

Roundabout Workshop

City of Saginaw Council Meeting
September 15, 2020

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City of Saginaw

Kimley»Horn

Overview

- Introductions
- Project Background
- Traffic Analysis and Recommendations
- Council Feedback
- Pedestrian Safety at Roundabouts
- Next Steps

Introductions

■ Jay VonAhsen

- 17+ years of roadway/alternative intersection experience
- 250+ roundabouts analyzed, designed, and peer reviewed
- Local roundabout expert (Fort Worth, Denton, Keller, McKinney, Frisco, Celina, Arlington, Colleyville, etc.)



■ Mark Lenters

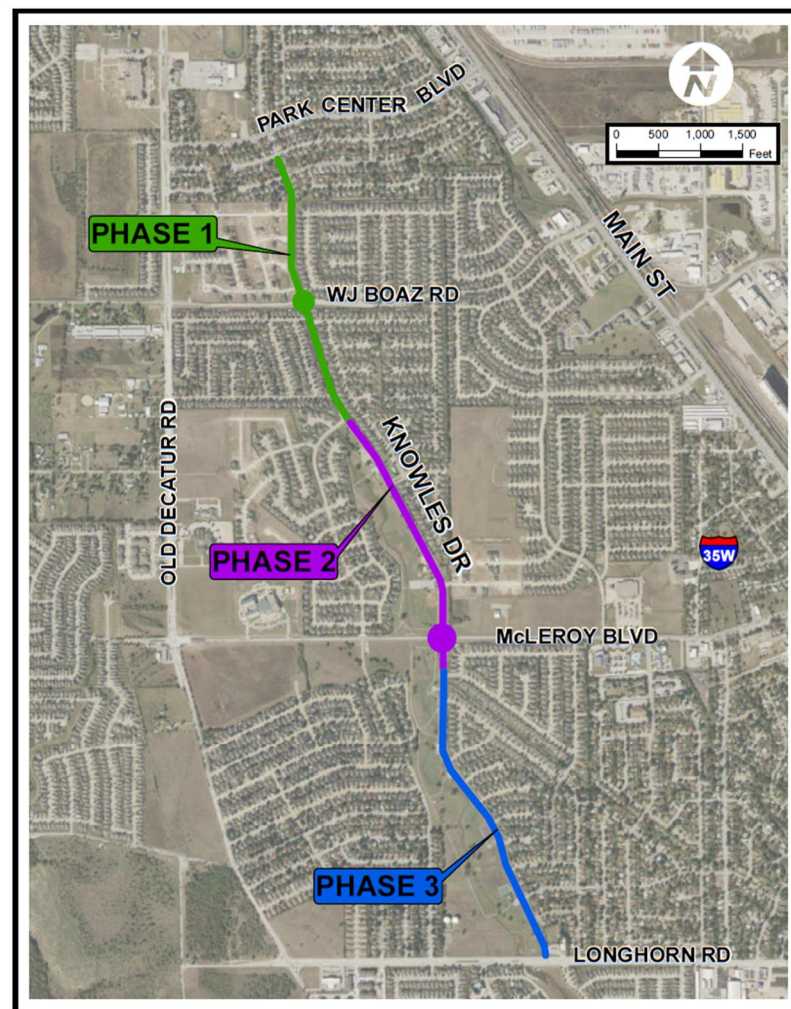
- 31 Years in the safety industry
- 1500+ roundabouts analyzed, designed, and peer reviewed
- 30+ roundabout programs developed for public agencies
- National roundabout expert (44 of 50 states, FHWA)



Project Background

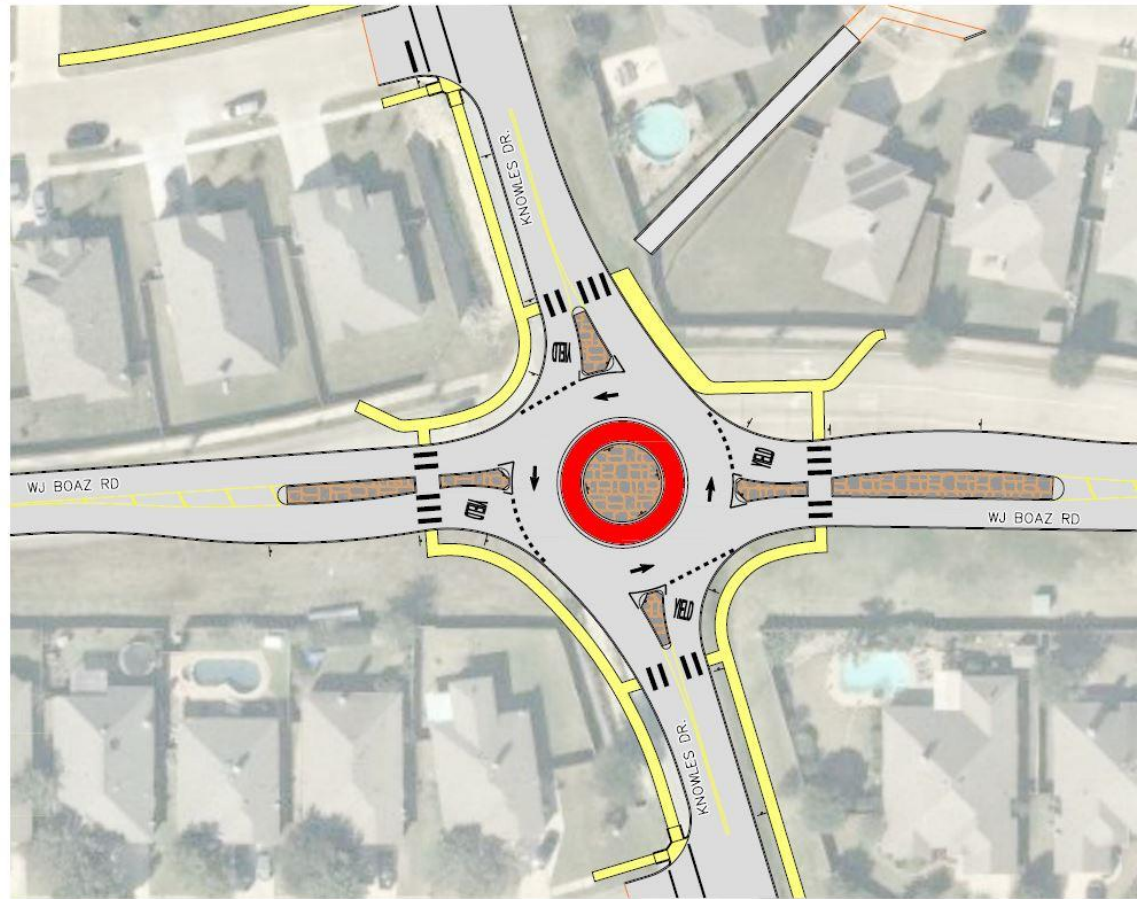
- Conceptual Design - Complete
 - Corridor & Intersection Evaluations
- Current Design Status
 - Phase 1 – 60% Complete, working towards 90%
 - Phase 2 – Working towards 60%
 - Phase 3 – Working towards 60%
- Intersection Recommendations
 - WJ Boaz: single-lane roundabout
 - McLeroy: single-lane roundabout with eastbound right turn bypass lane

