



THE CITY OF
Fredericksburg, Texas

Transportation Projects Traffic Impact Study

February 28, 2020

Kimley»Horn

Study Overview



New Connections –
4 Potential Projects



Intersection Improvements –
30 intersections analyzed for
short-term enhancements

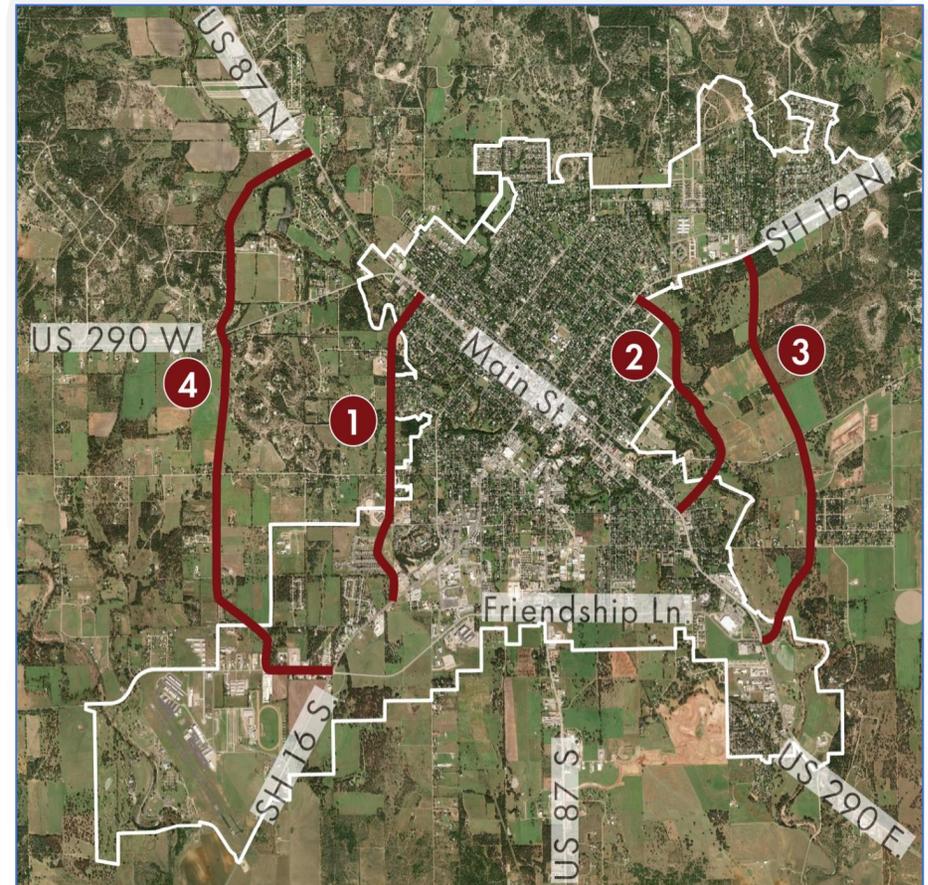


Safety Improvements –
6 locations with improvements



Over 300 people have given
feedback on recommendations

Four (4) Potential New Alignments:



Community Feedback

✓ Opportunities

- Open House January 28th
- Online & Paper Survey Jan. 24th – Feb. 14th
- Project Website and E-mail Address

✓ County Participation

- Around 60% outside City limits
- *Want this to be joint City/County/TxDOT effort*

