

# **Bear Creek Parkway & Whitley Roundabout**

## **Project Update & Construction Award**

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September 21, 2021

# Previous Actions

4/2/2019

- KHA Design Approval for \$231,000 (Resolution #4111)
- Originally Budgeted Project Cost of \$925,000

8/6/2019

- KHA Intersection Control Evaluation (ICE) Report
- Construction Estimated Revised to \$2,154,000
  - Budgeted adjusted as part of the annual budget adoption

# Intersection Comparison



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# Intersection Comparison

	Roundabout	Signal
Pavement Coverage	6,840 sf	6,840 sf
ROW Needs	50,000 sf	45,750 sf (8.5% Less)
Construction Est	\$2,154,000	\$1,918,000 (11% Less)
Stacking Impact with US 377	Neither creates a stacking issue	
SB Stacking on Elm Street	Provides the shortest AM queue	Provides the shortest PM queue
Existing LOS / Delay	There is a marginal difference in delay (3 seconds)	
Future LOS / Delay	25 Sec Reduction over Signal	-
Central Island	✓	✗
Median Landscaping	✓	✗
Gateway Feature	✓	✗
Stamped/Stained Crosswalks	✓	✓
Sidewalk Connectivity	✓	✓

# August 2019 Outcome

## Recommendation: Construct a Roundabout

- Performs the best when looking at overall traffic performance of the intersection.
- Provides more aesthetic features
- Creates a statement and a gateway into Old Town
- Comparable to a signal in traffic operation and construction cost

# Essential Points for FY 2019-20 Budget

9/27/2019

- Operationally Balanced Budget that meets City Council Goals and Direction
- Increased Homestead Exemption from 10% to 12%
- Decreased Tax Rate by \$0.01355/100 to \$0.3999/100
- Total GF Personnel Increase under 1.5%
- Johnson Road Reconstruction = \$2,000,000
- Bear Creek and Whitley Roundabout = \$1,229,000 + 925,000 = 2,154,000
- North Tarrant Parkway & Lakeview Traffic Channelization = \$150,000
- Increased Sidewalk Maintenance = \$40,000 increase (to \$200,000) +\$151,694
- Police Officer = \$0 & Dispatcher = \$19,000
- Overall Reduced Water rate & Minimal Wastewater rate adjustments
- Johnson Rd and Hwy 377 Waterline Debt Issuance
- Maintains All Replacement Funding
- Creates Fire/EMS Equipment Replacement Fund
- New Financial Software (\$484,719)

# Recent Activities

## Throughout 2020

- Property Acquisition/Eminent Domain
  - Resolutions #4255-4259

## 2021

- Advertise for Construction (\$2,154,000 construction budget)
- 6 Bids Received Ranging from \$2,197,443 to \$2,999,339
- Consider Construction Engineering Services for \$175,000

# Current Project Costs

	Budget	Expenses	Project Balance
Original Budget (2018)	\$925,000	-	\$925,000
KHA Design	-	\$231,000	\$694,000
KHA ROW Services	-	\$11,000	\$683,000
ROW Costs	-	\$125,153	\$557,847
Revised Budget (2019)	\$1,229,000	-	\$1,786,847
<b><u>Proposed Enrg Services</u></b>	-	\$175,000	\$1,611,847
<b><u>Recommended Award</u></b> (2021)	-	\$2,292,169	-\$680,332*
<b><u>Reallocated Funds</u></b>	\$680,332	-	\$0
Projected End Balances	\$2,709,169	\$2,709,169	\$0

\* Additional funding to be covered with savings from other projects

- TxDOT Improvements on FM1709 @ \$500,000
- 2018 & 2019 Street Rehab @ \$180,332



# Next Steps

- Award Construction to GRod
- Authorize Construction Engineering Services
- Proceed to Construction



