I-35/SH-9W Interchange Improvements

McClain County, Oklahoma

Public Meeting

November 18, 2021

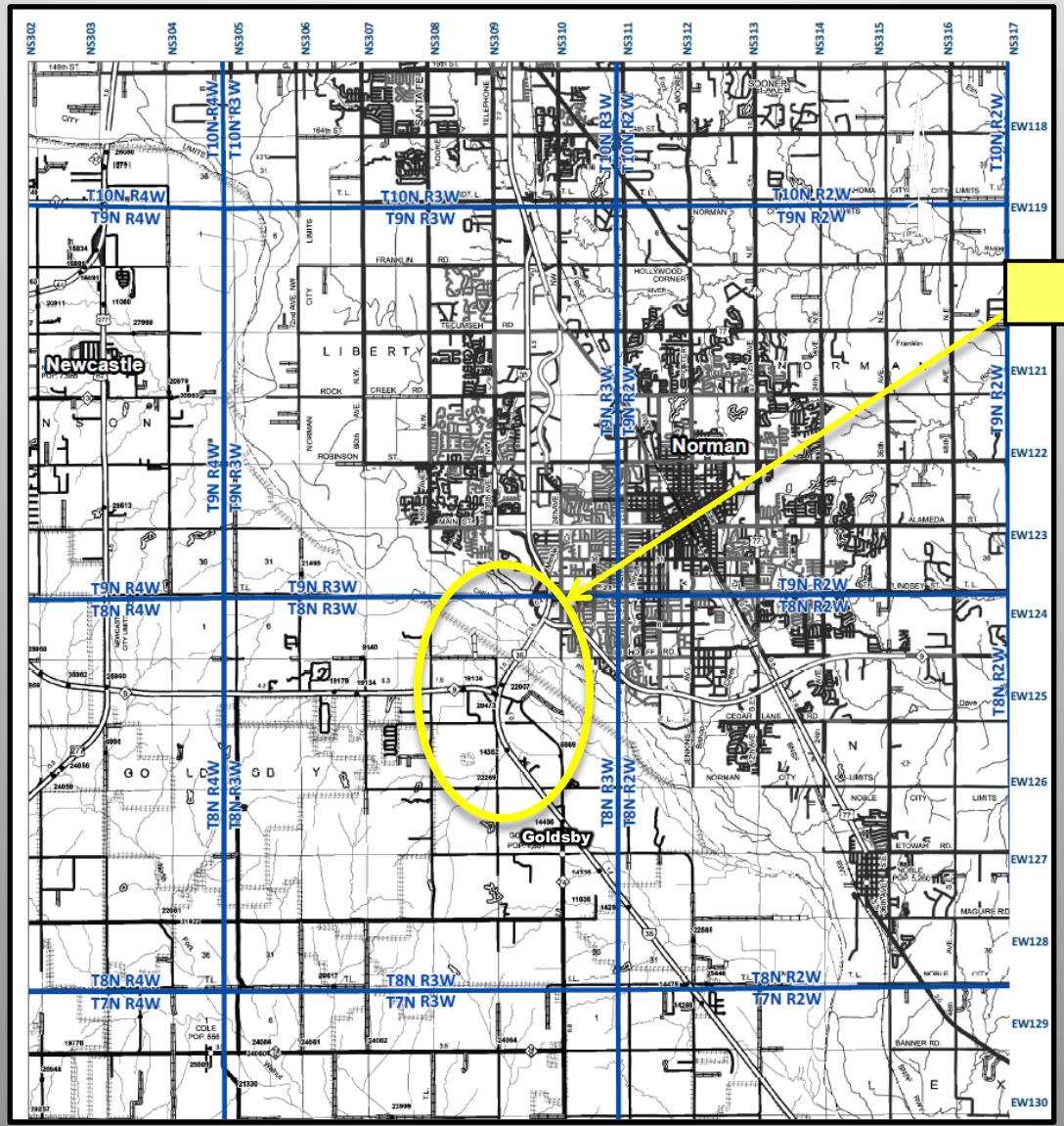
I-35/SH-9W Interchange Improvements

Meeting Purpose

- Existing Interchange
- Purpose of the Project
- Project History
- 4 Interchange Alternatives Considered
- Public Input/Feedback

