



Bear Creek Parkway

Intersection Improvements

August 6, 2019

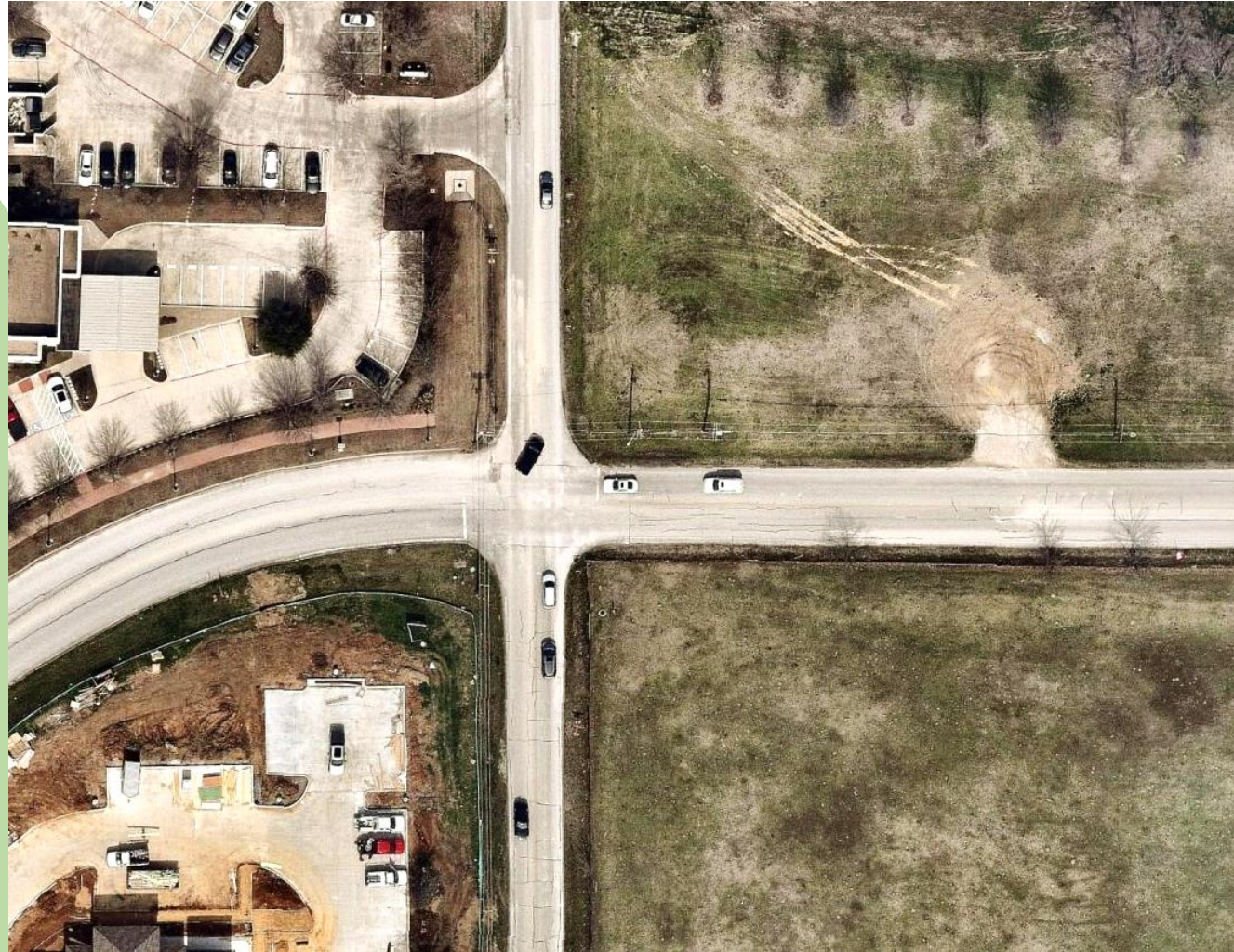
Discussion Topics

- Intersection Control Options
 - Leave As Is
 - Traffic Signal
 - Roundabout
- Option Comparisons
 - Operations
 - Pavement Coverage
 - Right of Way Needs
 - Estimated Cost
 - Enhancement Opportunities