✓ Project Support

- All 4 connections over 60% positive
- Fairly equal support for projects



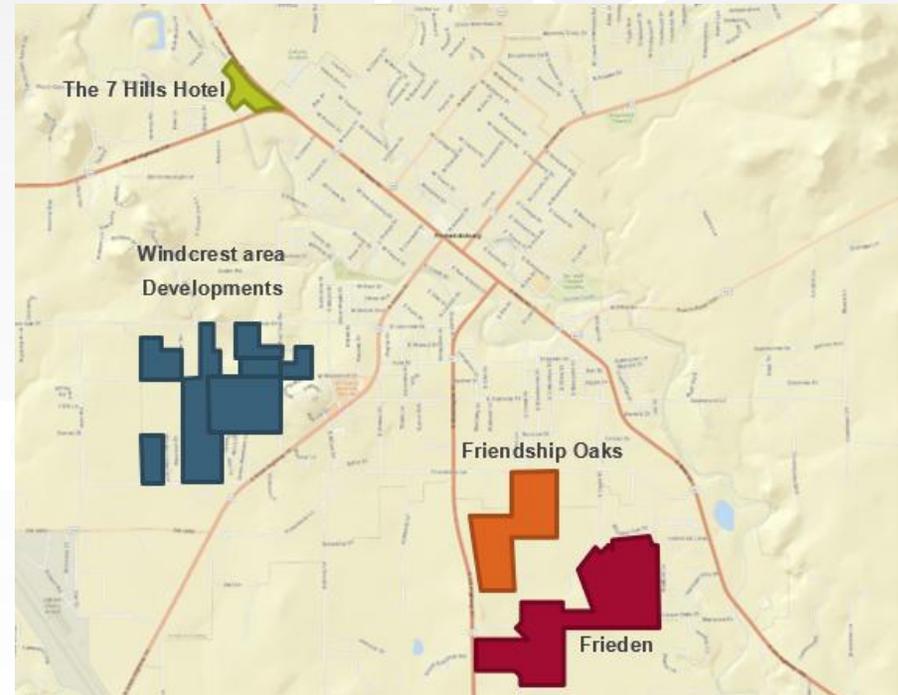
SHORT TERM PROJECTS

These projects address highly localized challenges through the use of striping, signal timing and signal light changes, and some new pavement.

Assumptions for Study

- ✓ Assesses conditions for both weekday afternoon peak traffic and weekend peak traffic with tourism impacts (Saturday midday)
- ✓ Incorporates growth for 5 years to 2025, including planned projects and historical growth
- ✓ Evaluates all intersections with a traffic signal to see citywide impact of improvements

Anticipated Development by 2025



Signal Timing Adjustments

- ✓ Recent adjustments by TxDOT consultant on Main Street and SH 16
- ✓ Current system focuses on Main Street throughput
- ✓ Need to revise these as demand shifts:
 - Substantial developments in process affect this
- ✓ Challenges on Main Street:
 - Lack of space for new turn lanes
 - Time required to cross pedestrians
 - Turns conflicting with pedestrians
 - Large trucks and trailers



- ✓ Opportunity on Main Street:
 - With some signal changes, but even more so with some additional turn arrows / striping
 - Possible TxDOT support for improvements

Lane Assignments

- ✓ Changing streets to one-way can have significant impact:
 - Washington north of Main
 - Creek Street east of Adams
- ✓ Re-assigning existing pavement space for turn lanes increases capacity
 - In tandem with turn arrows with protected left and right turns, even greater benefit