KNOWLES DRIVE CORRIDOR IMPROVEMENTS



Traffic Analysis – WJ Boaz

- Existing configuration (all way stop) – experiencing delay
- Analyzed a signal and roundabout
- Single Lane Roundabout recommended for ultimate
- Signal Delay 2.5 x Roundabout
 - (36 sec vs. 11 sec)



KNOWLES DR AND WJ BOAZ - ROUNDABOUT LAYOUT

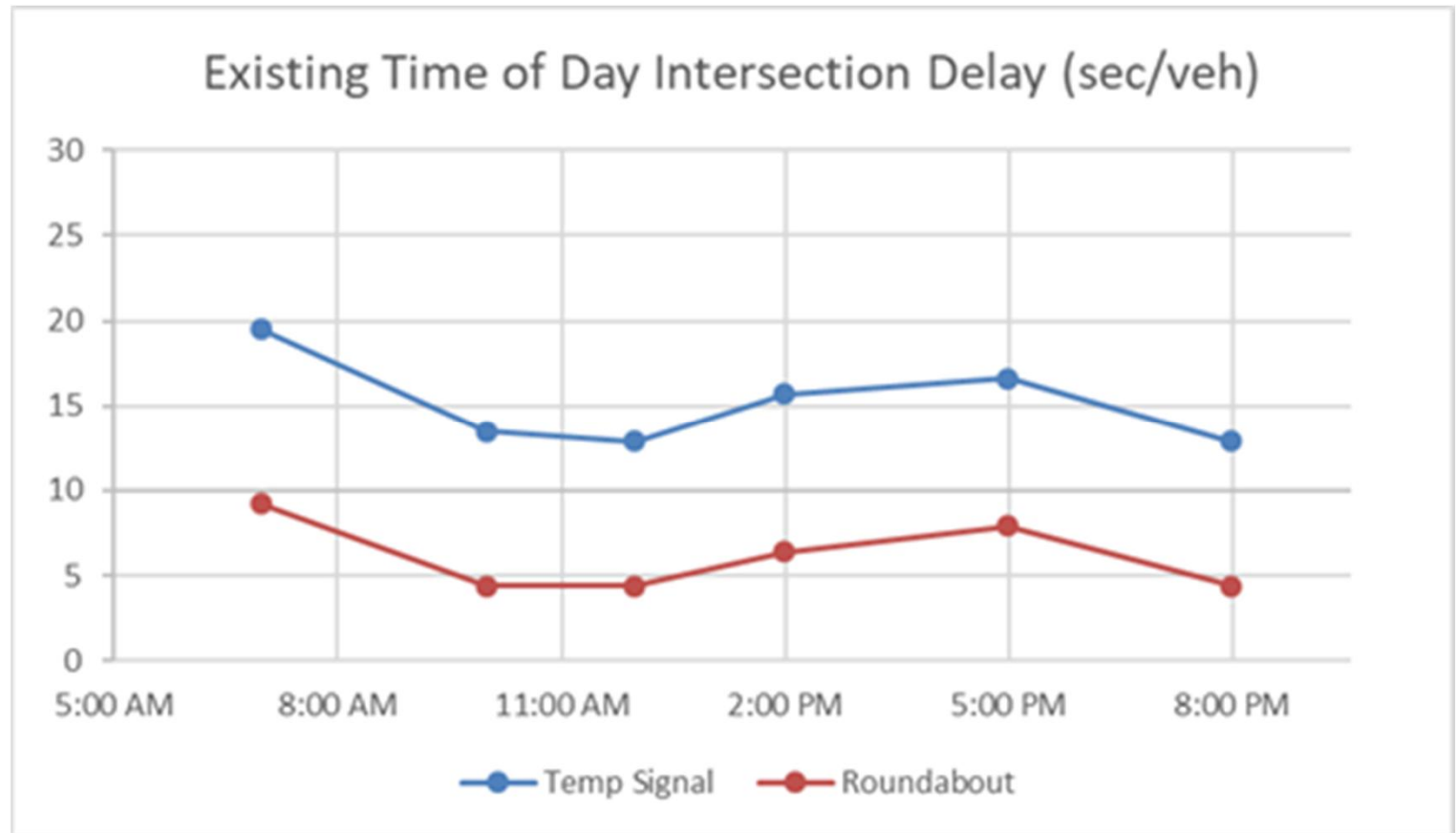
- McLeroy Intersection
 - Existing Signalized Intersection
 - Lacking turn lanes on Knowles
 - Signal was installed for interim condition
 - Traffic Analysis
 - Existing configuration with signal
 - Intersection widening on Knowles and McLeroy with signal
 - Single Lane Roundabout
 - Single Lane Roundabout with EB Right Bypass Lane
- Overall, roundabouts has less delay than signal
- Signals introduce unnecessary delays during the off-peak times

