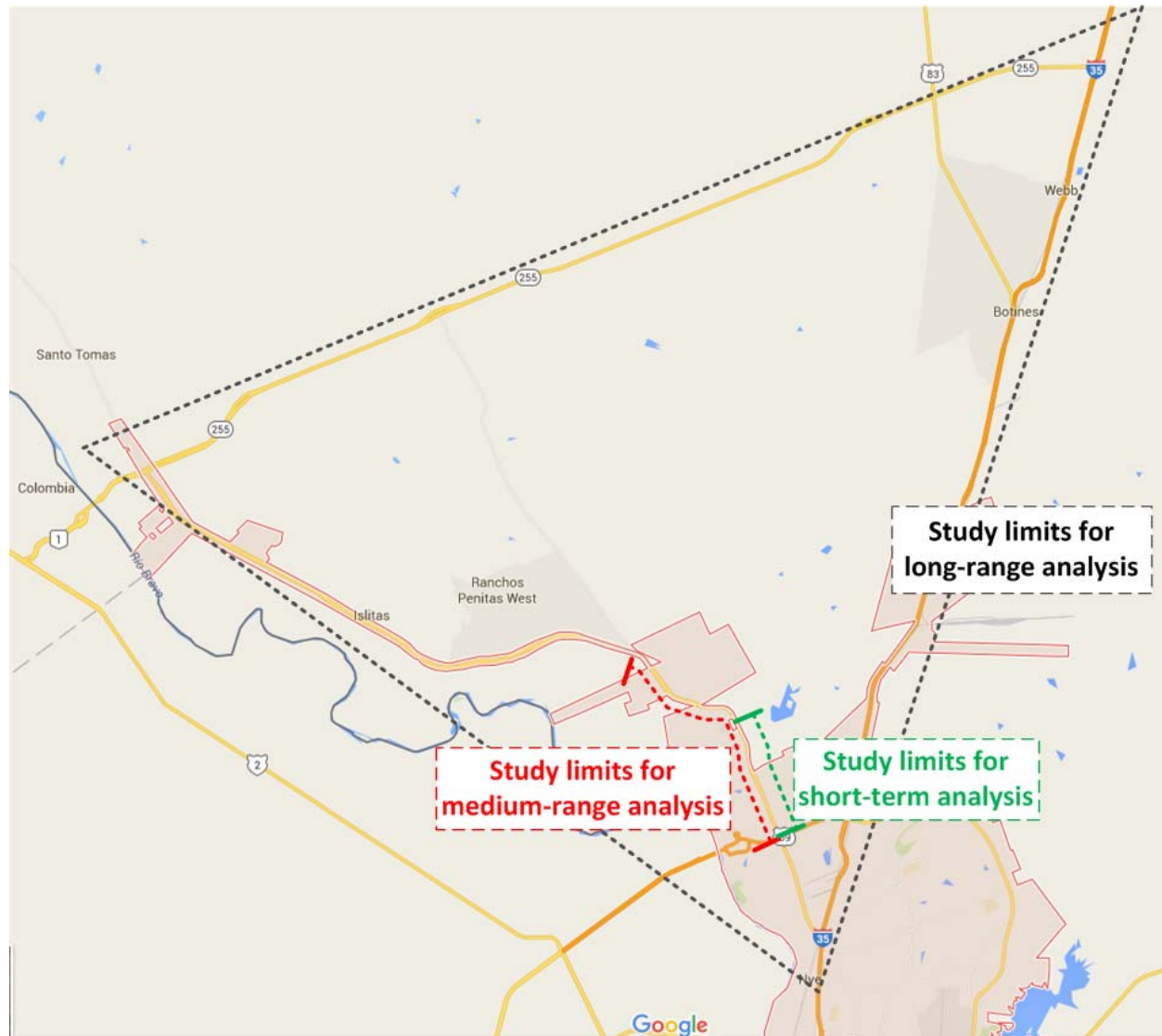


LAREDO PLANNING

FM 1472 IMPROVEMENT STRATEGY ANALYSIS

Scope of FM 1472 Strategy Analysis



Medium-Range Strategy Analysis

- Examples of candidate medium-range strategies
 - No new right-of-way
 - Add through, left-, or right-turn lanes that require new pavement
 - New truck U-turns within existing right-of-way
 - New acceleration and deceleration lanes for right-turn movements
 - Consolidate and/or redesign driveways