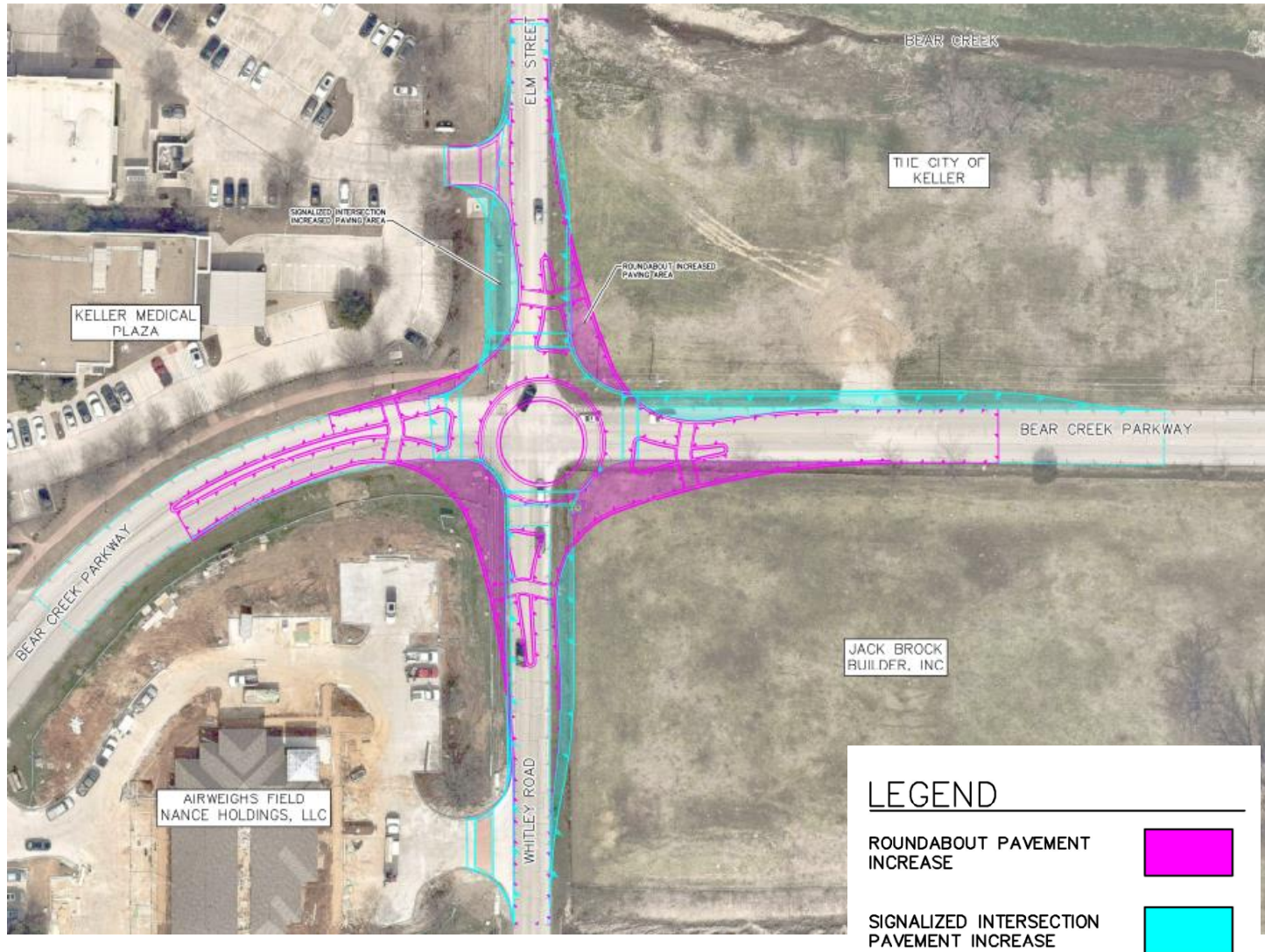


**Questions?**

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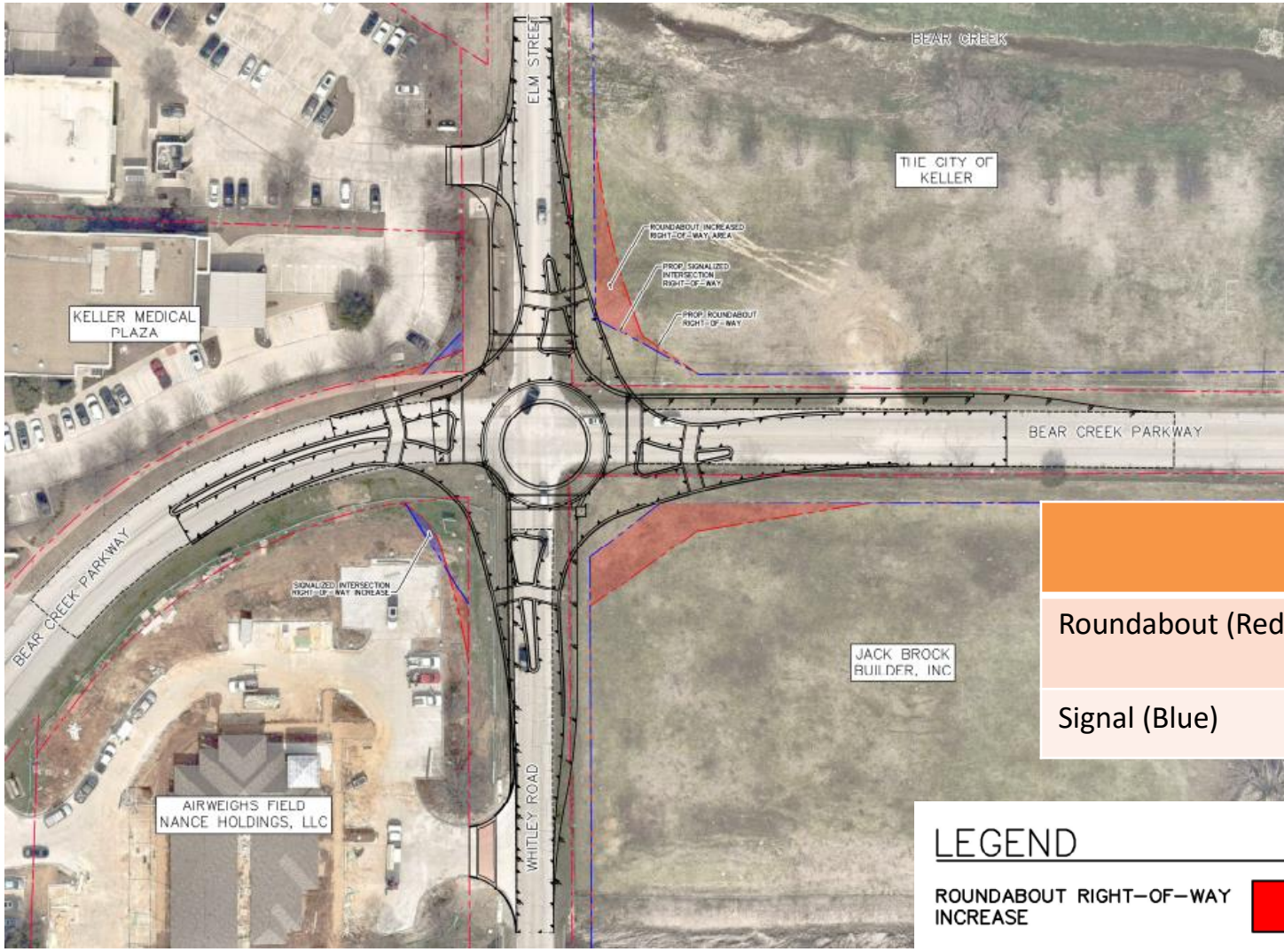


# Paving Comparisons



- Colors represent areas where one option has a greater footprint than the other
- Table shows total square yardage for those colored areas

	Total Footprint	Difference
Roundabout (Pink)	760 SY	Equal
Signal (Blue)	760 SY	Equal