Recommendation: Single Lane Roundabout with enhanced pedestrian crossings

*Updated from July 2019

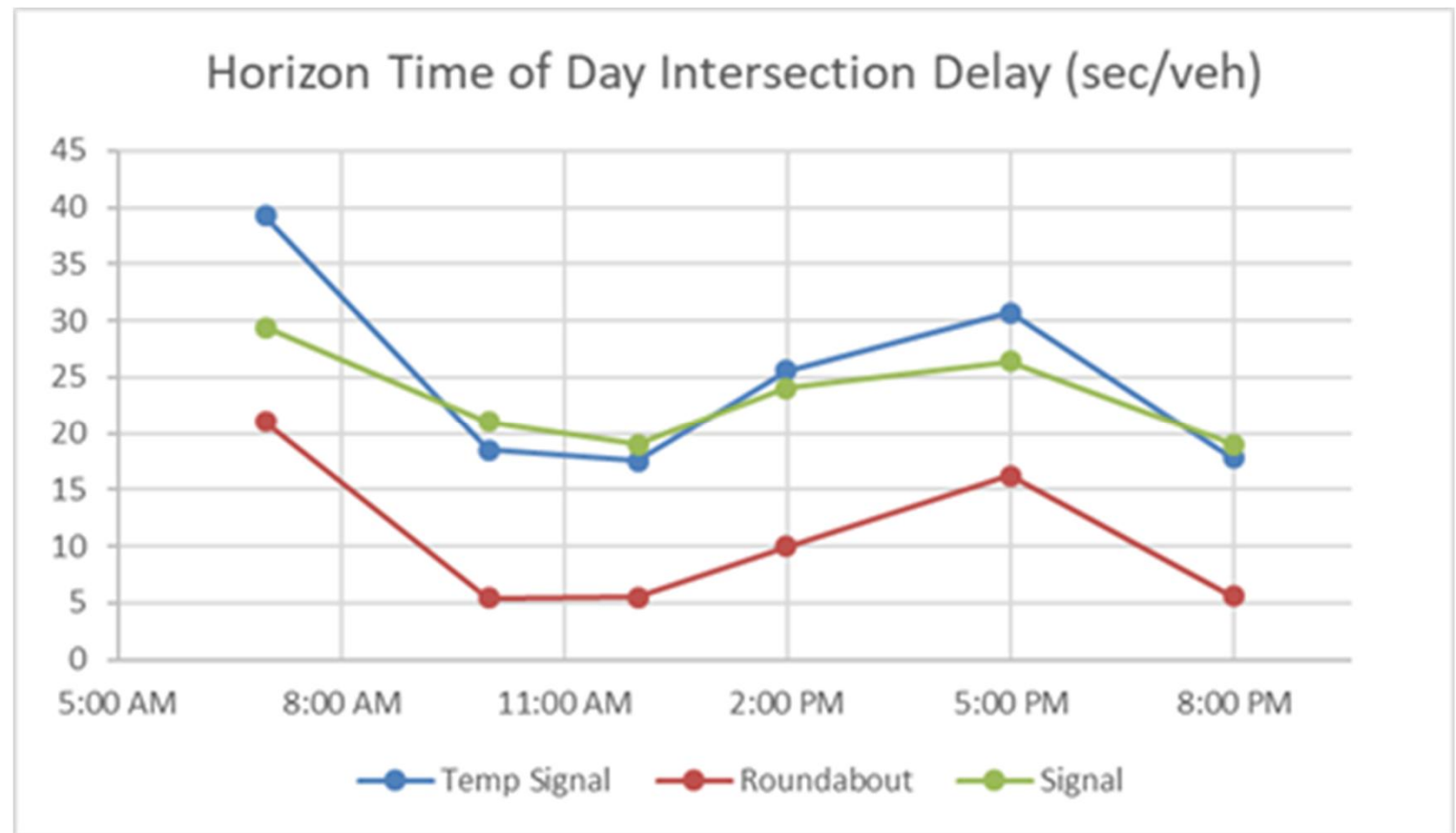
Traffic Analysis – McLeroy Intersection

- Average Delay Comparison
- Based on Ex. Traffic Counts

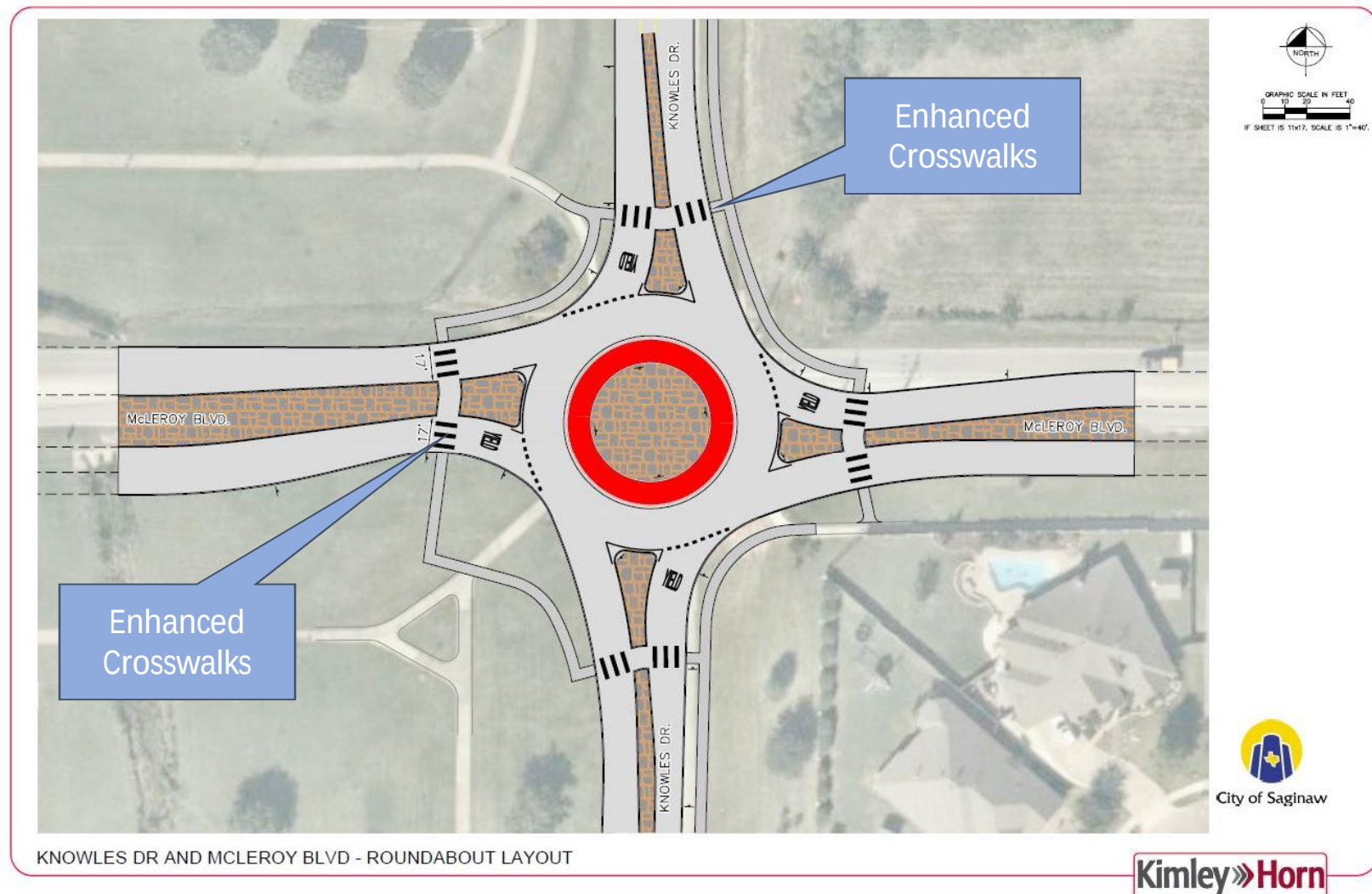


Traffic Analysis - McLeroy Intersection

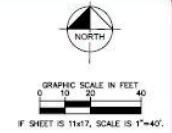
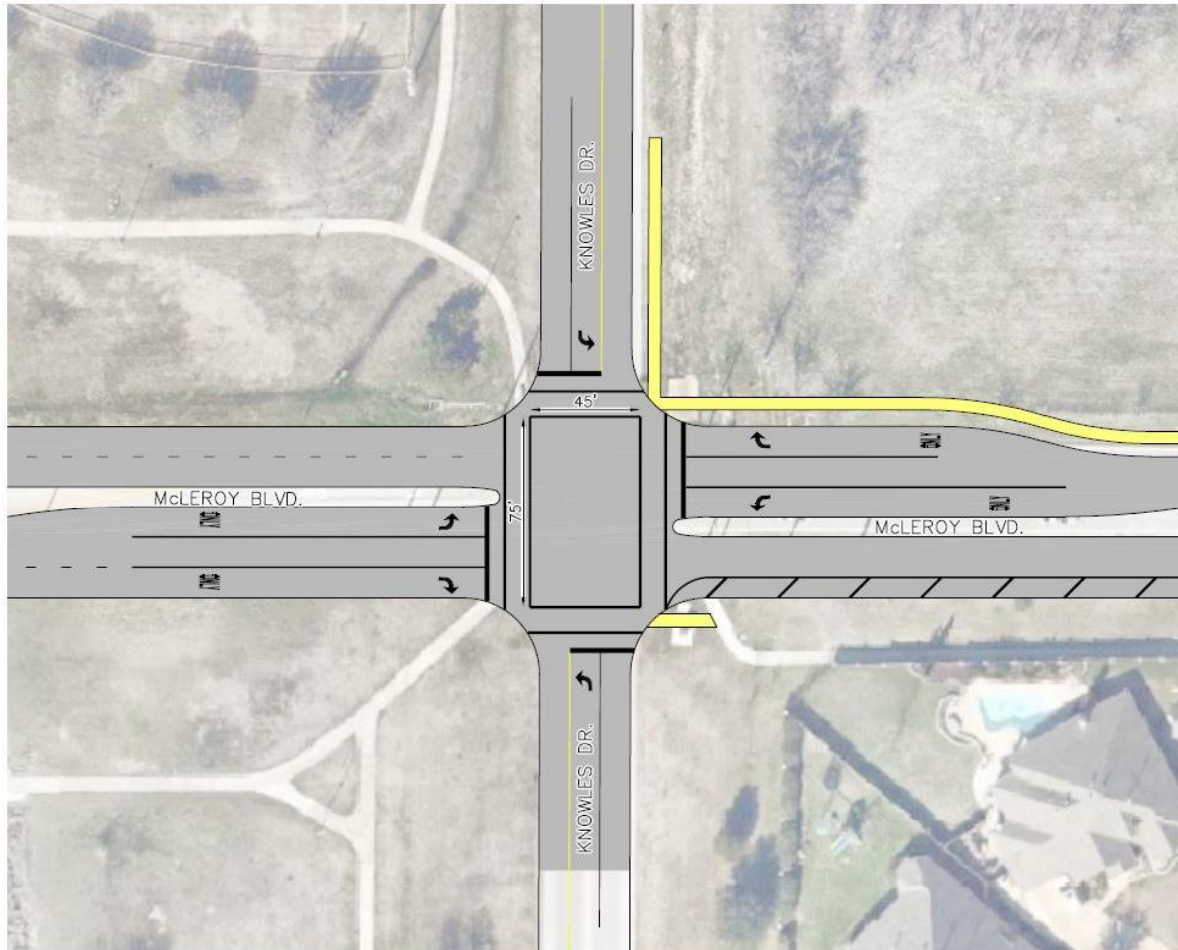
- Average Delay Comparison
- Based on Projected Traffic Counts



Intersection Recommendation – McLeroy



Intersection Alternative – McLeroy Signal



KNOWLES DR AND MCLEROY BLVD - SIGNAL LAYOUT

Let's Hear Your Voice!

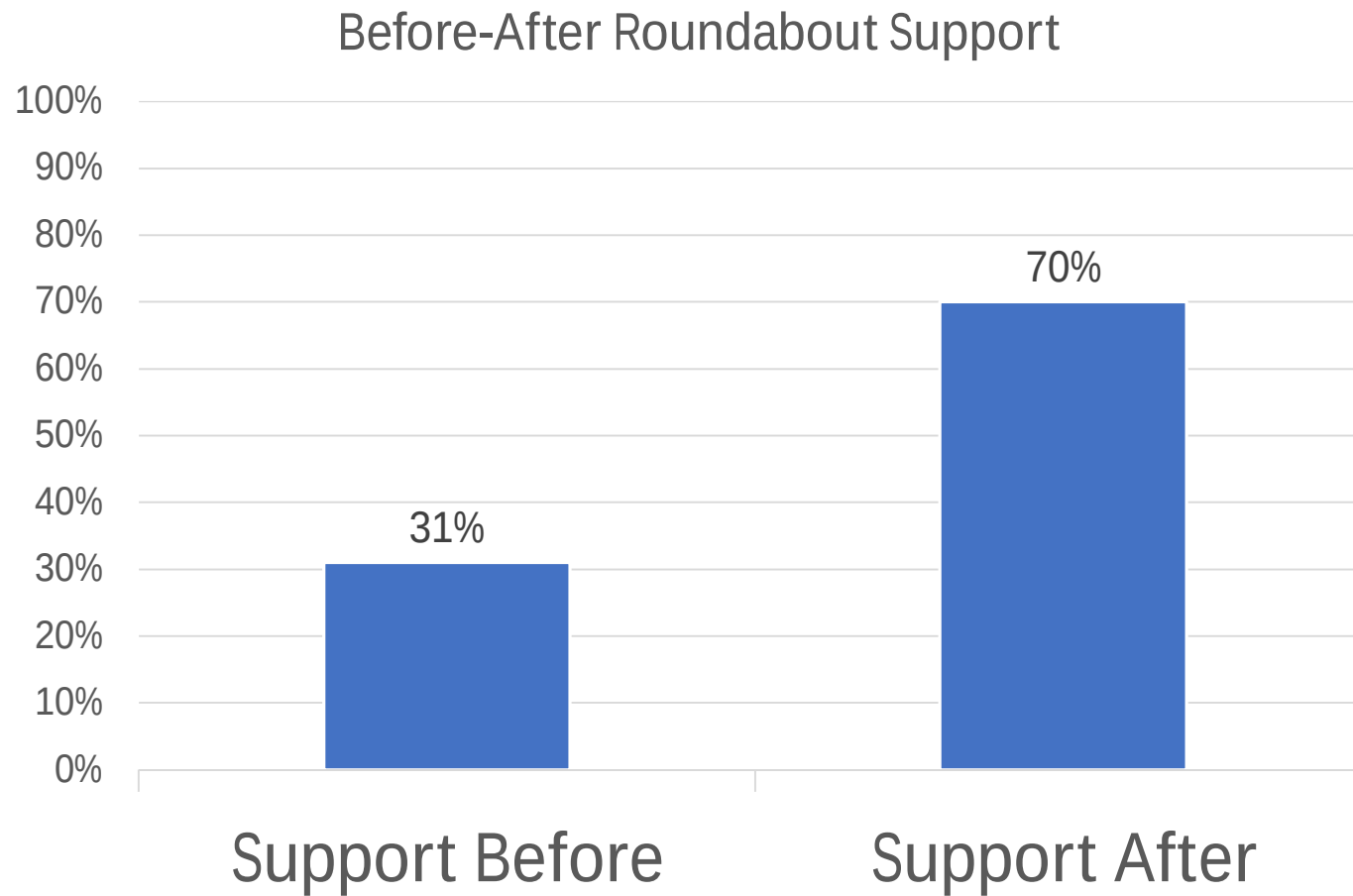
What are your experiences with roundabouts?

How comfortable are you with roundabouts?

What are you wanting to learn about roundabouts?

- City Facebook post from 09/11/20
- Not uncommon for communities new to roundabouts to have a majority of vocal commenters respond negatively
- Good news: Saginaw has citizens that are concerned about the safety of their motorists, bicyclists, and pedestrians
- Bad news: Misinformation and uninformed opinions lead to negative outcomes
- Goal: Unpack the comments, address them, and properly inform

Support for Roundabouts Before and After



Source: <https://www.iihs.org/topics/roundabouts>

What Constitutes “Research” and “Evidence”

- Research:

- Transportation Research Board (TRB)
 - USDOT and Federal Highway Administration (FHWA)
 - National Cooperative Highway Research Program (NCHRP)
 - Insurance Institute for Highway Safety (IIHS)
 - Research agencies (TTI)
-
- FACT: Something that can be proven to exist or to be true.
 - OPINION: A feeling, viewpoint or a person’s perception of a given item or event.