Analysis Approach

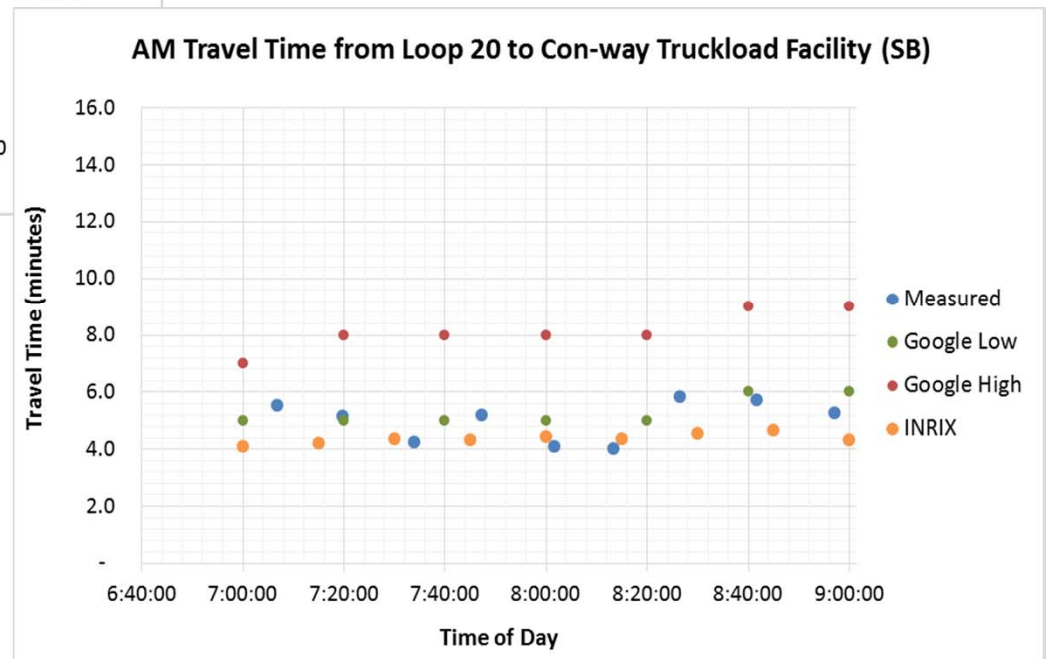
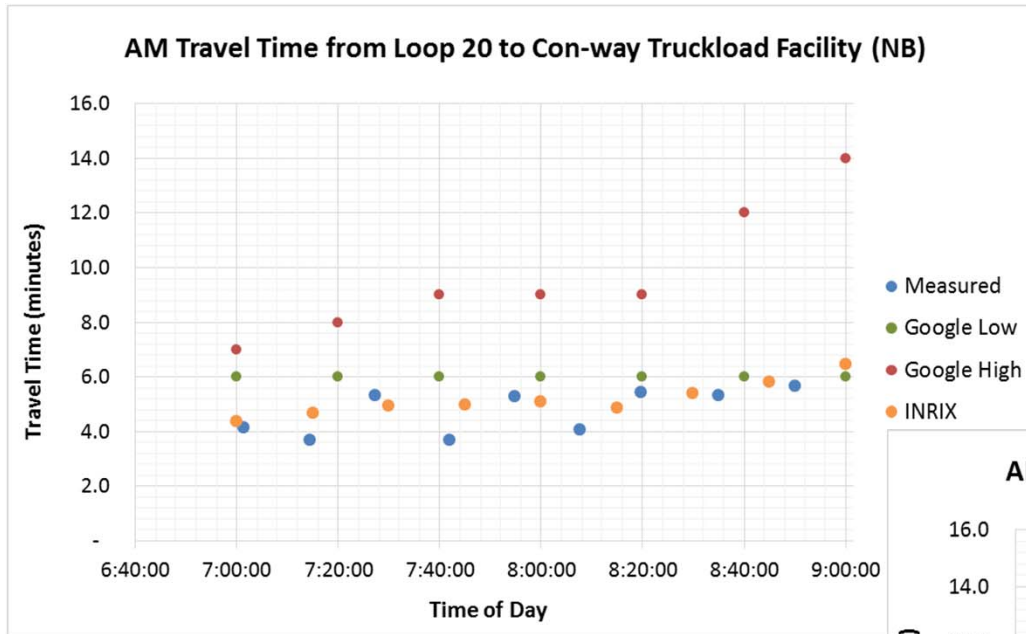


- Conduct simulation experiments to test and evaluate medium-range strategies
- Implement strategies on top of recommended short-term strategies
- Focus on corridor mobility rather than performance of each individual intersection

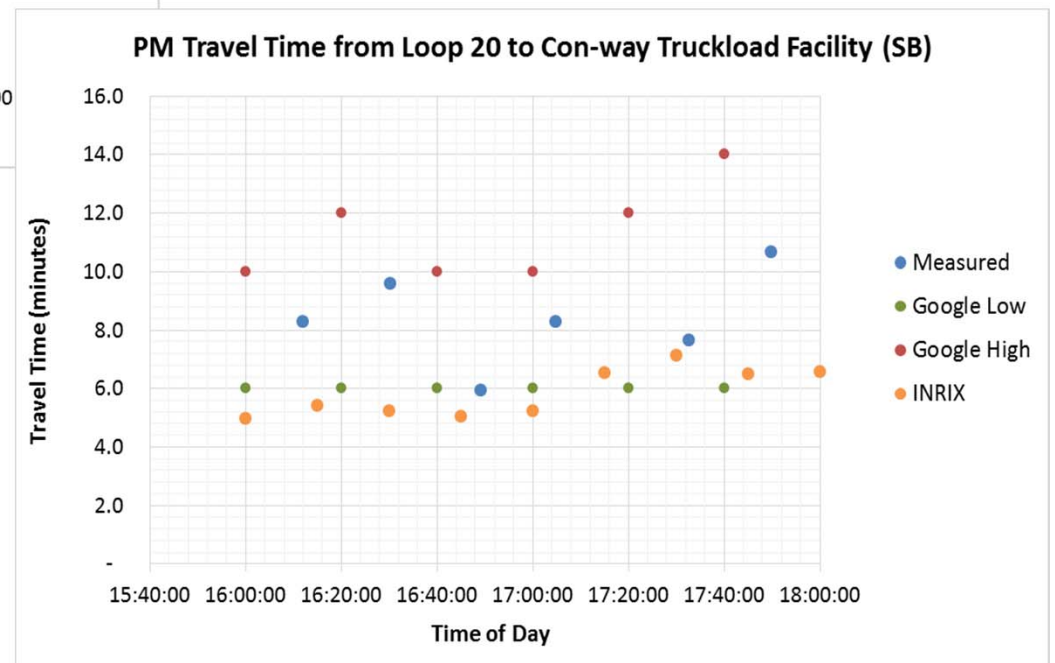
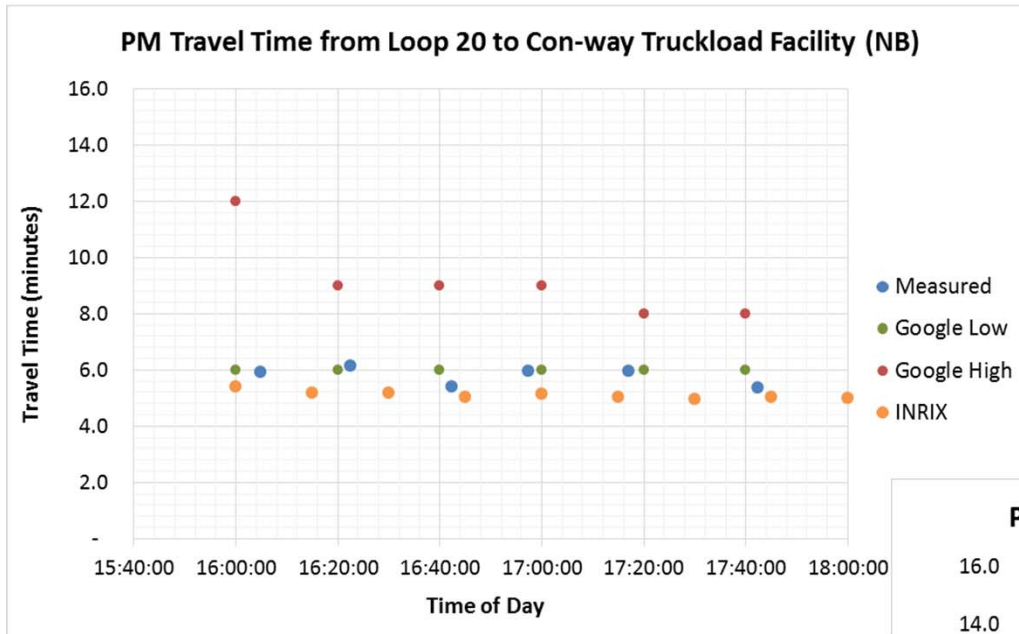
Simulation Model Calibration