Intersection Control Options

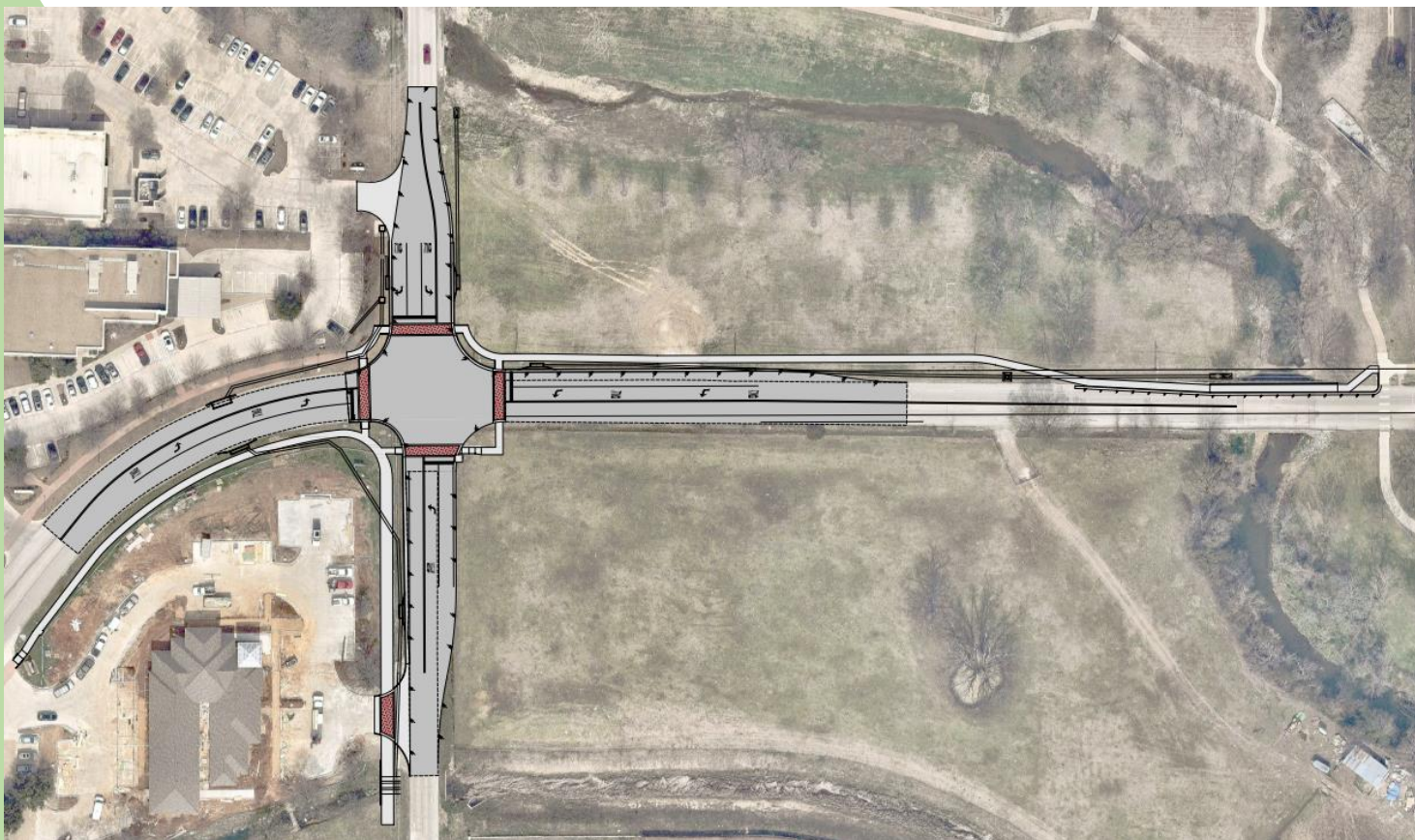




Existing Configuration

- Single Lane in All Directions

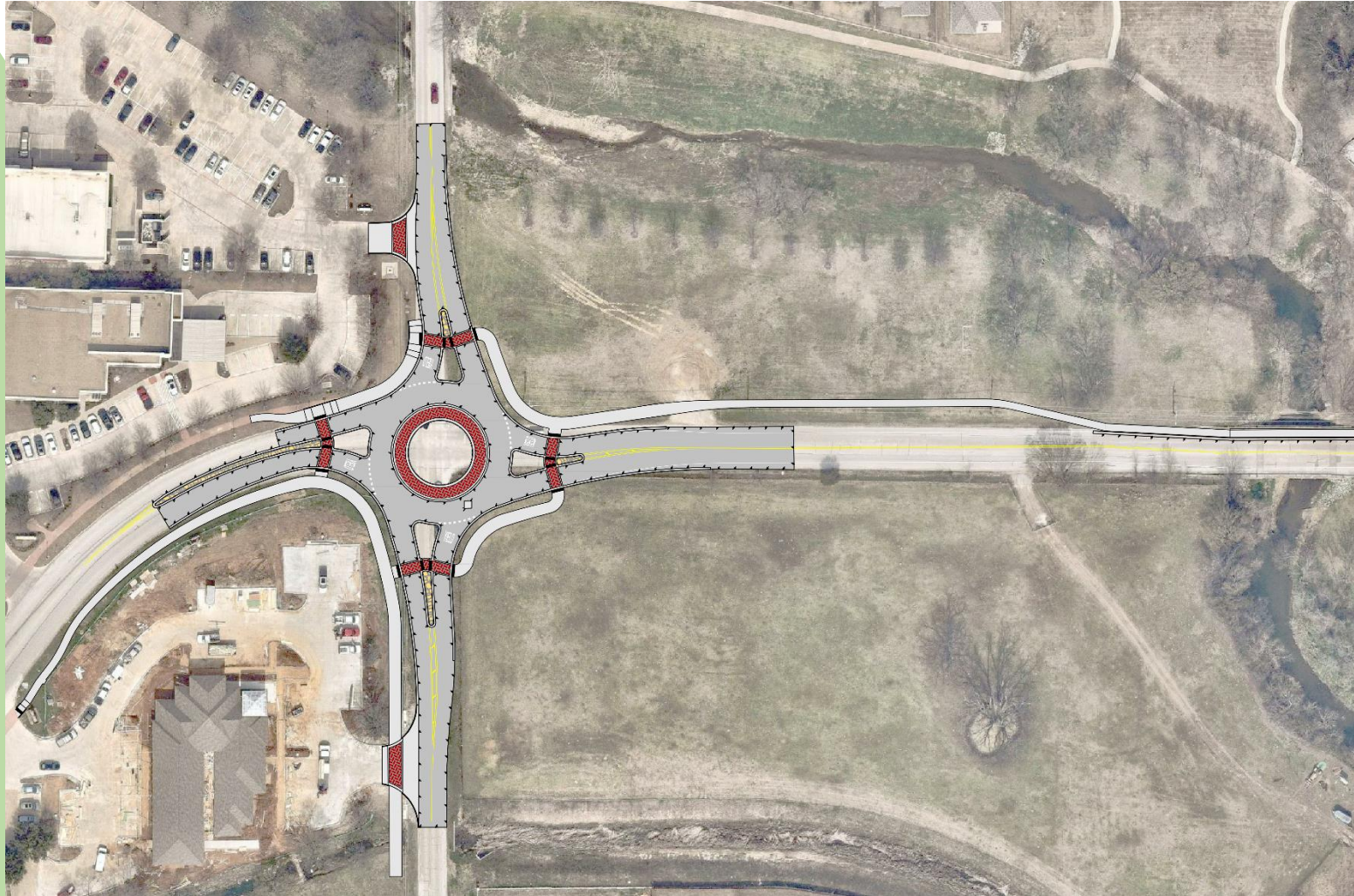




Signalized Intersection

- SB Approach
 - Right Turn, Through, Left Turn
- EB Approach
 - Through/Right Turn, Left Turn
- NB Approach
 - Through/Right Turn, Left Turn
- WB Approach
 - Through/Right Turn, Left Turn