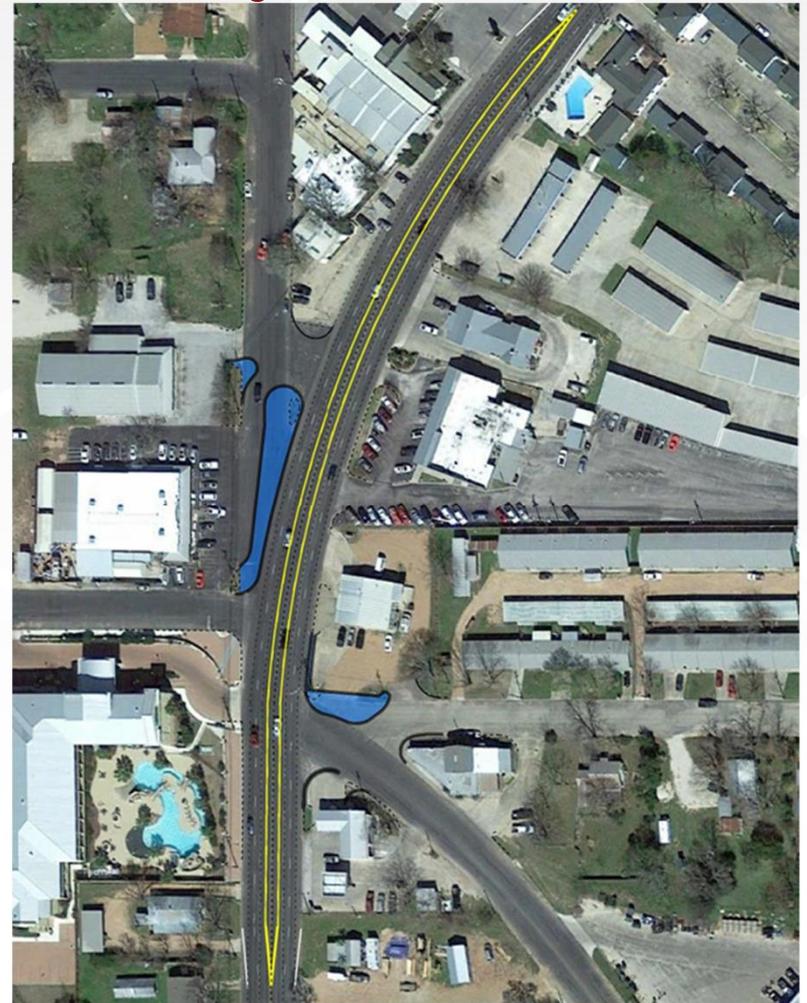
Main at Elk Left Turn Lane and Arrow



Safety Improvements

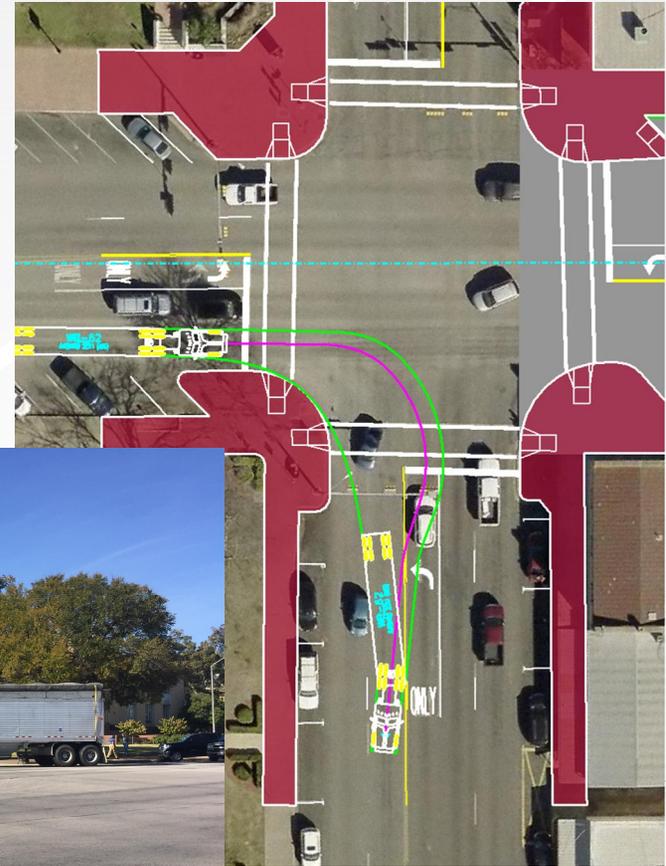
- ✓ At some locations, changing access and adding space for left turns can help improve safety, reduce conflicts:
 - Washington at Walnut
 - Adams at Windcrest
- ✓ Other locations can benefit from providing left turns
- ✓ Austin at Milam was evaluated for a Multi-Way Stop, which is warranted
- ✓ Drainage improvements and protections through use of edge lines with paint or curbs

Washington at Walnut Access



Safety Improvements

- ✓ Pulling back stop bars can help trucks turning off Main Street
- ✓ Adding double yellow centerlines, lane assignment markings and signs help clarify direction for drivers



