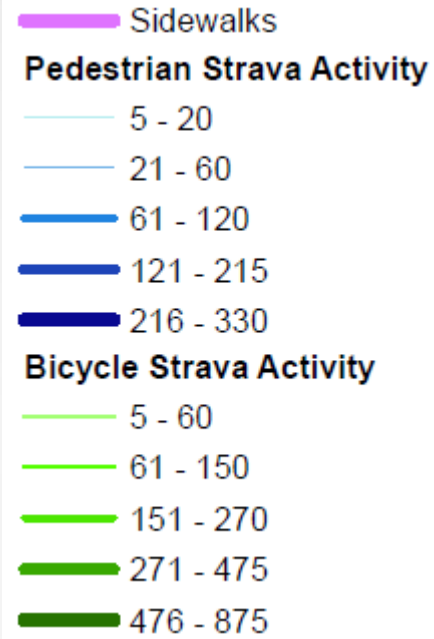
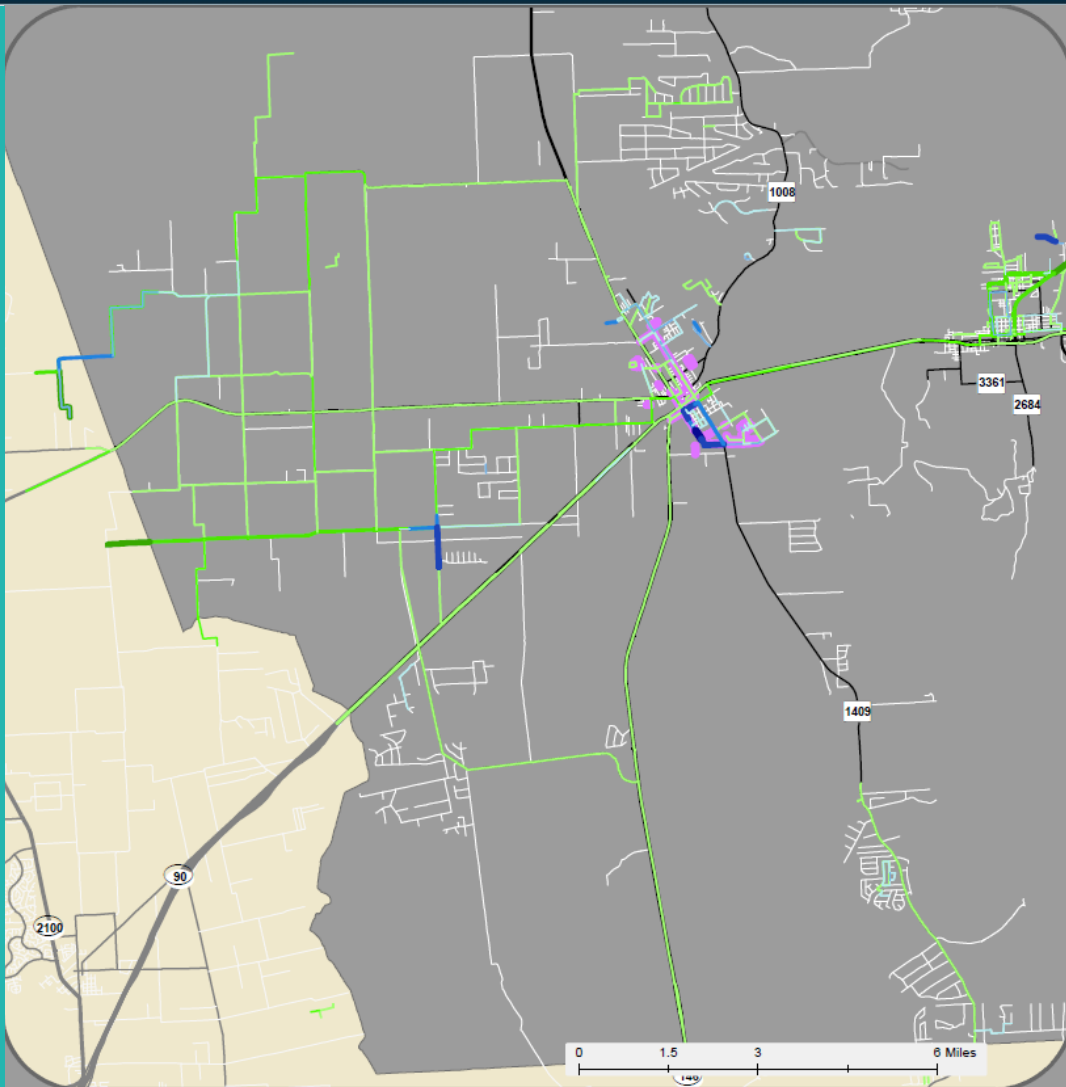
CLEVELAND