Roundabout

- Single Lane for All Approaches

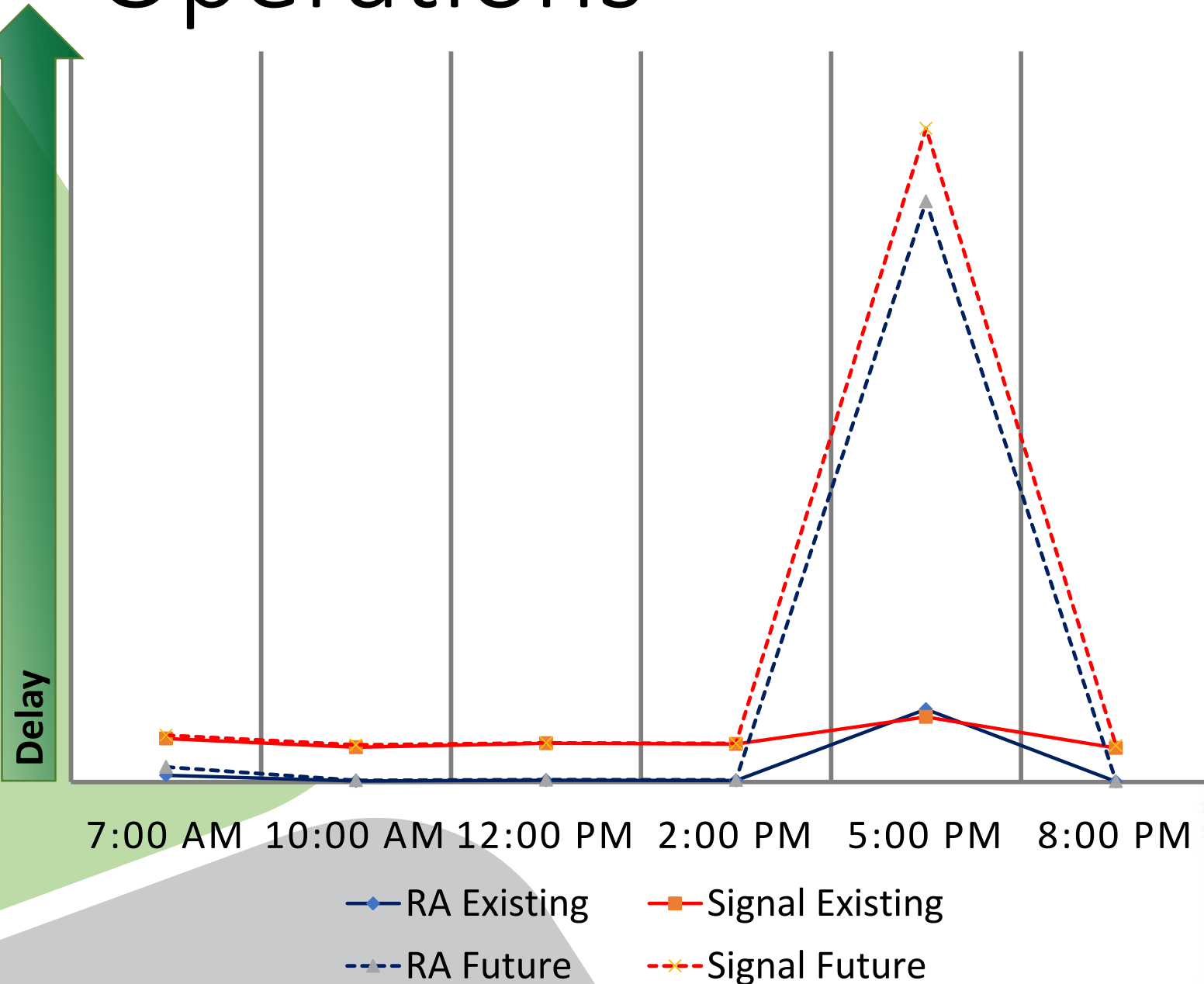


Intersection Option Comparison

- Operations
- Paving Coverage
- ROW Needs
- Probable Costs
- Enhancement Opportunities