- Traffic Data
 - ✓ Traffic movement counts (collected September 2014 and March 2015)
 - ✓ Existing signal timing plans
- Travel Time Data
 - ✓ Travel time runs (conducted in June 2015)
 - ✓ Google travel time
 - ✓ INRIX speed data (used to derive travel time)

Travel Time for Morning Peak



Travel Time for Afternoon Peak

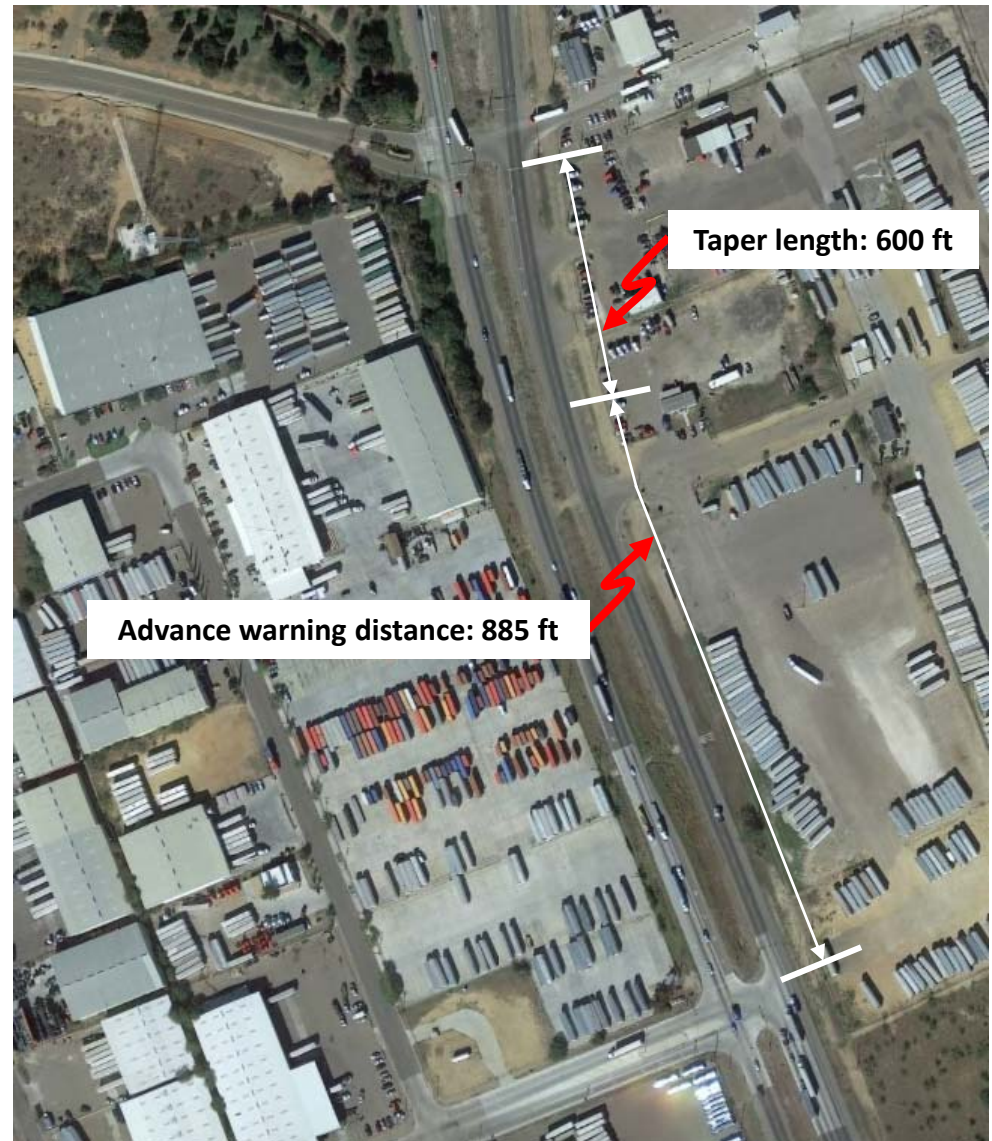


Simulation Scenarios

Scenario No.	Description
-1	<ul style="list-style-type: none">Existing conditions
0	<ul style="list-style-type: none">Implement all recommended short-term strategies
1	<ul style="list-style-type: none">Scenario 0 plus third NB through lane between Killam Industrial Boulevard and Interamerica Boulevard
2	<ul style="list-style-type: none">Scenario 1 plus expansion of Killam intersection:<ol style="list-style-type: none">Provide dual WB to SB left-turn lanesProvide WB to NB free right-turn laneProvide dual SB to EB left-turn lanesProvide SB to WB free right-turn laneProvide EB to NB dual left-turn laneProvide dual NB to WB left-turn lanes.Optimize signal timing and phasing at Killam intersection