Addressing Citizen Concerns – Facebook Comments

Facebook Public Comments

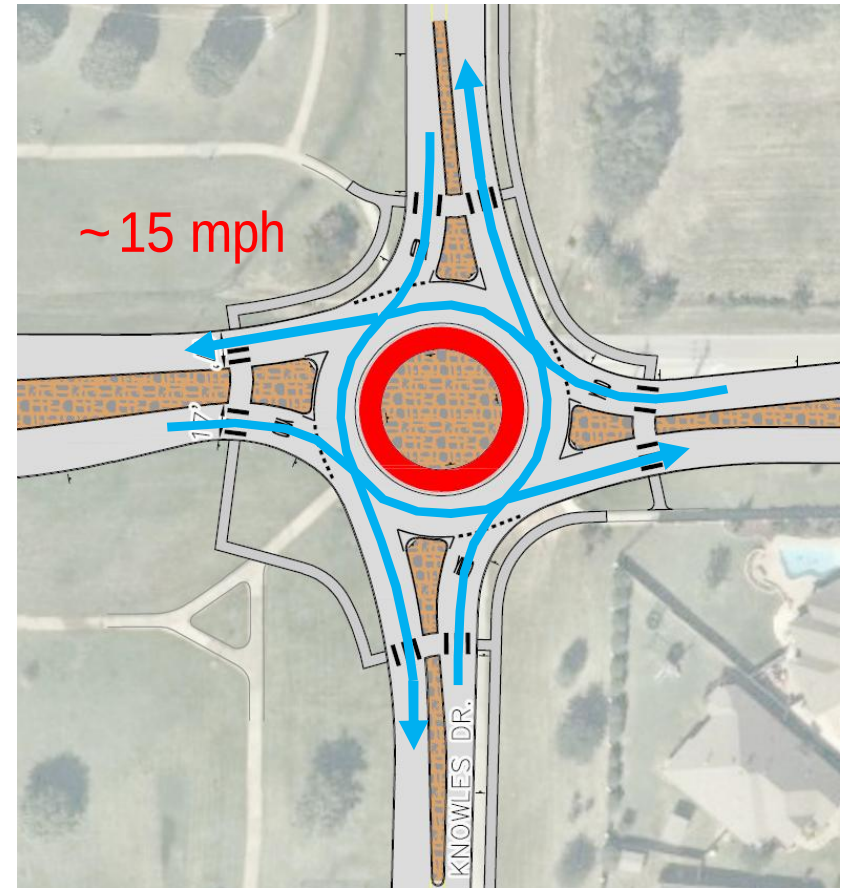
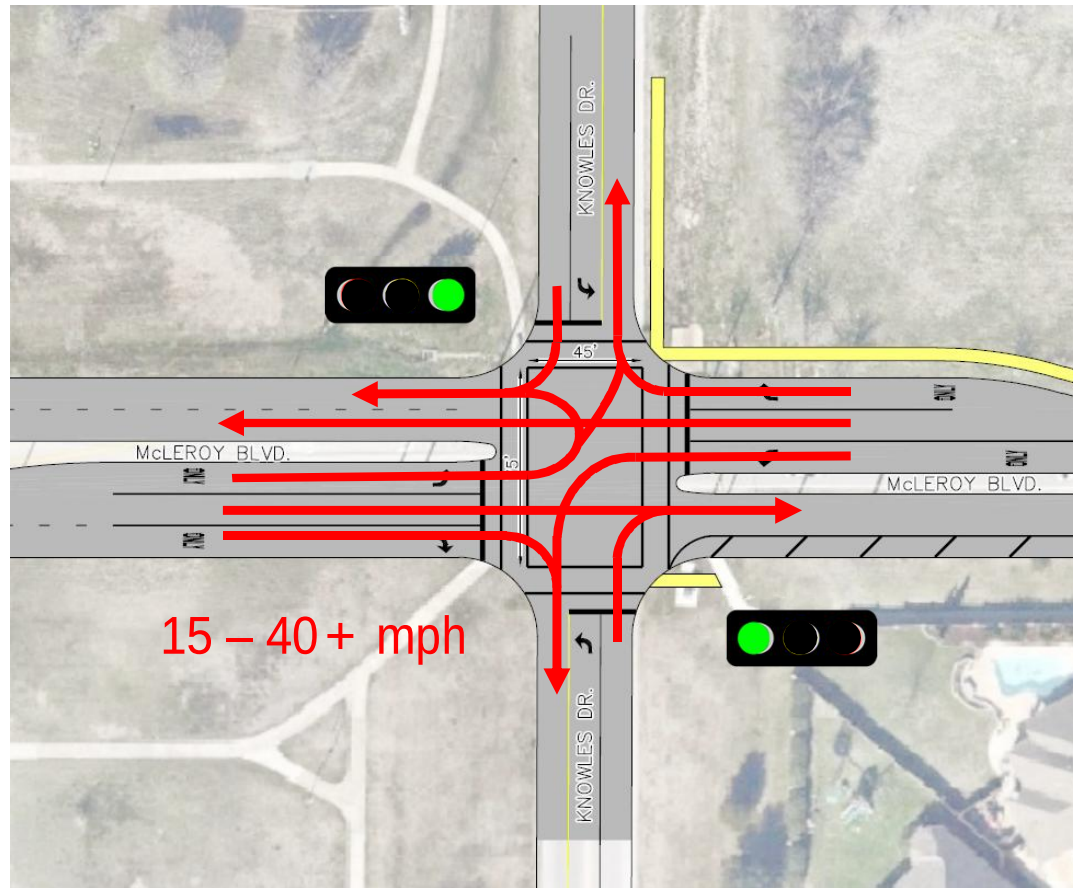
- Roundabouts are not safe for pedestrians, kids and seniors.
- Lee Rodergerdts Citations
 - KH discussed article being quoted with Lee Rodergerdts (author) on 09/14/2020
 - Agrees a single-lane roundabout is the safest solution for this context.
- Very dangerous/HIGHLY deadly to consider any roundabout for this intersection.
- How would kids cross the intersection without a signal? Already dangerous with a signal.
- It's dangerous now as a light, roundabout would be worse.
- With increased traffic, there would not be room for a car to yield to a pedestrian. As seen on the Marine Creek roundabouts.

Addressing Citizen Concerns – Facebook Comments

■ Facebook Public Comments

- Can we consider placing a sidewalk along Knowles?
- The city engineer admitted they had no safety data for that type of intersection with the facilities going in.
- In Texas there is NOTHING to prepare kids or teach them how to drive (roundabouts) properly
- A new firehouse will be built less than ½ mile from this intersection. Deflection of roundabout will slow down the firetrucks.
- No evidence showing roundabouts are safer than signals.

Proposed Alternatives Crossing Complexity



Vehicular movements during a typical “phase”

Why are Roundabouts the Safest Form of Intersection Control?