Short Term Summary

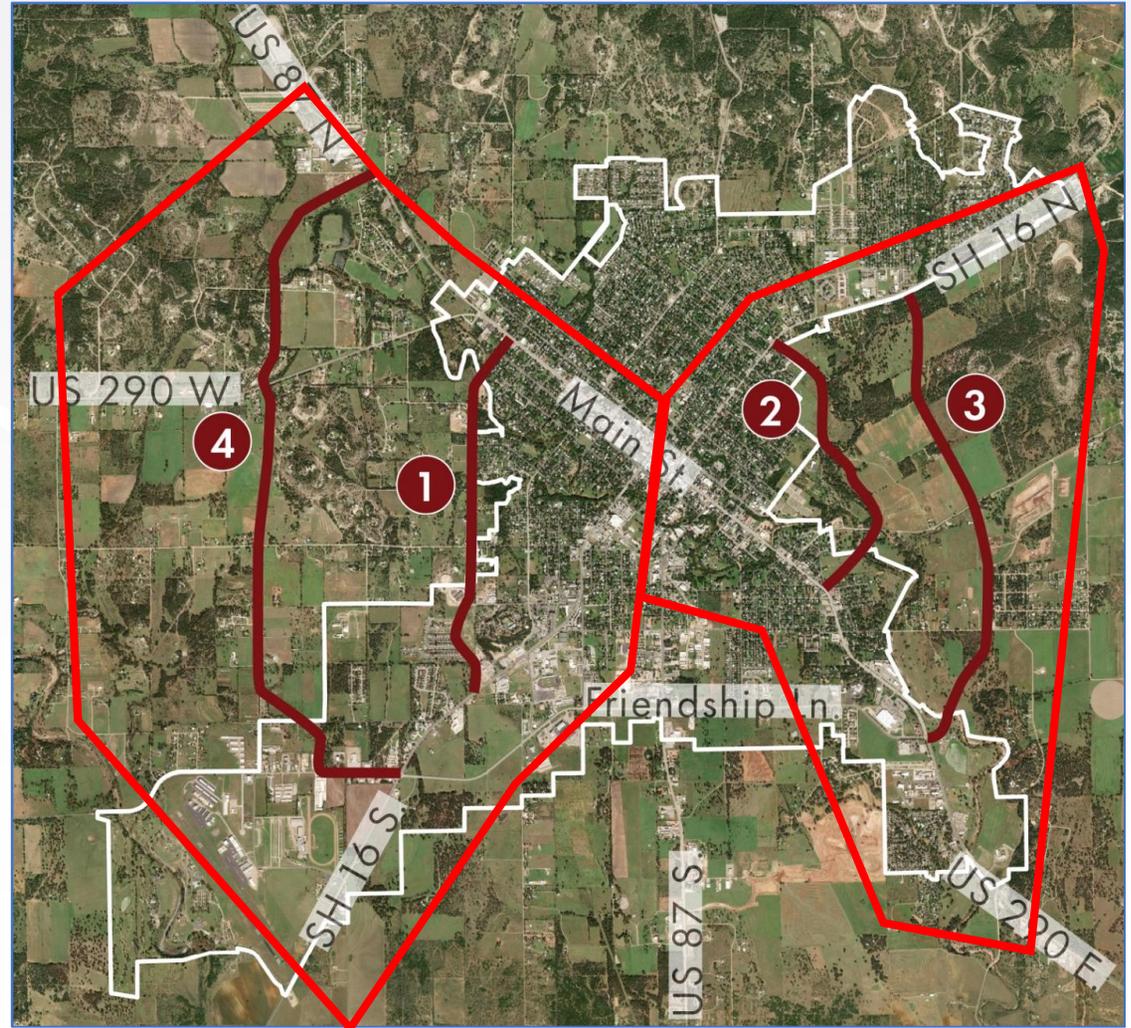
- ✓ Short term projects are lower cost with a high impact and should be pursued to help alleviate localized problems
- ✓ Short term projects address safety issues and operational issues in the local area
- ✓ Short term projects anticipate growth for next 5 years, including larger planned developments
- ✓ Short term projects alone will not solve the congestion problem long term
 - Completing individual short term projects will result in a highly localized benefit only, collectively have a greater impact
- ✓ Short term projects could be accomplished through TxDOT/City partnership

NEW CONNECTIONS “MEDIUM TO LONG TERM PROJECTS”

These projects include new connections to provide alternative routes of travel and additional capacity for movement around the local area.

Medium Term Projects Overview

- Congestion challenges are primarily due to lack of access between major roads in the northeast and southwest quadrants of the local area



What's Included?

- Roadway Construction cost
- Bridges over floodplains
- Right-of-Way Acquisition (where needed)
- Turn lanes at major intersections
- Engineering design costs
- New traffic signals at end points and major intersections

Mulberry Extension

✓ Project Details

- Length: 1.65 miles
- Cost: \$7.9 Million
- Anticipated Daily Traffic: 6,700 vehicles

✓ Anticipated Benefits

- Relief on Main between Olive and Llano – reduced right turns
- Relief on Llano between Main and Mulberry – reduced left turns

✓ Benefit / Cost Ratio: 3.8

✓ Anticipated Posted Speed: 30 mph



Frederick Extension

✓ Project Details

- Length: 2.47 miles
- Cost: \$17 Million
- Anticipated Daily Traffic: 6,000 vehicles

✓ Anticipated Benefits

- Similar benefit to Mulberry, but less attractive to destinations closer in
- Additional relief at Main and Highway / Goehmann