Taper of 3rd NB Lane after Interamerica

- Taper of 3rd NB lane after Interamerica would end at AF Muller
taper length
+ advance warning dist.
= 1485 ft
- Taper 3rd NB lane after Muller



Simulation Scenarios (cont'd)

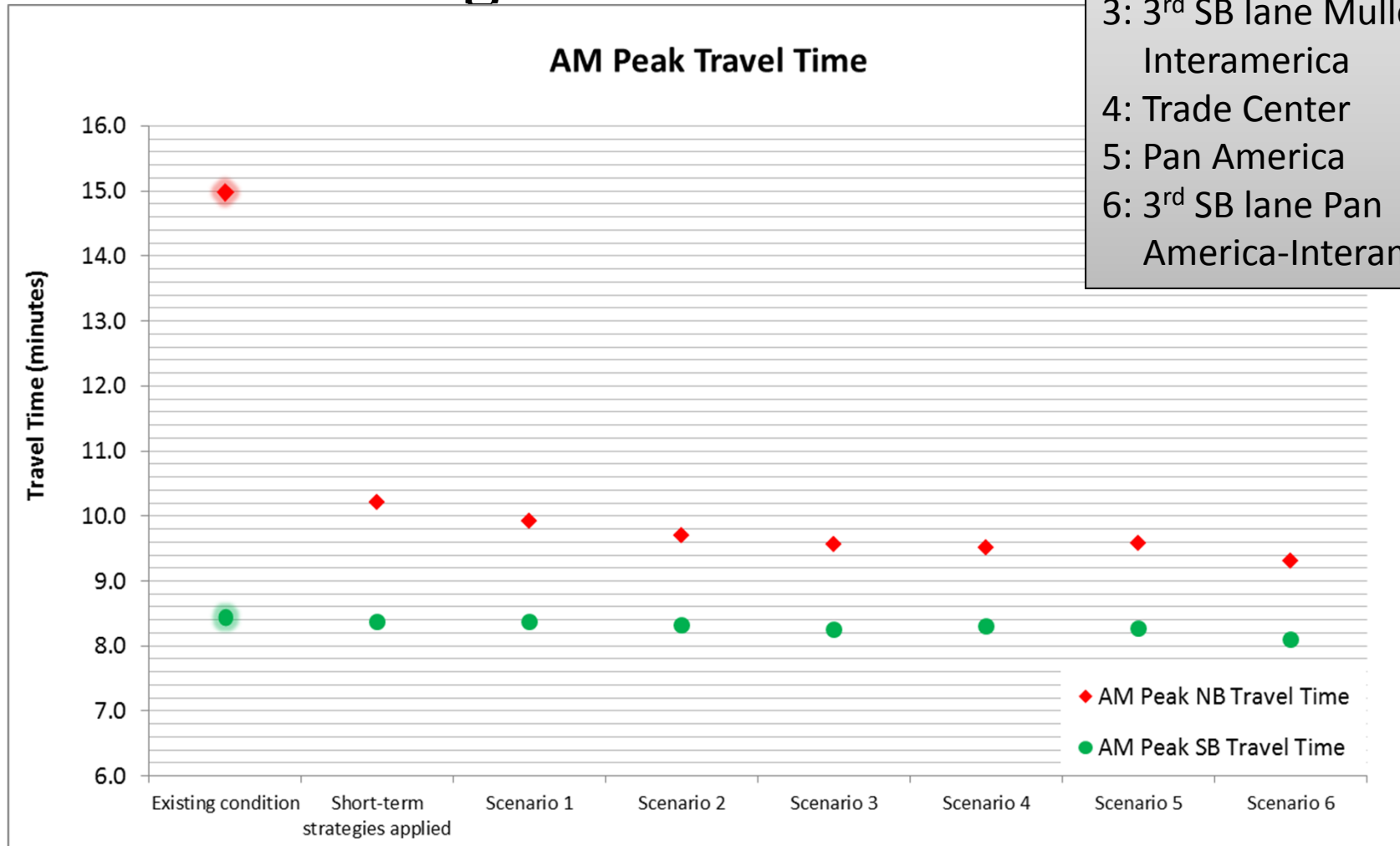
Scenario No.	Description
3	<ul style="list-style-type: none"> • Scenario 2 improvements • Add third SB through lane between A F Muller Boulevard and Interamerica Boulevard • Dual EB to SB right-turn lanes at Interamerica • Optimize signal timing and phasing at Interamerica
4	<ul style="list-style-type: none"> • Scenario 3 improvements • Extend NB to WB left-turn bay at Trade Center intersection • Provide dual EB to SB right-turn lanes at Trade Center • Optimize signal timing and phasing at Trade Center
5	<ul style="list-style-type: none"> • Scenario 4 improvements • Extend NB to WB left-turn bay at Pan America intersection • Dual EB to SB right-turn lanes at Pan America • Optimize signal timing and phasing at Pan America

Simulation Scenarios (cont'd)

Implementation Scenario	Description
6	<ul style="list-style-type: none">• Scenario 5 improvements• Add third SB through lane between Pan America and Interamerica• Optimize signal timing and phasing at Trade Center, A F Muller, and Interamerica