I-35/SH-9W Interchange Improvements

Project Location



I-35/SH-9W Interchange Improvements

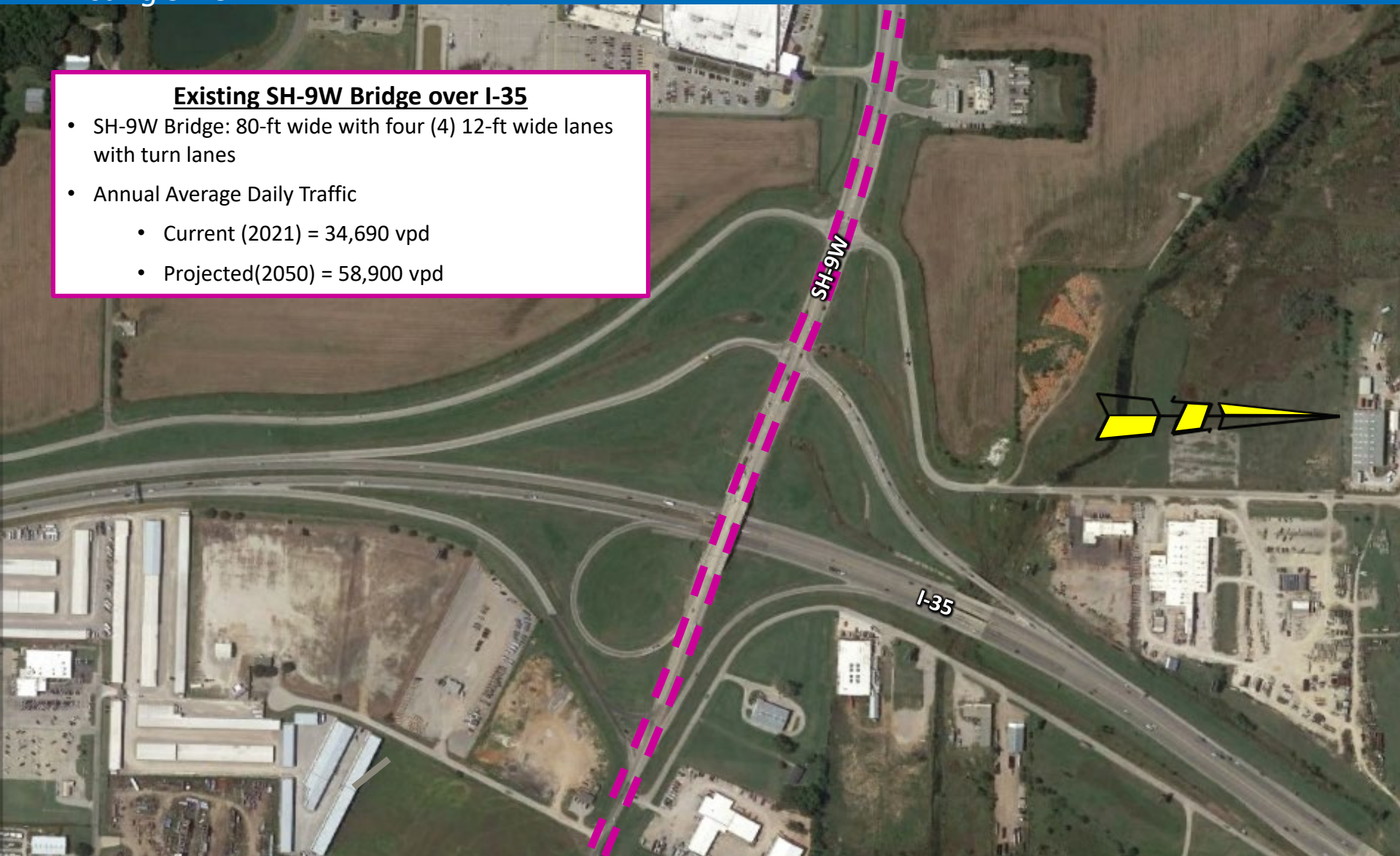
Existing I-35

Existing I-35 Through the Interchange

- Four 12-ft wide through lanes
- North of the SH-9W bridge:
  - 30-ft wide paved median with concrete barrier
  - 10-ft wide inside and outside shoulders
- South of the SH-9W bridge:
  - 30-ft wide grass median with cable barrier
  - 4-ft wide shoulders
- Annual Average Daily Traffic, Vehicles per Day (vpd)
  - Current (2021) = 81,500 vpd
  - Projected (2050) = 128,000 vpd