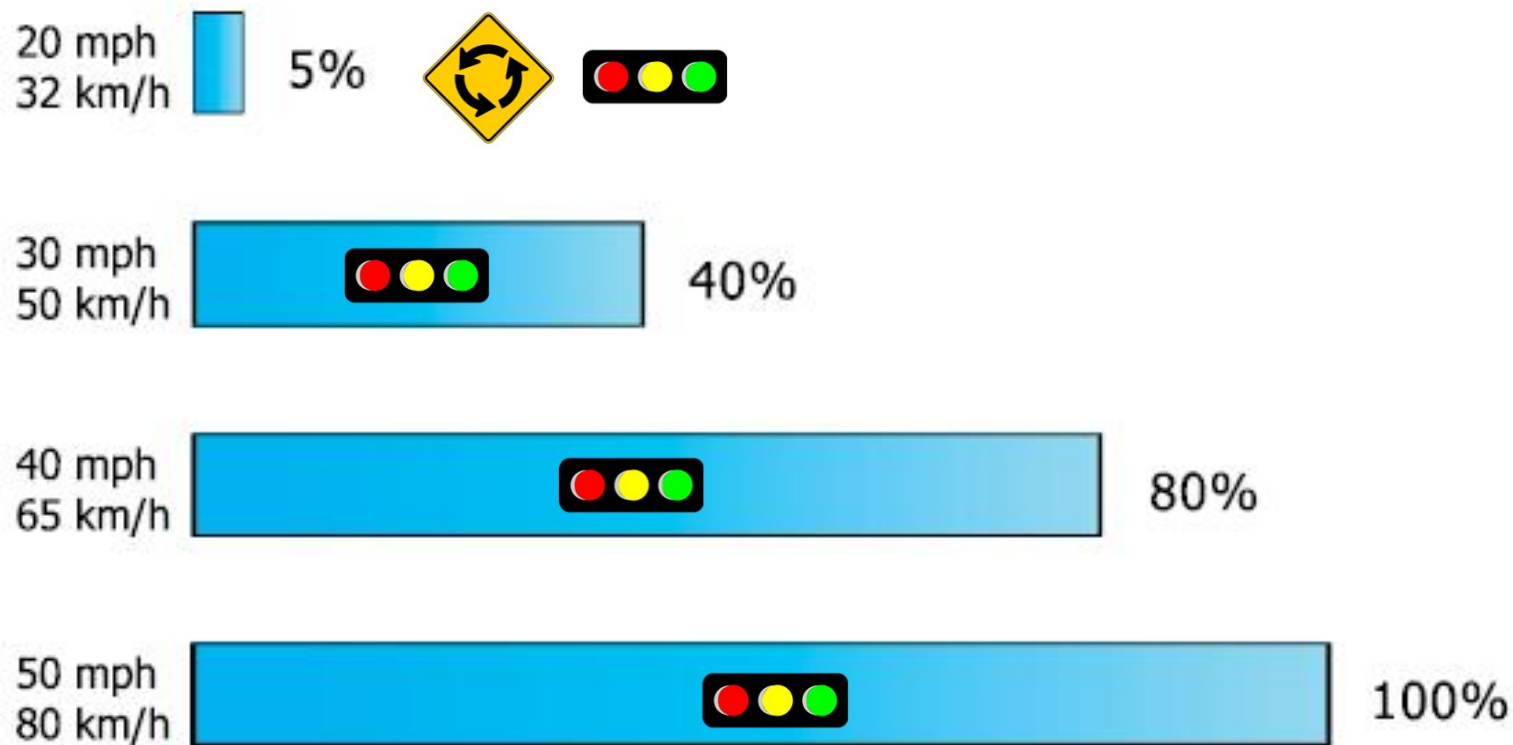
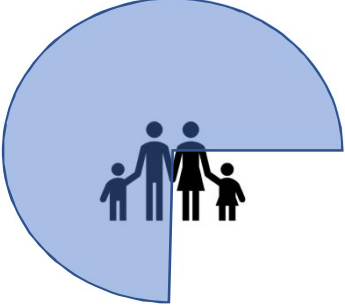
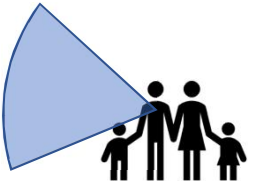


Exhibit 5-15
Chance of Pedestrian Death If
Hit by a Motor Vehicle

Leaf, W. A. and D. F. Preusser. *Literature Review on Vehicle Travel Speeds and Pedestrian Injuries*. Final Report DOT HS 809 021. National Highway Traffic Safety Administration, Department of Transportation, Washington, D.C., October 1999.



	<u>Traffic Signal</u>	<u>Roundabout</u>
Required Cone of Vision to Use the Crosswalk	 270 degrees	 30 degrees
Adjacent Vehicle Speed	10-45mph	10-25mph
Pedestrian Crossing Distance	112 ft	24 ft (two times)
Ped-Vehicle Conflict Points	9	4

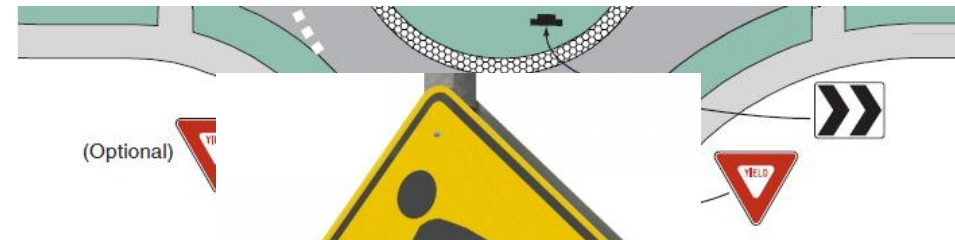
Addressing Council Concerns

- Video of Pedestrian Crossing



■ Pedestrian Crossing Enhancements

- Advance Signage
- RRFB
- Raised Crosswalks



- Source: L. von Ahn

- Source: Texas MUTCD

- Single-lane roundabout
- Circulating vehicle speeds approx. 15mph
- Enhanced pedestrian treatments
 - Raised crosswalk(s)
 - Rectangular rapid flashing beacons
 - Public education
 - NCHRP Report 834: Study in Michigan showed nearly 100% vehicle yielding rates at a multilane roundabout where raised crosswalks and RRFBs were installed.

Long-term/Short-term Care Facilities Next to Roundabouts

- Overland Park Senior Center, Overland, KS. SLR
- Elmcroft of Bedford, Bedford, TX. SLR
- Senior Center, Fire Station, Elem. School, Colleyville, Tx. SLR
- The Residence of Silver Square, Dover, NH. SLR
- The Summit of Bettendorf, Bettendorf, IA. SLR
- Freedom Point Place, The Villages, FL. MLR
- West Bloomfield Health & Rehabilitation Center, West Bloomfield Township, MI. MLR
- Notting Hill of West Bloomfield, West Bloomfield Township, MI. MLR
- And More....

SLR = Single-lane Roundabout

MLR = Multilane Roundabout

Long-term/Short-term Care Facilities Next to Roundabouts

- Overland Park Senior Center, Overland, KS. SLR
- Trail system across the street



Long-term/Short-term Care Facilities Next to Roundabouts

- Elmcroft of Bedford, Bedford, TX. SLR
- Trail System



Addressing Council Concerns

- Examples of Single Lane Roundabouts with high pedestrian traffic
 - Downtown Roanoke



Single Lane Roundabout adjacent to School

Location: Colleyville



Addressing Council Concerns

- Examples of Single Lane Roundabouts with high pedestrian traffic
 - Glade at Pool, Colleyville, TX