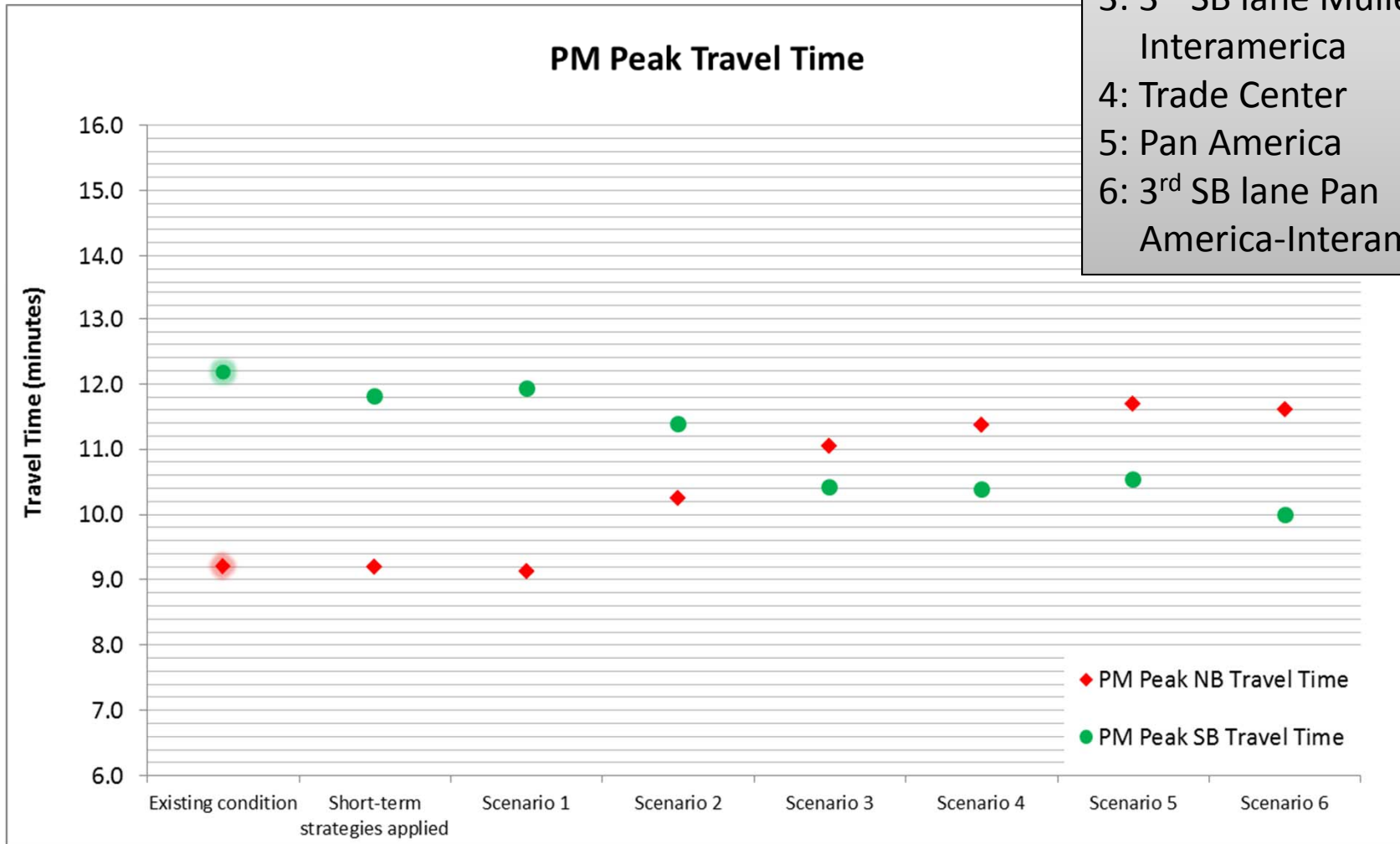
Simulation Results – Morning Travel Time

- 1: 3rd NB lane Killam-Interamerica
- 2: Killam improvements
- 3: 3rd SB lane Muller-Interamerica
- 4: Trade Center
- 5: Pan America
- 6: 3rd SB lane Pan America-Interamerica



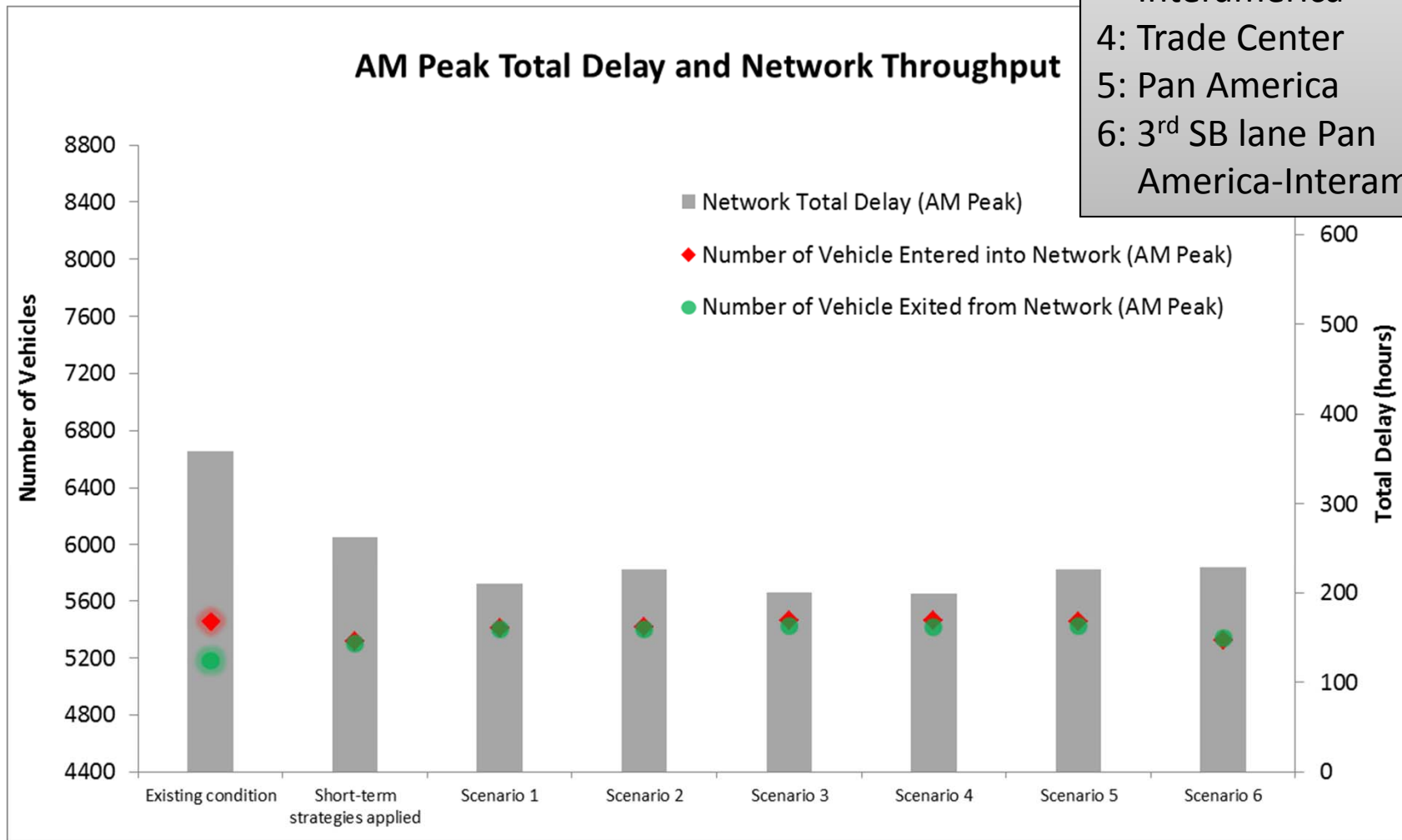
Simulation Results – Afternoon Travel Time