✓ Benefit / Cost Ratio: 1.8

✓ Anticipated Posted Speed: 40 mph



Post Oak Extension

✓ Project Details

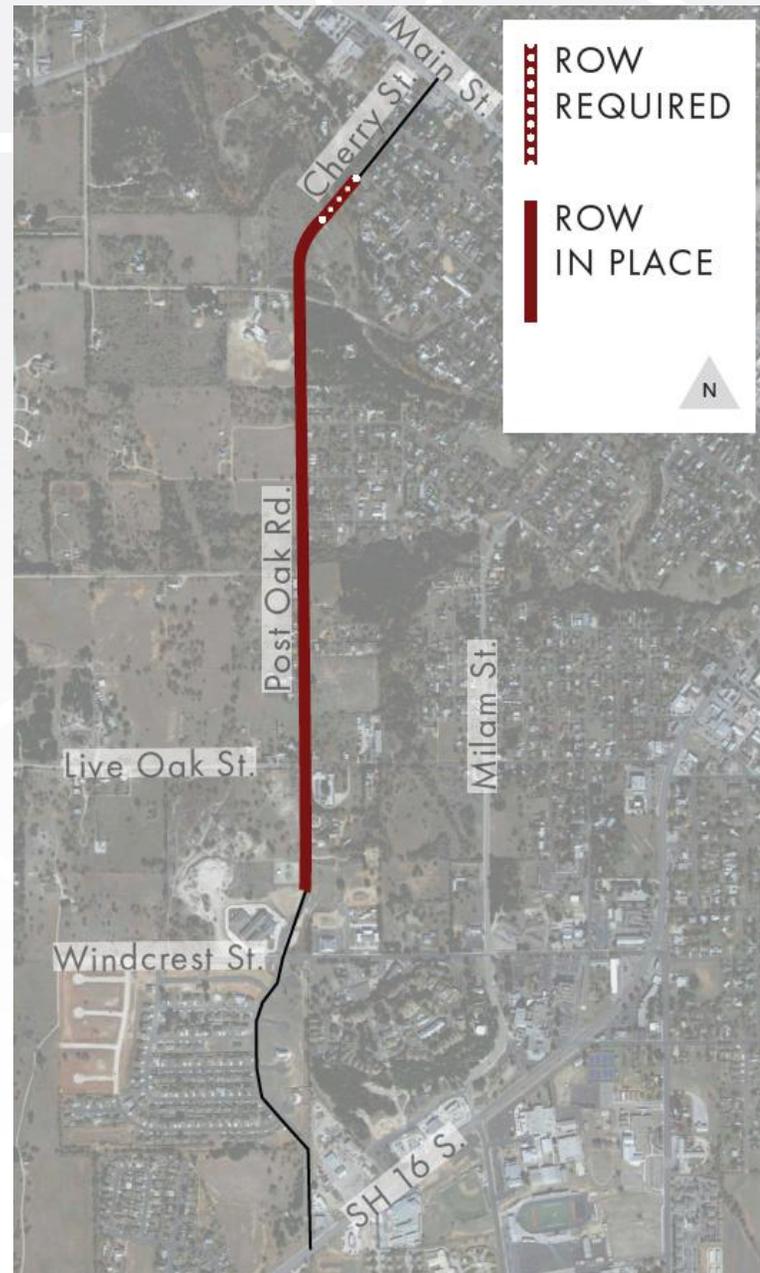
- Length: 1.13 miles
- Cost: \$7.2 Million
- Anticipated Daily Traffic: 6,700 – 8,800 vehicles (*includes existing traffic*)

✓ Anticipated Benefits

- Movement of people from Milam and SH 16 / Adams St to use Post Oak Rd

✓ Benefit / Cost Ratio: 3.9

✓ Anticipated Posted Speed: 30 mph



Inner Loop

✓ Project Details

- Length: 3.8 miles*
- Cost: \$21 Million
- Anticipated Daily Traffic: 5,700 vehicles

✓ Anticipated Benefits

- Through traffic on Main reduced to use this route (Friendship + Inner Loop)
- Some reductions on Washington and Adams headed into downtown