LEGEND

- ROUNDABOUT RIGHT-OF-WAY INCREASE 
- SIGNALIZED INTERSECTION RIGHT-OF-WAY INCREASE 

# ROW Comparisons

- Colors represent areas where one option has a greater footprint than the other
- Table shows total square footage for those colored areas
- Sidewalk limits are the biggest impact to the ROW on the east corners

	ROW Square Foot	Difference
Roundabout (Red)	4,651 SF	4,250 higher than signal 1,404 is from City property
Signal (Blue)	401 SF	4,250 less than roundabout






# Cost Comparisons

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

## Notes:

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

# Analysis Results

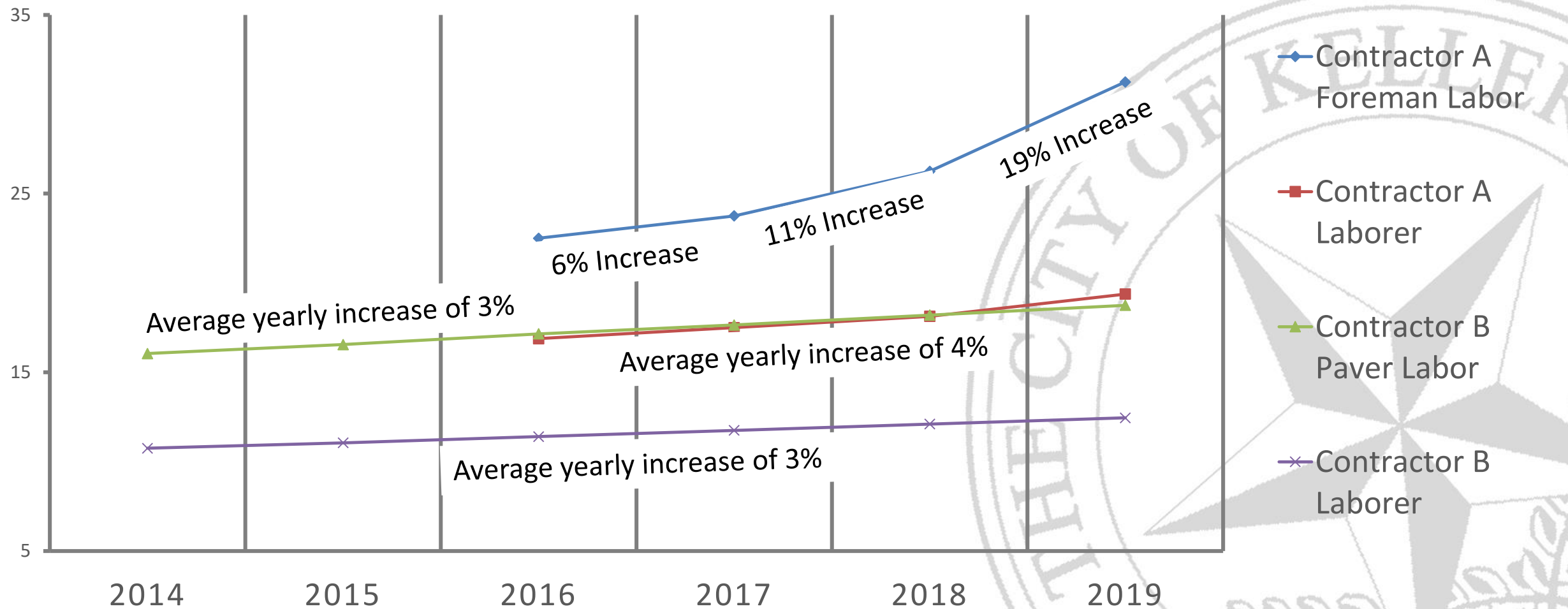
	Roundabout	Signal
Queue Between US 377 and Elm Street	Neither creates a queuing issue between US 377 and Elm Street.	
SB Queue at Elm Street AM and Off-Peak	 Provides the shortest queue	
SB Queue at Elm Street PM Peak		 Provides the shortest queue
Existing LOS / Delay	There is a marginal difference in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