- 1: 3rd NB lane Killam-Interamerica
- 2: Killam improvements
- 3: 3rd SB lane Muller-Interamerica
- 4: Trade Center
- 5: Pan America
- 6: 3rd SB lane Pan America-Interamerica



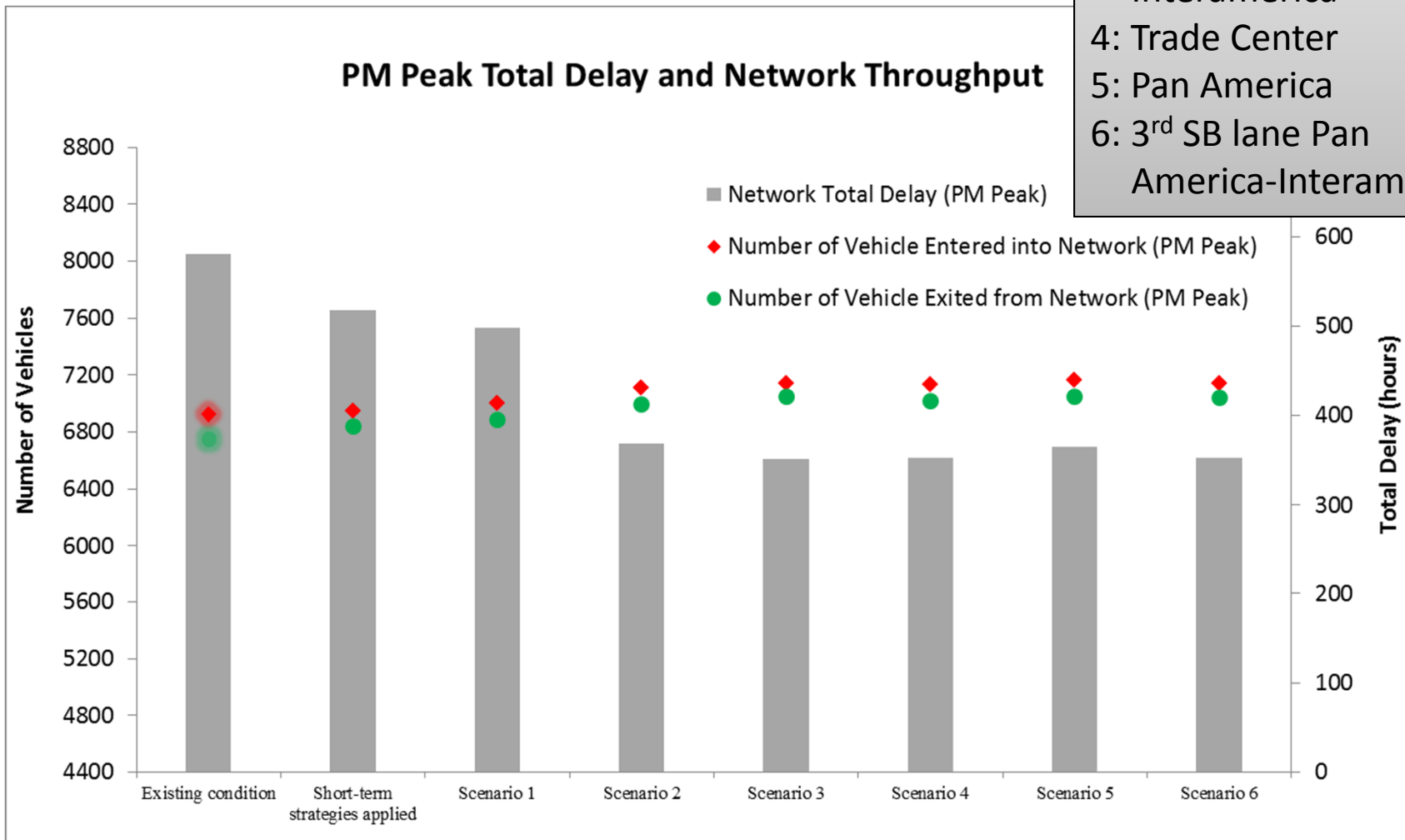
Simulation Results – Network Measures (Morning Peak)

- 1: 3rd NB lane Killam-Interamerica
- 2: Killam improvements
- 3: 3rd SB lane Muller-Interamerica
- 4: Trade Center
- 5: Pan America
- 6: 3rd SB lane Pan America-Interamerica



Simulation Results – Network Measures (Afternoon Peak)