Operations



Existing

- RA Reduces Avg Delay by 10 sec/veh
- PM Peak Delay is 3 sec higher for RA

Future

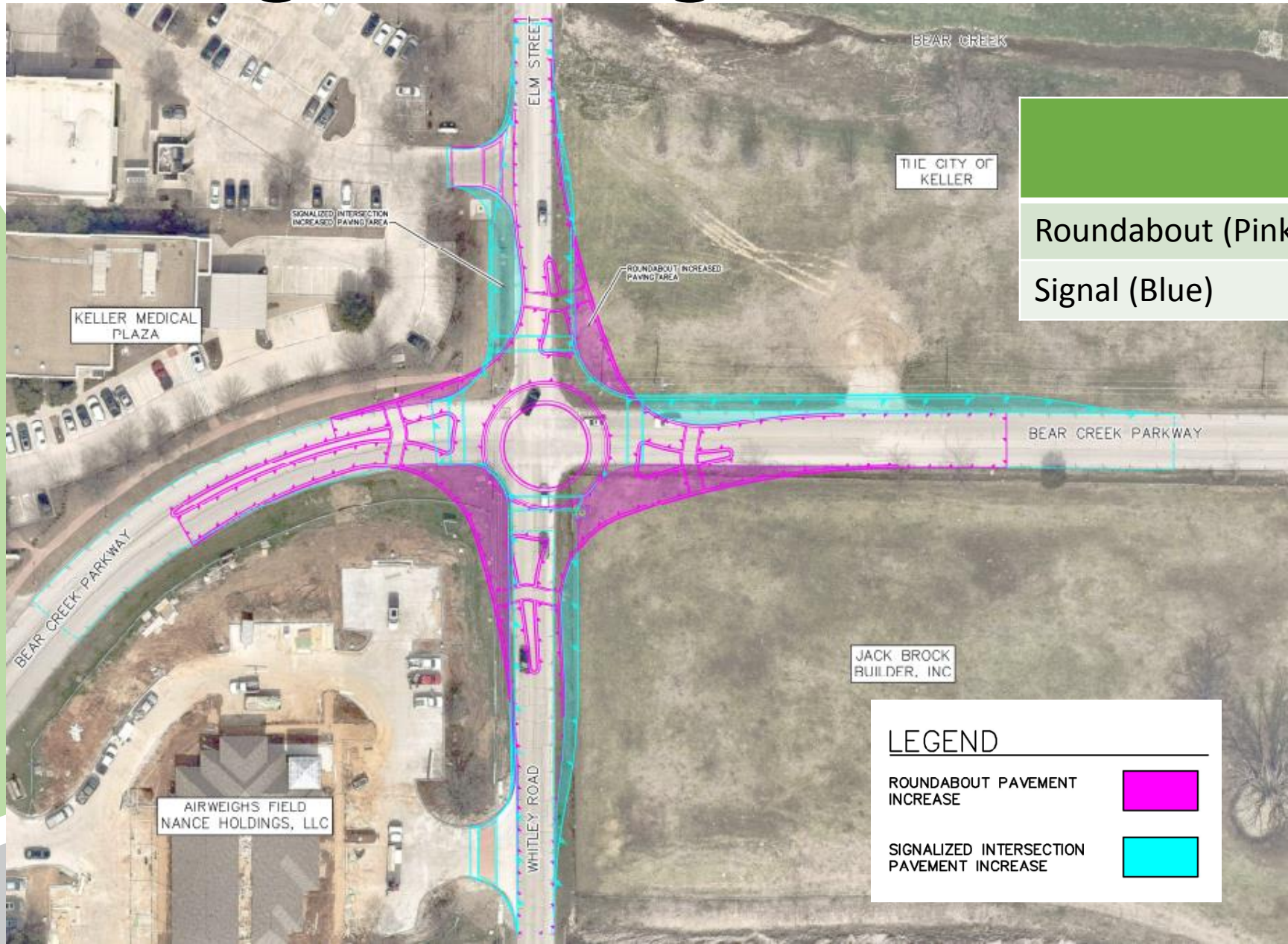
- RA Reduces Avg Delay by 14 sec/veh
- PM Peak Delay is 25 sec higher for Signal



Operation Comparison Summary

	Roundabout	Signal
Queue Between US 377 and Elm Street	Neither creates a queuing issue between US 377 and Elm Street.	
SB Queue at Elm Street AM and Off-Peak	✓ Provides the shortest queue	-
SB Queue at Elm Street PM Peak	-	✓ Provides the shortest queue
Existing LOS / Delay	There is a marginal difference in delay (3 seconds)	
Horizon LOS / Delay	✓ Provides a reduction in delay of 25 seconds	