- Holiday Inn area to and from restaurants
- Eastside Elementary

Pedestrian Summary

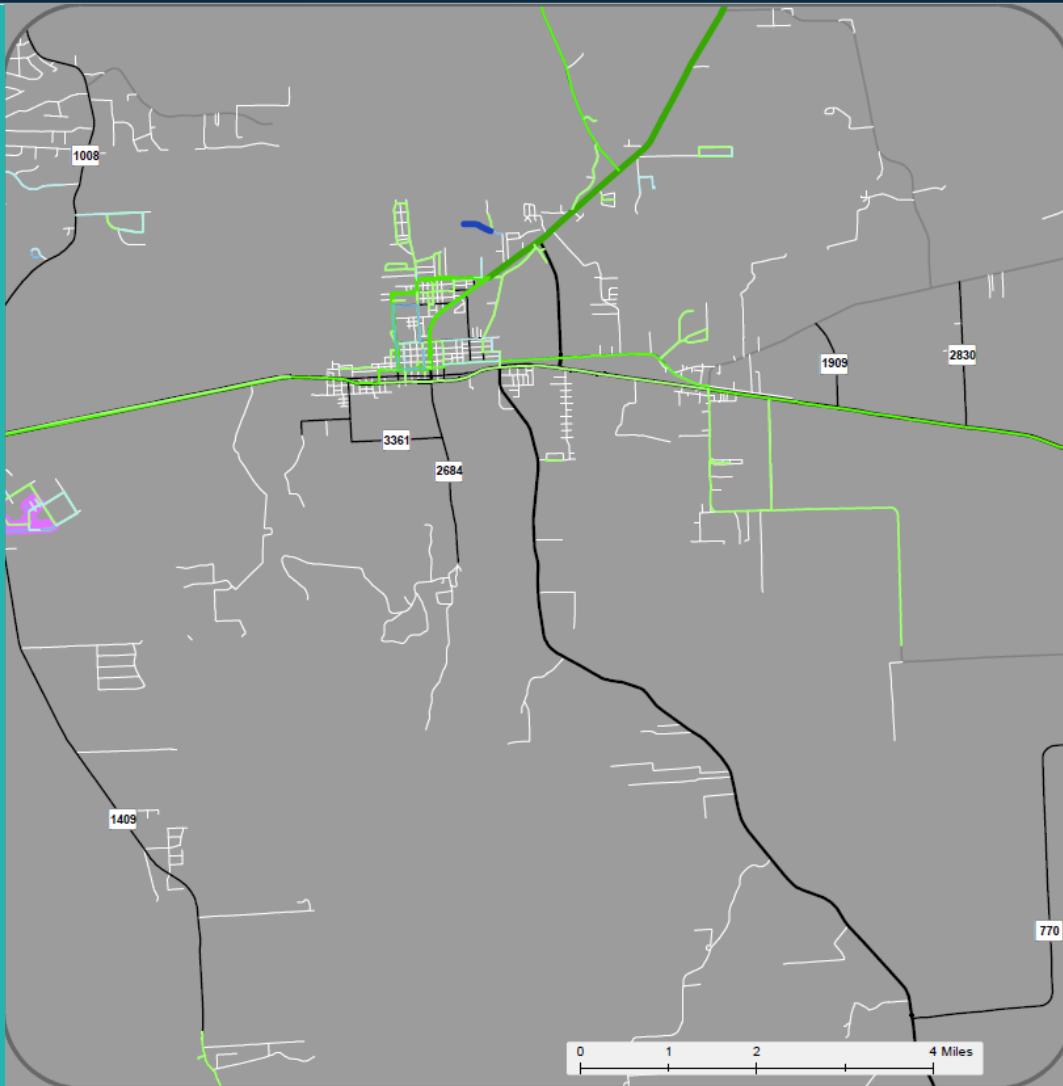
DAYTON



- Closely aligns with availability of sidewalks
- Dayton Community Center
- Iglesia Casa de Vida

Pedestrian Summary

LIBERTY



- No available GIS data for sidewalks
- Liberty Dayton Regional Medical Center
- Downtown Liberty east of Main
- Liberty Municipal Confederate Park

A blue-tinted photograph of a cornfield. In the background, a large sculpture of a longhorn cow stands in the field. The text "POLICY / PRACTICES" is overlaid in the center in white, bold, sans-serif font.