- 1: 3rd NB lane Killam-Interamerica
- 2: Killam improvements
- 3: 3rd SB lane Muller-Interamerica
- 4: Trade Center
- 5: Pan America
- 6: 3rd SB lane Pan America-Interamerica



Conclusions

- Add third northbound through lane between Killam and Interamerica, taper after Muller
- Improve Killam intersection
- Add third southbound through lane between A F Muller and Interamerica
- Provide dual eastbound to southbound right-turn lanes at the Interamerica
- Optimize signal timing and phasing at all intersections with changes

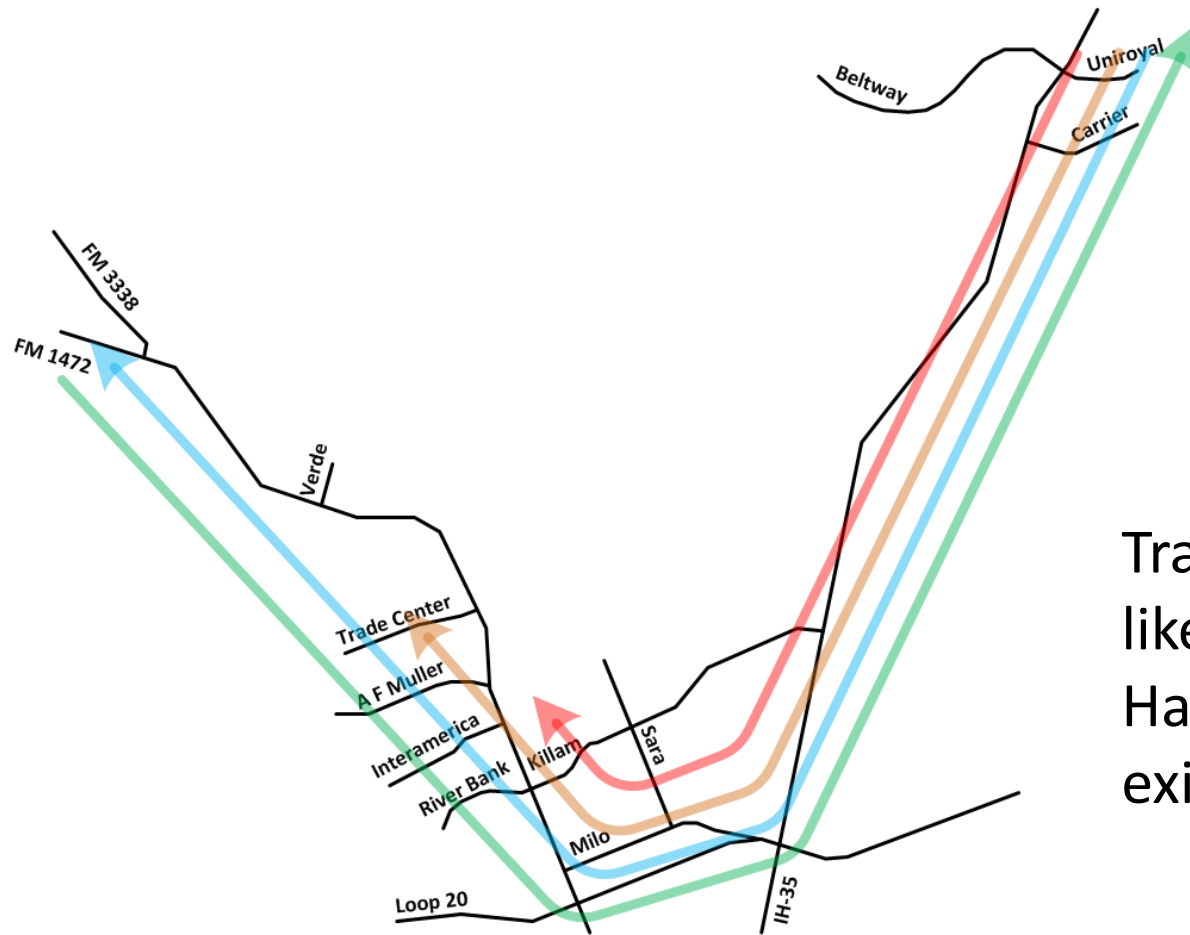
Conclusions (cont'd)

- Review of left-turn bay length based on TxDOT *Roadway Design Manual*
 - At Trade Center, extend NB to WB left-turn bay to 975 ft (including storage, deceleration, and taper length)
 - At Pan America, extend NB to WB left-turn bay to 1133 ft (including storage, deceleration, and taper length)