✓ Benefit / Cost Ratio: 1.6

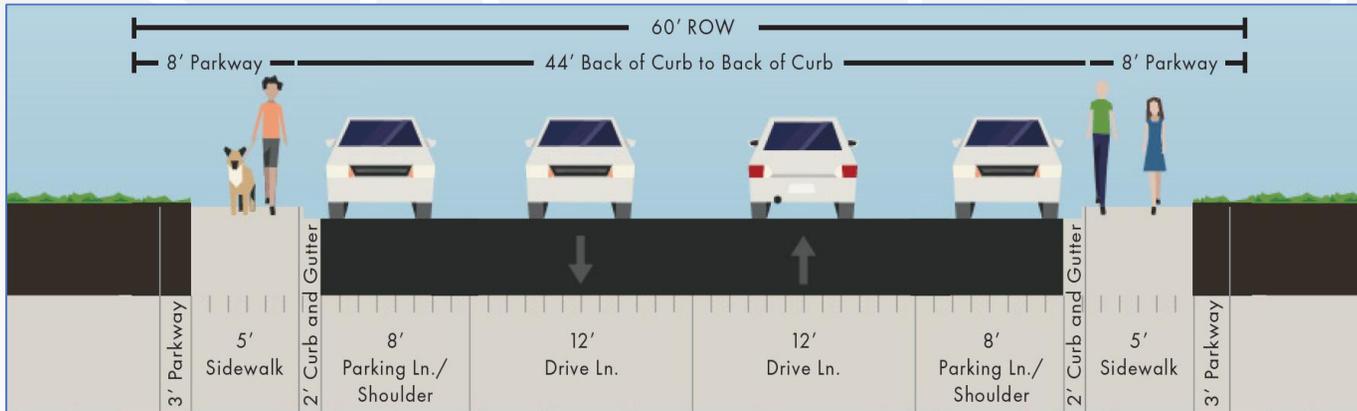
✓ Anticipated Posted Speed: 40 mph

*Including Friendship Ln to US 290 = 6.7 miles



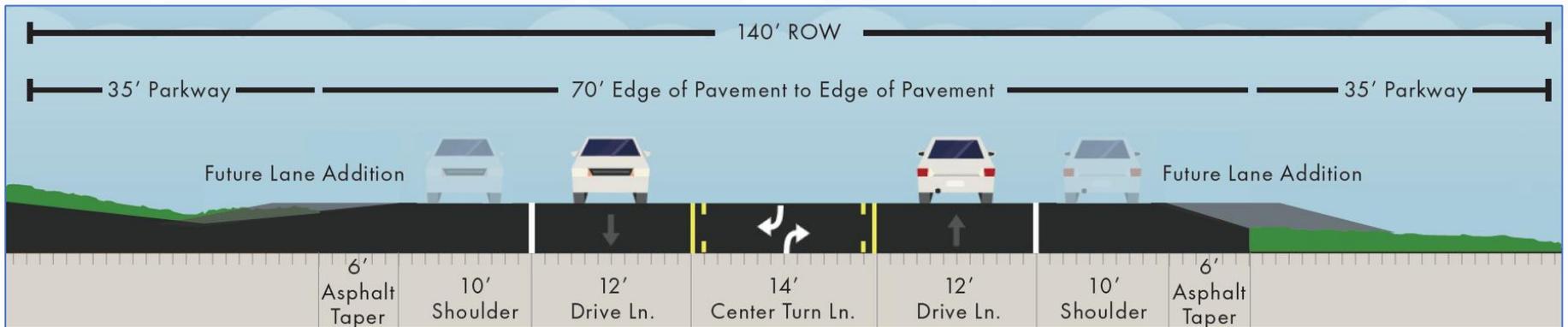
Roadway Sections

Collectors: Mulberry and Post Oak Extensions



Number of Lanes Adequate for 20 year anticipated volumes (2040)

Arterials: Frederick and Inner Loop Extensions



Note: Sidewalks in future by development.

Medium Term Summary

- ✓ Medium term projects provide longer lasting congestion relief
- ✓ Project costs are calculated as “all-in” to cover all associated costs with getting a completed project
- ✓ Inner Loop and Frederick have excess capacity and are planned to serve future growth in northeast and southwest quadrants
- ✓ Medium term project benefit/cost ratios assume all intersection projects are completed – both are needed
- ✓ Medium term projects could be accomplished through funding partnerships

RECOMMENDED PROJECT PACKAGES

Recommendations – Short Term

✓ Short Term Projects

- Recommend completing all operational improvements
- Recommend completing safety improvements as feasible and in coordination with TxDOT
- Lower cost improvements (<\$20,000) may be incorporated as part of annual CIP
- Some striping and signal improvements may be completed as part of larger programs by other agencies

Recommendations – Medium Term

- ✓ Budget-based approach (assumes intersection projects all completed):
 1. <\$10 Million:
 - Preferred: Post Oak Extension
 - Alternate: Mulberry Extension
 2. \$10 Million - \$20 Million:
 - Preferred: Post Oak and Mulberry
 - Alternative: Frederick Only
 3. \$20 Million - \$30 Million:
 - Preferred: Post Oak and Frederick
 - Alternate: Inner Loop and Mulberry