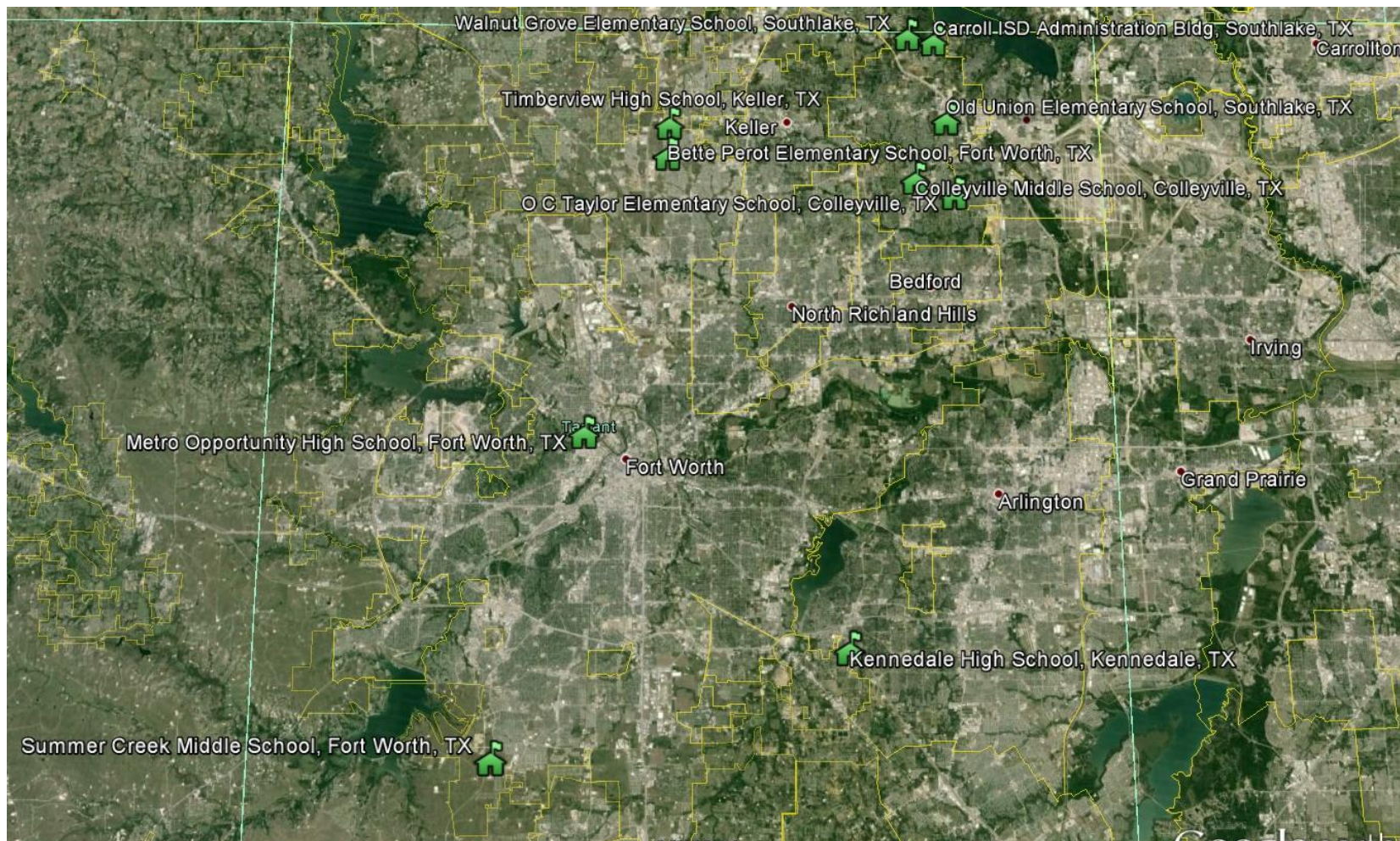
Single Lane Roundabout adjacent to School

Location: Colleyville

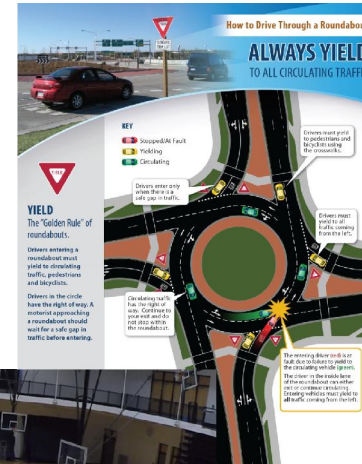


Single Lane Roundabout adjacent to School

DFW – 10 Locations

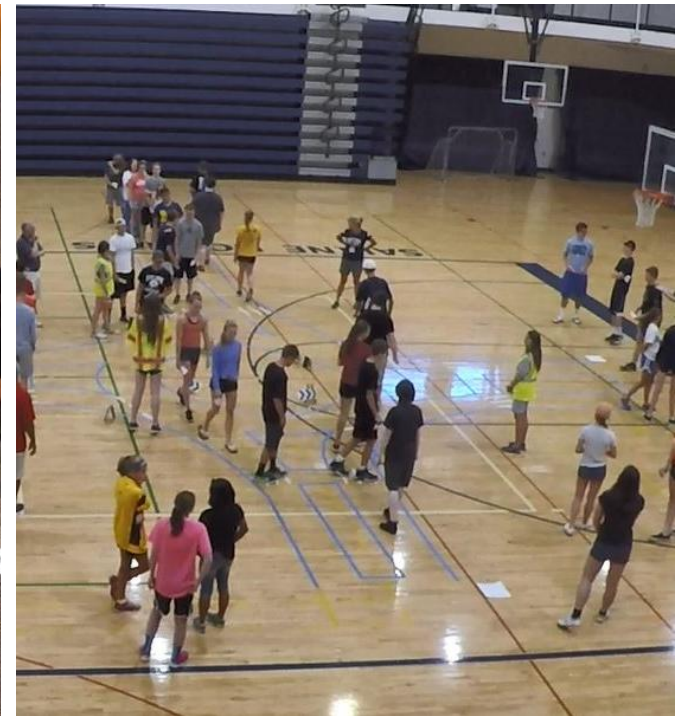


Public Outreach and Education



Public Outreach and Education

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Public Outreach and Education