Supplemental Analysis

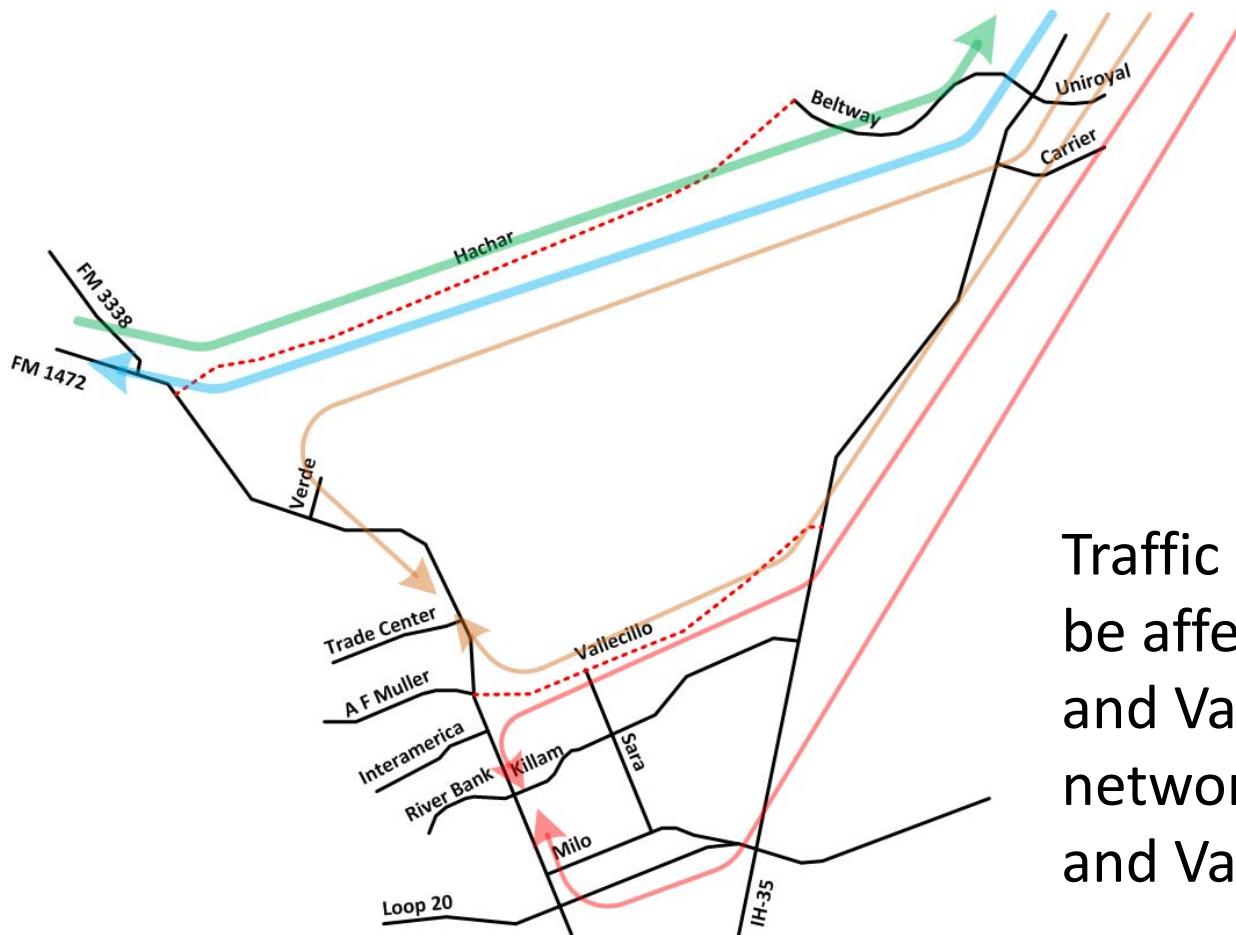
- Hachar Parkway and Vallecillo Road will likely be constructed in next two to three years
- Analyze potential benefits to help mitigate congestion on FM 1472 (2018 and 2038)
- Consider various scenarios, including only one road is built (Hachar or Vallecillo) and both roads are built
- Use simulation approach

Supplemental Analysis to Medium-Range Strategies



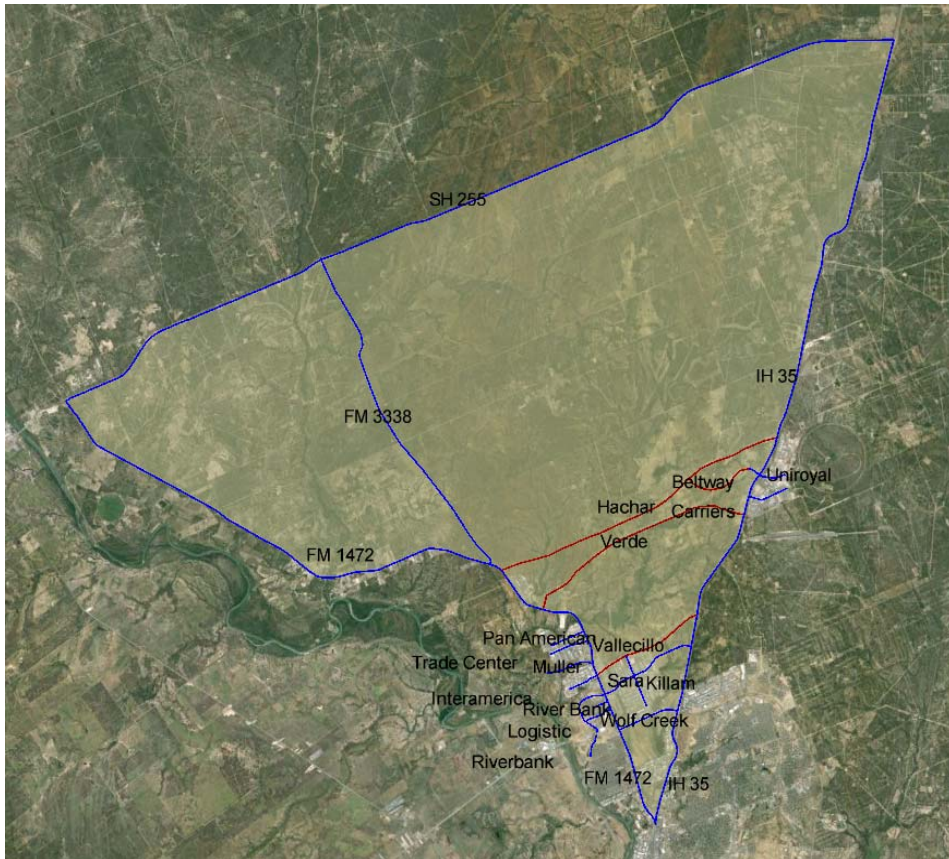
Traffic streams that will likely be affected by adding Hachar and Vallecillo, in the existing network.

Supplemental Analysis to Medium-Range Strategies



Traffic streams that will likely be affected by adding Hachar and Vallecillo, in the future network with both Hachar and Vallecillo are built.

Upcoming Efforts – Long-Range Strategies Analysis



Locations of Current and Future Roadways Influencing the Long-Range Study Area

The long-range strategies consider the area from SH 255, FM 1472, and IH 35.

The analysis covers several proposed arterials, which are expected to improve overall traffic circulation and mobility in the study area.

Anticipated completion:
beginning of December, 2015.