NEXT STEPS

Next Steps

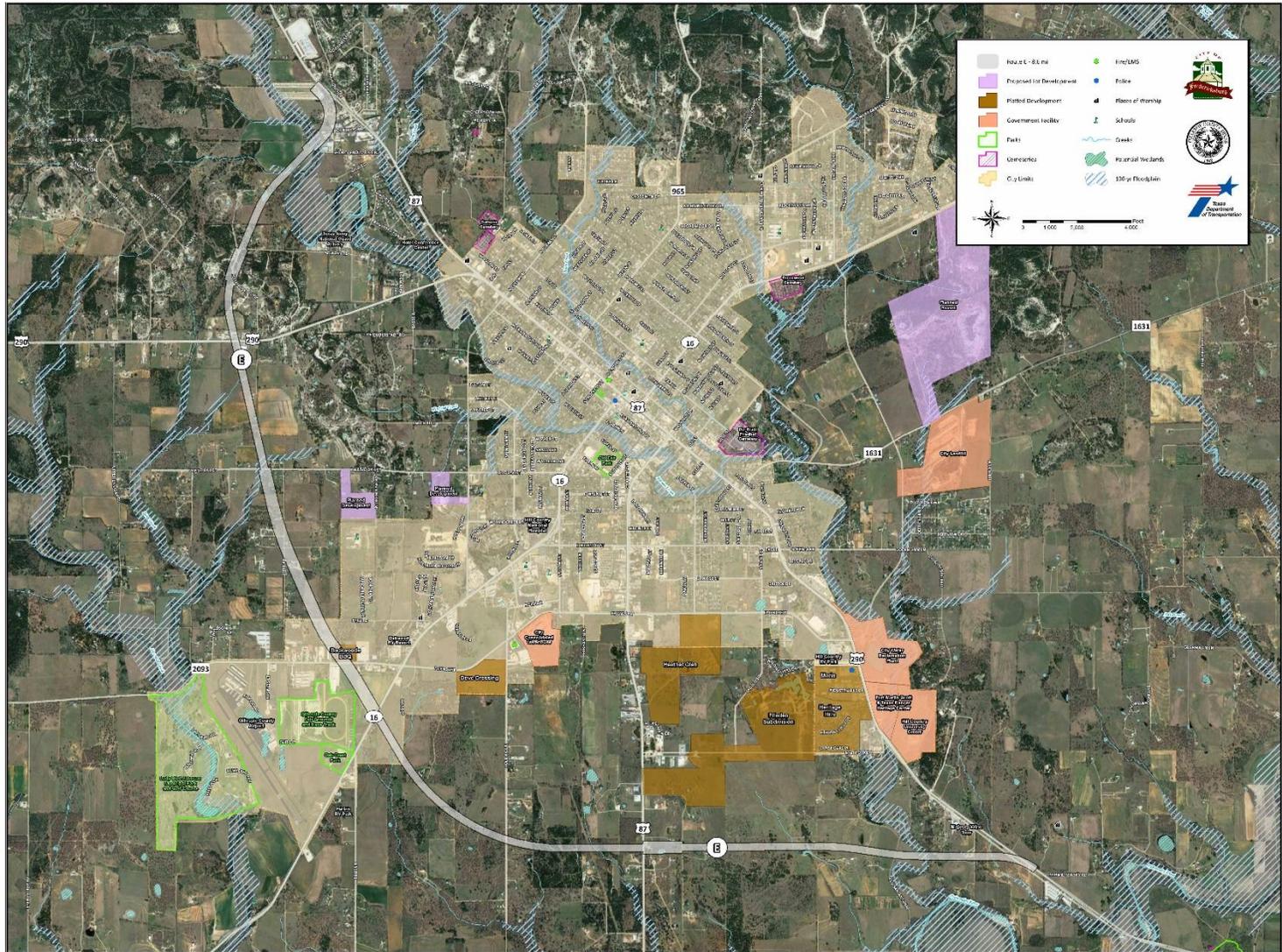
- ✓ Present and discuss preliminary findings at joint meeting of City and County (today – February 28th)
- ✓ Present final draft of report to City Council for discussion
- ✓ Further steps / decisions – next slide

Upcoming Decisions

- ✓ Projects to Pursue
 - Target Range for total cost?
 - Which projects now vs. later?
- ✓ Notes from previous slides
 - Short term projects are not a long term solution
 - Eventually will need arterials further from downtown
- ✓ Weighing technical benefit / cost with community feedback
- ✓ Coordination between agencies

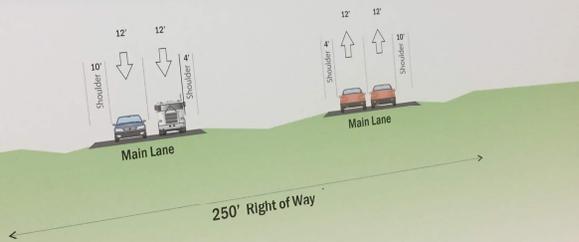
TxDOT Relief Route and Inner Loop Discussion

Technically Preferred Route Option



Fredericksburg Relief Route Study

Conceptual Layout without Frontage Roads



Fredericksburg Relief Route Study

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Conceptual Layout with Two Frontage Roads



Fredericksburg Relief Route Study

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Conceptual Layout with One Frontage Road



1-14 Open House Right-of-Way Options:

- ✓ 250' to 400' Right-of-Way
- ✓ 2 to 4 separate pavement sections
- ✓ Frontage Roads with main lanes included in anticipation of controlled access (likely grade separated at some intersections for free flow)