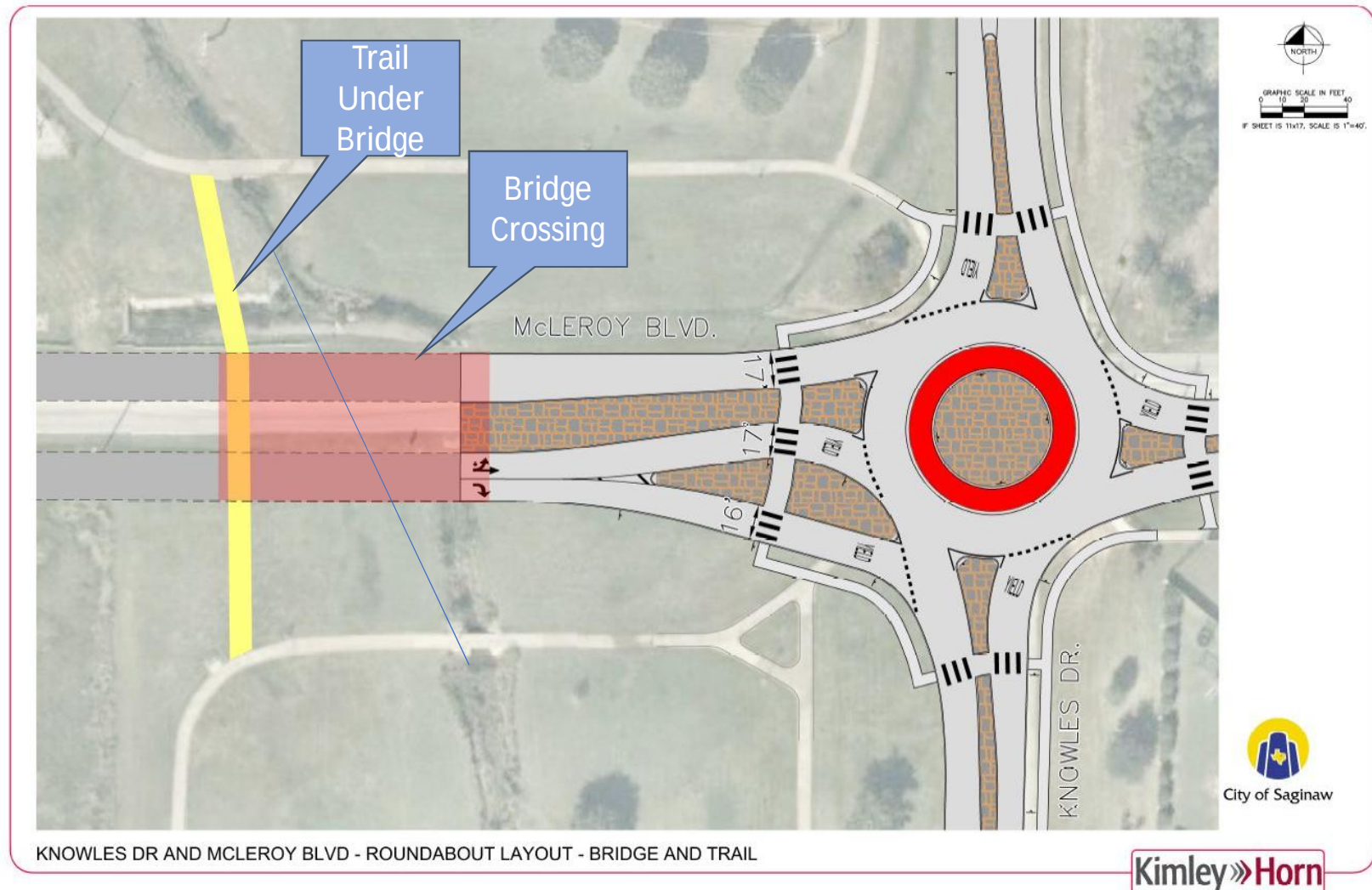
Questions & Discussion

The background image is a faded photograph of an industrial scene. On the left, a tall, tan-colored grain elevator stands with a sign that reads "ATTEBURY GRAIN". To its right, a freight train is visible, featuring a prominent orange and black locomotive with the number "5420" on its front. The train is positioned on tracks that run diagonally across the frame. The foreground consists of a gravelly area with some sparse grass. The overall image has a light, semi-transparent overlay, making the text stand out.

The background image is a faded photograph of an industrial rail yard. On the left, a tall, tan-colored grain elevator stands with a sign that reads "ATTEBURY GRAIN". To its right, a long freight train is visible, featuring several orange and black locomotives. The train is positioned on tracks that run diagonally across the frame. The foreground consists of gravel and some sparse vegetation. The overall scene is hazy, suggesting a misty or overcast day.

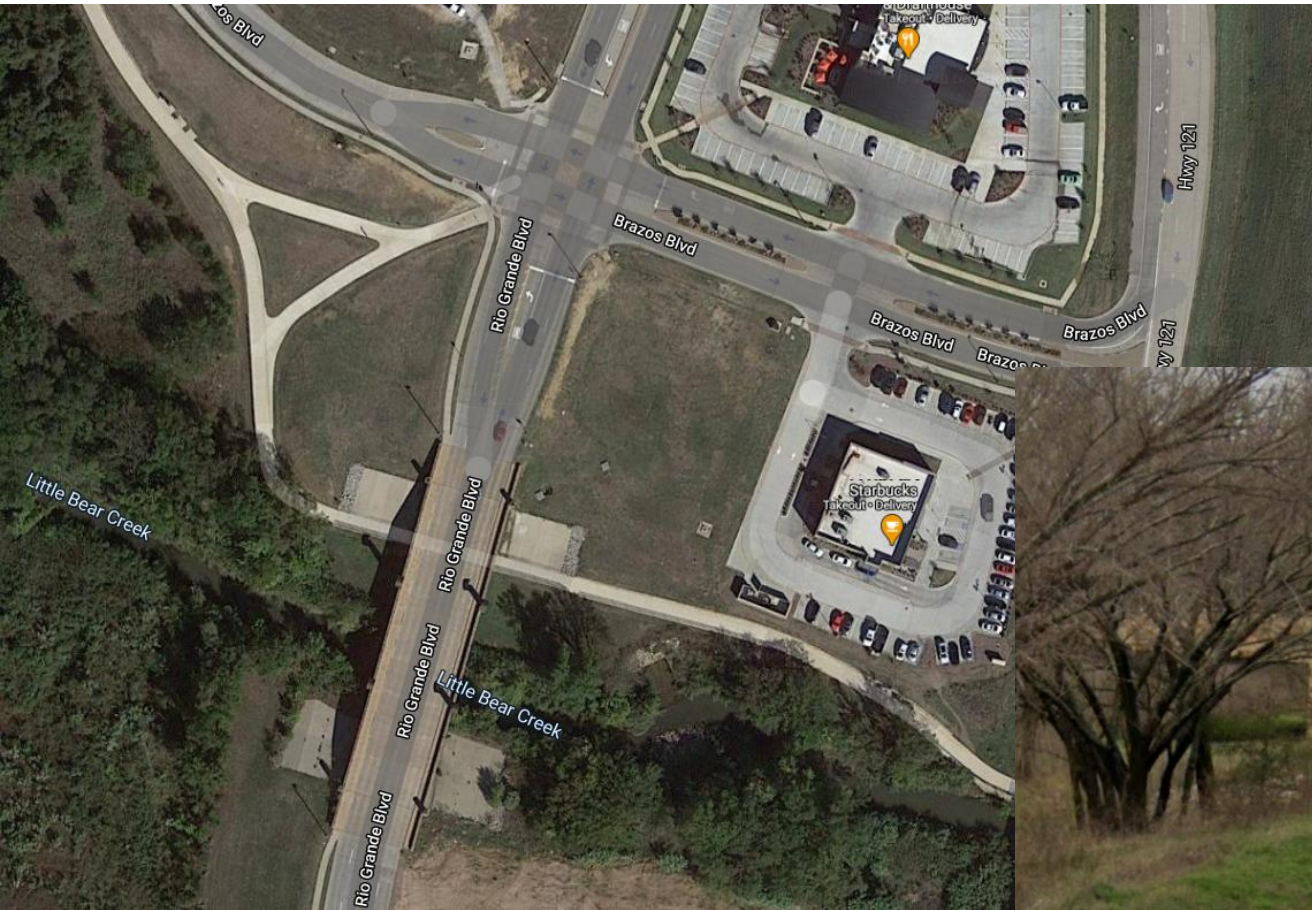
SLIDES FOR ADDITIONAL QUESTIONS

McLeroy – Future Pedestrian Crossing Consideration



Example Bridge with Trail

Location: Euless Glade Parks



McLeroy – Future Pedestrian Crossing Consideration