I-35/SH-9W Interchange Improvements

Existing SH-9W

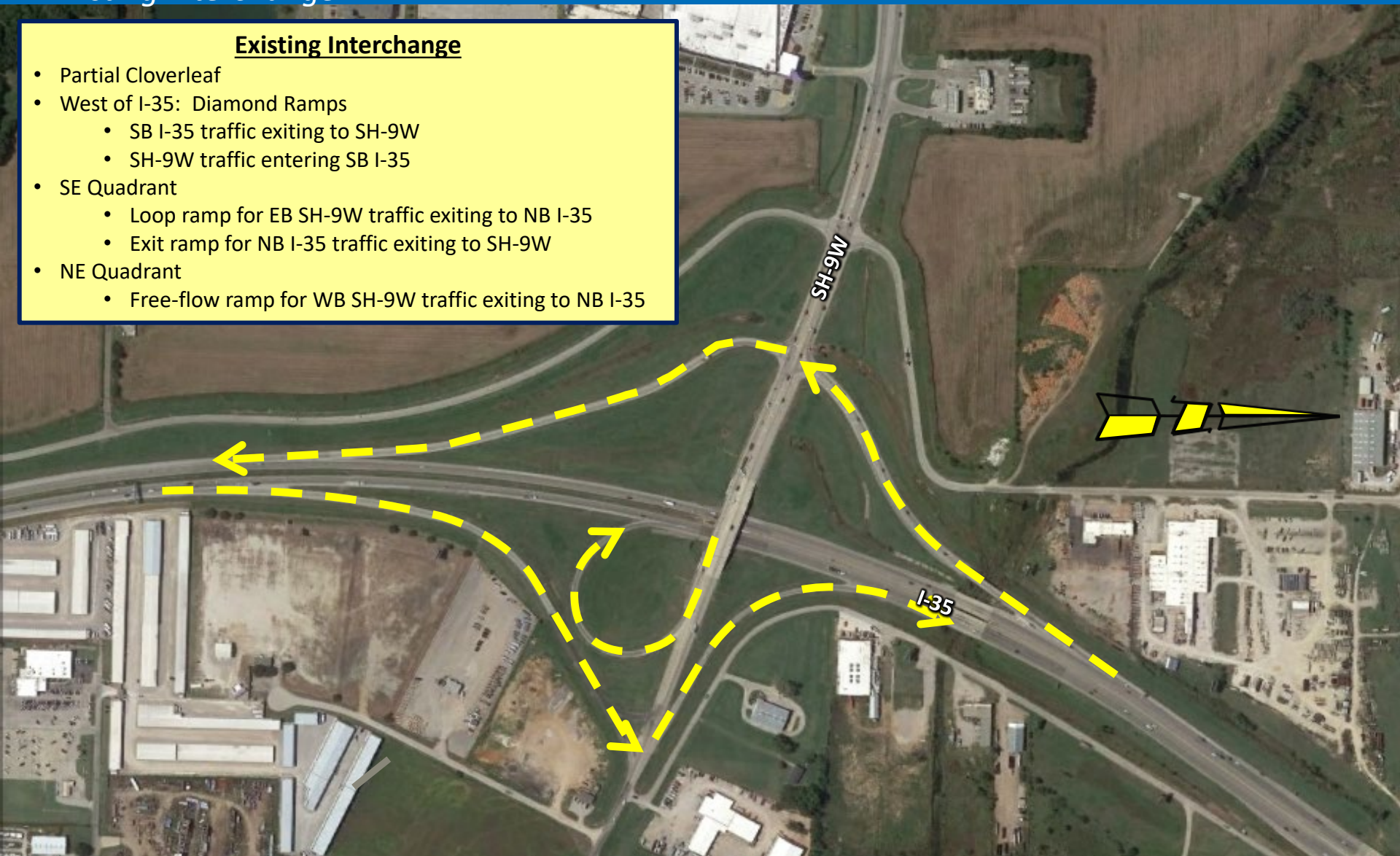


Existing SH-9W Bridge over I-35

- SH-9W Bridge: 80-ft wide with four (4) 12-ft wide lanes with turn lanes
- Annual Average Daily Traffic
  - Current (2021) = 34,690 vpd
  - Projected(2050) = 58,900 vpd