# Enhancement Options

	Roundabout	Signal
Central Island Landscaping	✓	✗
Median Landscaping	✓	✗
Gateway Feature (On a Corner)	✗	✓
Stamped/Stained Crosswalks	✓	✓
Sidewalk Connectivity	✓	✓

# Price Trends Over the Last Year

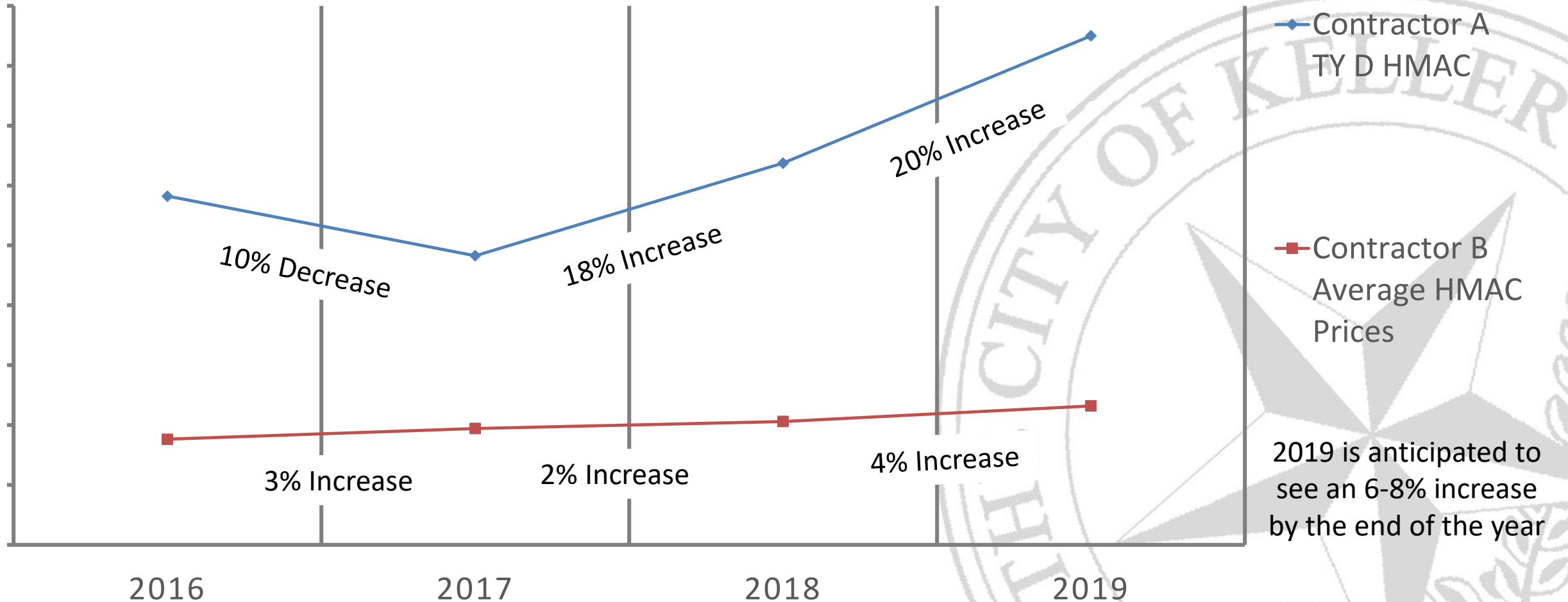
## LABOR TRENDS (\$/HOUR)