POLICY / PRACTICES

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

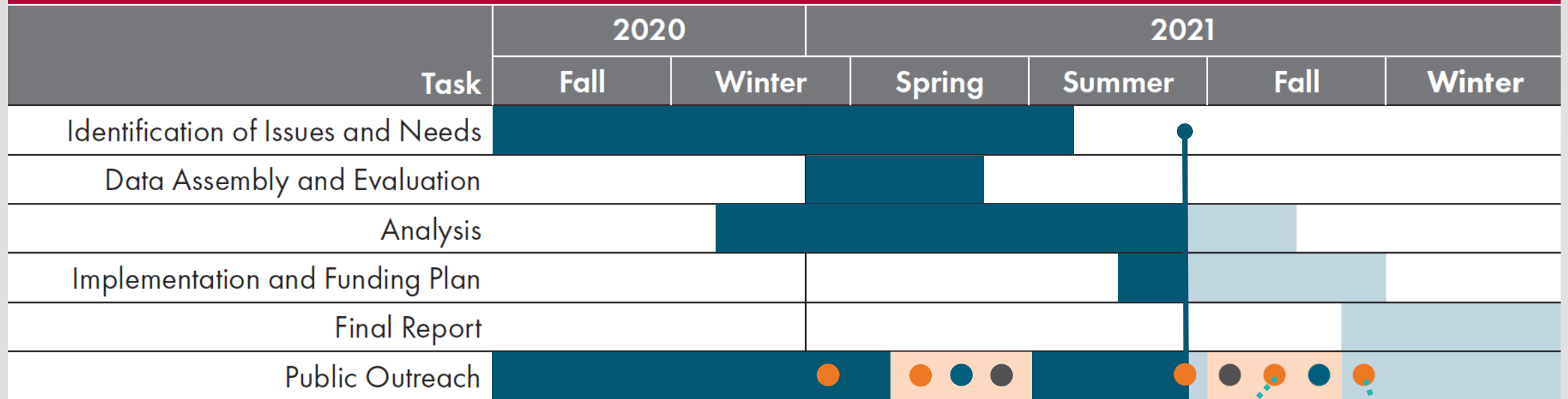
Refine Solutions

Additional Focus

- Model Dayton Bypass Option
- Corridor Context Solutions
- Cross section and Number of Lanes
- Access Management
- Railroad Crossing
- Transit and Bike/Ped Improvements
- School and Hospital Sites

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! Further Discussion



For More Information:

www.h-gac.com/subregional-planning/liberty-county-study

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