Paving Coverage



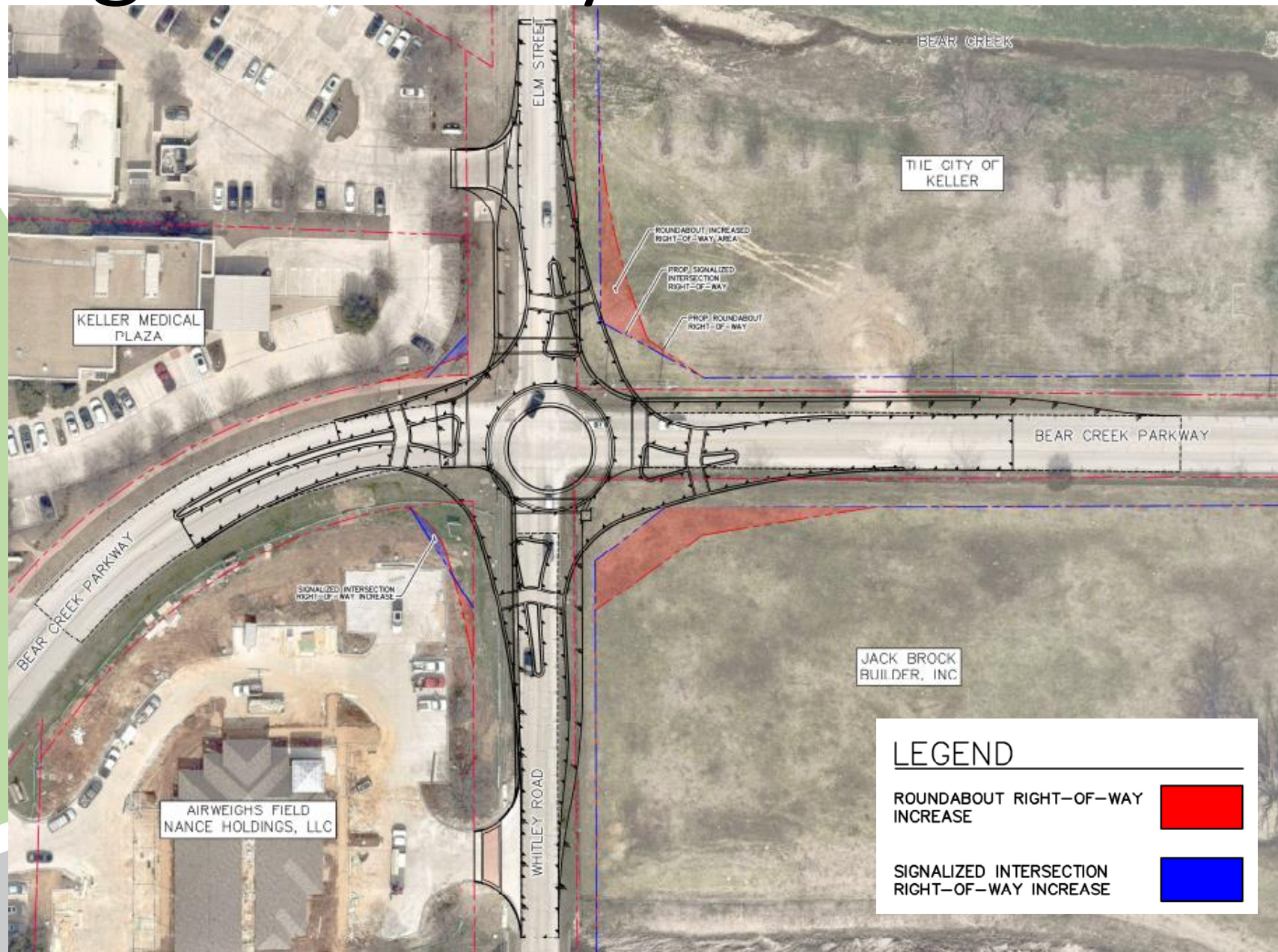
	Total Footprint	Difference
Roundabout (Pink)	6,840 SF	Equal
Signal (Blue)	6,840 SF	Equal

LEGEND

ROUNDABOUT PAVEMENT INCREASE

SIGNALIZED INTERSECTION PAVEMENT INCREASE

Right Of Way Needs



Existing ROW = 45,350sf

RA ROW Needs = 50,000sf

Signal ROW Needs= 45,750sf

	Additional ROW Needs
Roundabout (Red)	4,651 SF
Signal (Blue)	401 SF



Opinion of Probable Costs

Options	Opinion of Construction Cost (OPCC)
Roundabout	\$2,154,000
Signal	\$1,918,000
Total Difference	Signal is \$236,000 Less Than Roundabout

Notes:

1. Does not include ROW Costs
2. Based on preliminary design and includes a 15% contingency
3. Does not include inflation



Enhancement Opportunities

	Roundabout	Signal
Central Island Landscaping	✓	✗
Median Landscaping	✓	✗
Gateway Feature	✓	✗
Stamped/Stained Crosswalks	✓	✓
Sidewalk Connectivity	✓	✓



Old Town Phase II Connectivity



Walkway Overlooking Bear Creek



Bates Street Looking West



Olive Street Looking West



Elm Street Looking South



Option Comparison Summary

	Roundabout	Signal
Operations	Future Traffic	Current Traffic
Pavement Coverage	6,840 sf	6,840 sf
ROW Needs	50,000 sf	45,750 sf <i>8.5% Less Need</i>
Opinion of Construction Cost*	\$2,154,000	\$1,918,000 <i>11% Less</i>
Enhancements Opportunities	Central Island & Median	-

*Current budget is \$925,000



Next Steps

- Choice of Intersection Control
- Budget Amendment
- Final Design



Questions?