# Price Trends Over the Last Year

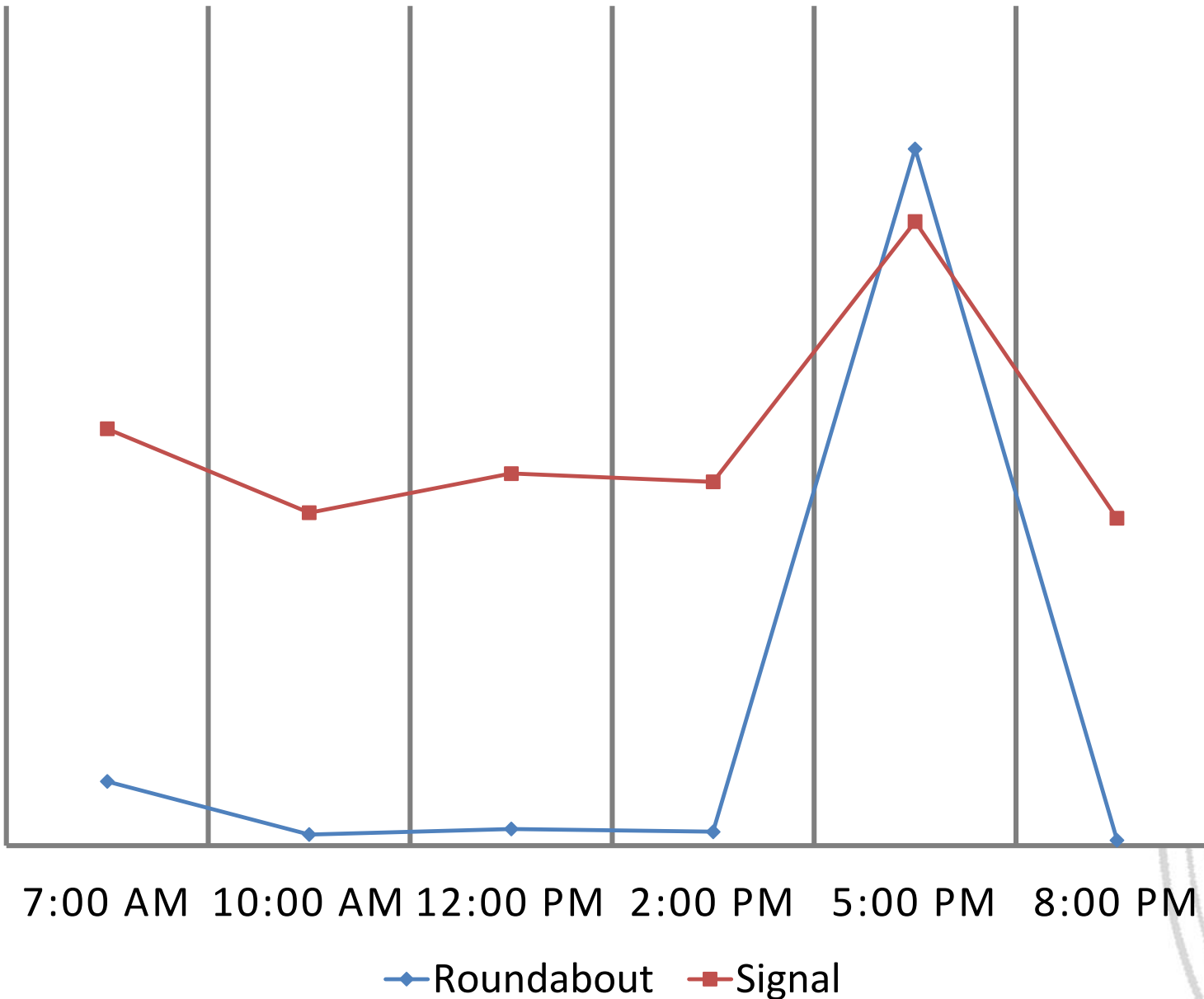
## ASPHALT PAVING MATERIALS



# Existing Analysis Results

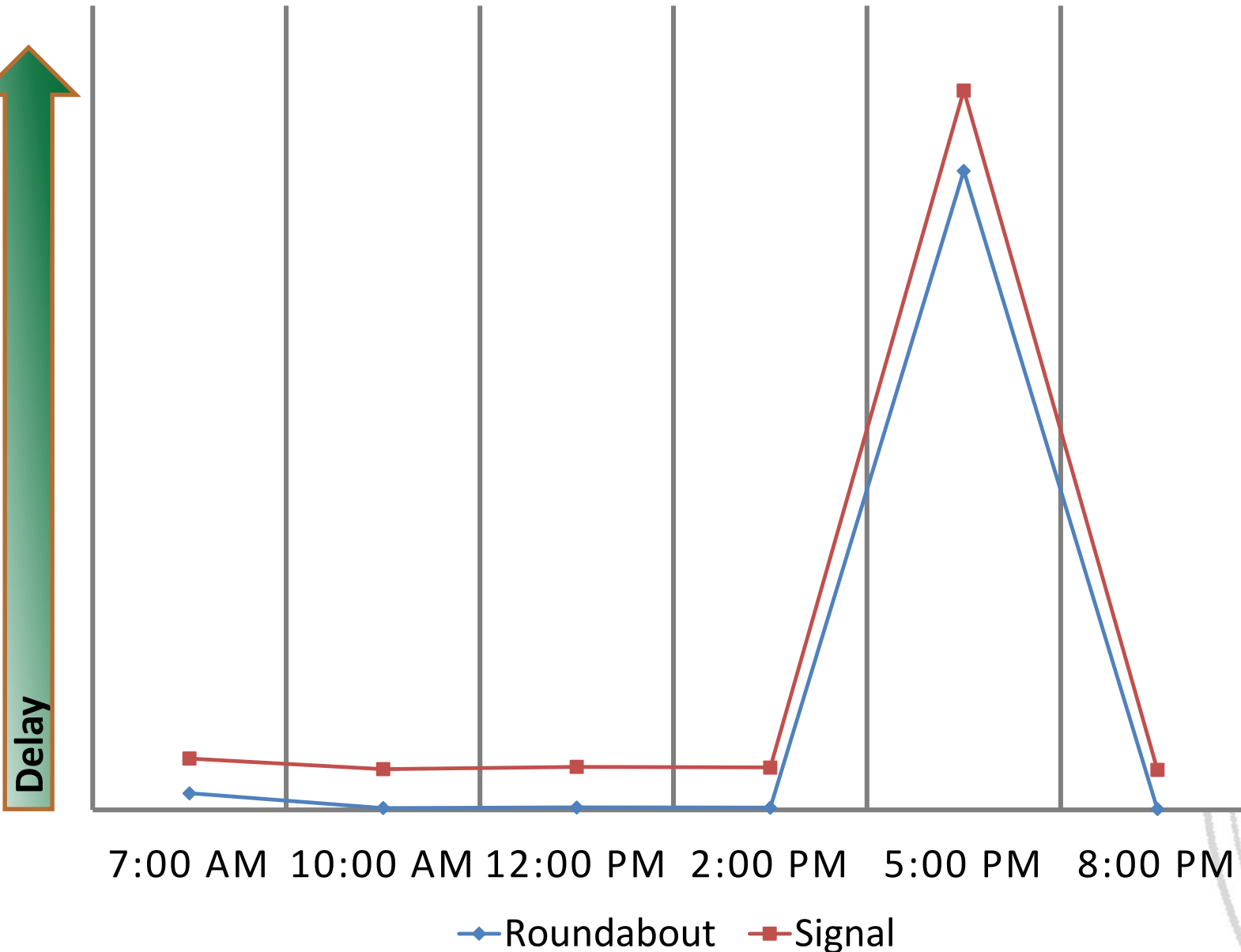
- Roundabout Provides an Average Reduction in Delay of 10 seconds
- Roundabout and Signal PM Peak Delay is Within 3 seconds

Delay



# HORIZON ANALYSIS RESULTS

- Roundabout Provides an Average Reduction in Delay of 14 sec
- During PM Peak, Roundabout Provides a 25 Second Reduction



# Summary of Options

	Roundabout	Signal
ROW Impacts		✓ 8.5% Less ROW
Opinion of Construction Cost		✓ 11% Less Cost
Traffic Operations	✓ Based on traffic analysis, the roundabout performs the best overall	
Enhancements (Landscape and Hardscape)	✓ More locations for gateway features and landscaping within the central island and median	