TxDOT
"Technically Preferred"
Relief Route

Inner Loop vs. Relief Route Alignment



FREDERICKSBURG
TRANSPORTATION PROJECTS STUDY

Inner Loop Alignment
Subject to Change

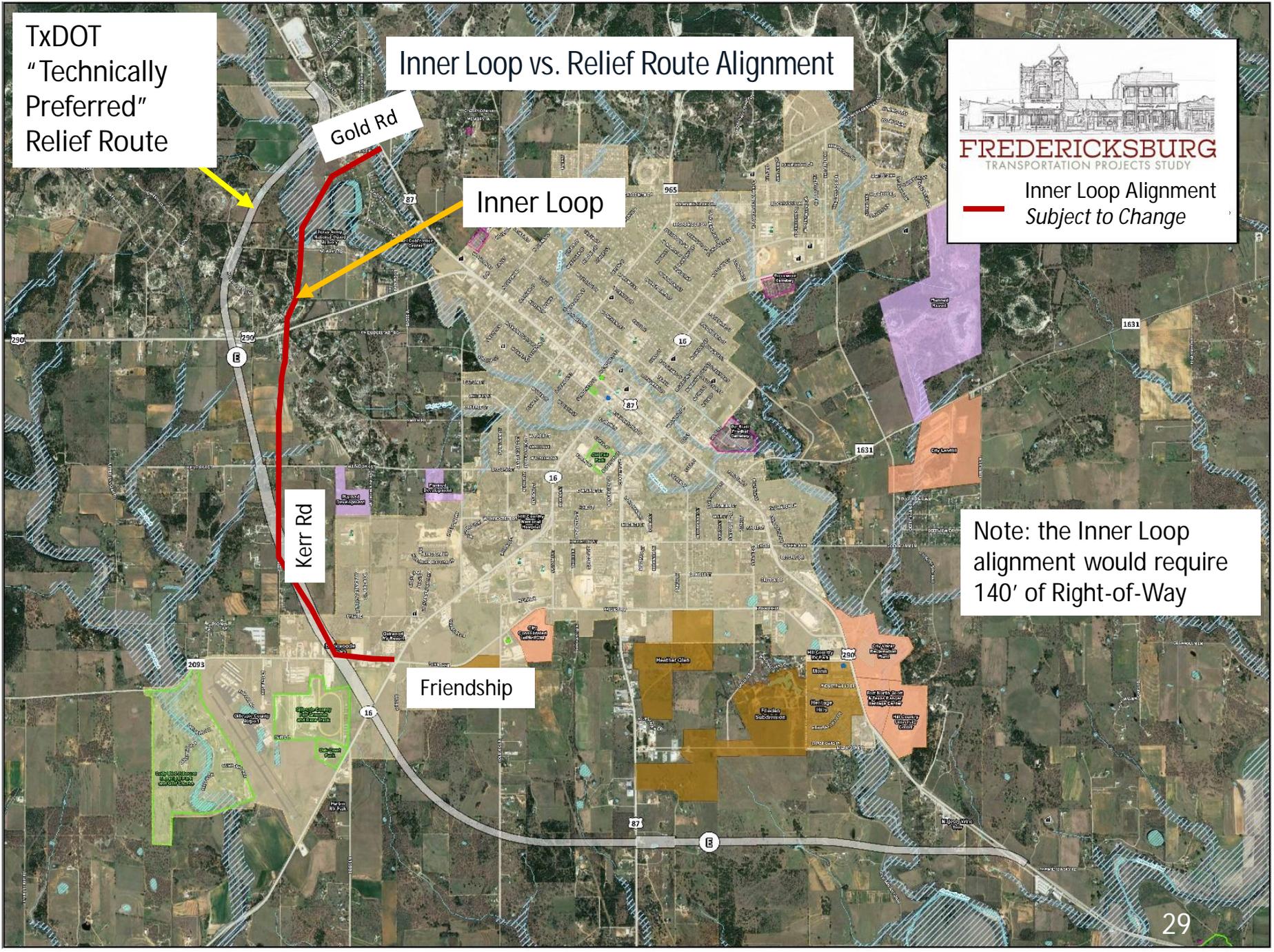
Gold Rd

Inner Loop

Kerr Rd

Friendship

Note: the Inner Loop alignment would require 140' of Right-of-Way



Note: "R.O.W." =
"Right-of-Way"

Route Comparisons

TxDOT Relief Route

- 250' to 400' R.O.W.
 - Mostly new R.O.W.
- Anticipated posted speeds of 60 mph +
- 8.6 mile length
- ~\$250 Million
- Designed to handle truck traffic

Inner Loop

- 140' R.O.W.
 - Leverages existing R.O.W.
- Anticipated posted speed of 40 mph
- 6.7 mile length*
- ~\$21 Million**
- Designed for local traffic with some trucks***

*Includes 2.9 Miles from Friendship Ln

** City cannot fund alone – will require partnerships

*** Cannot handle permit loads or sign as a "truck route"