I-35/SH-9W Interchange Improvements

Existing Interchange



Existing Interchange

- Partial Cloverleaf
- West of I-35: Diamond Ramps
  - SB I-35 traffic exiting to SH-9W
  - SH-9W traffic entering SB I-35
- SE Quadrant
  - Loop ramp for EB SH-9W traffic exiting to NB I-35
  - Exit ramp for NB I-35 traffic exiting to SH-9W
- NE Quadrant
  - Free-flow ramp for WB SH-9W traffic exiting to NB I-35

I-35/SH-9W Interchange Improvements

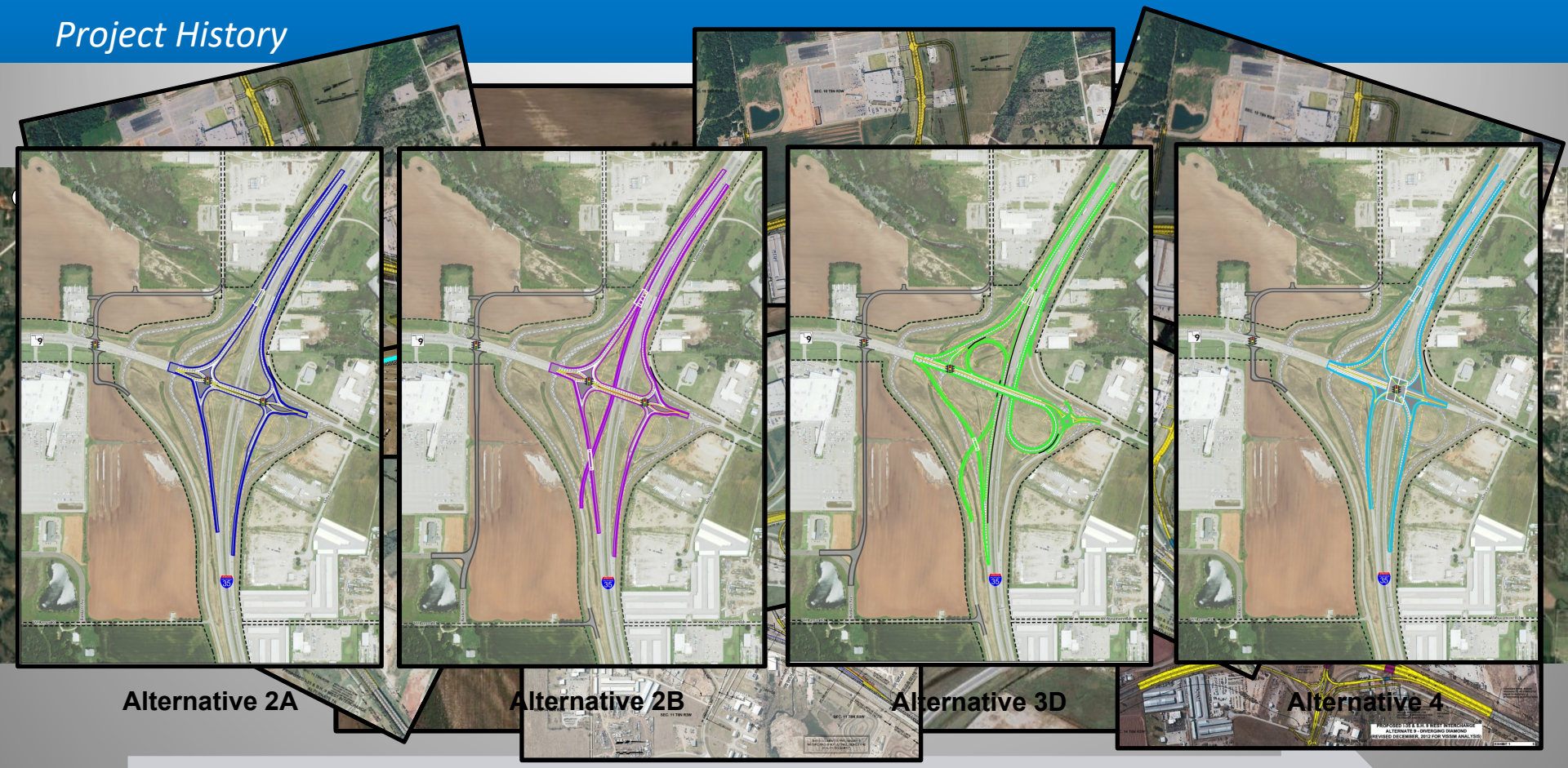
Purpose of the Project

Address increases in traffic volumes and localized congestion

by constructing the interchange to improve the operation

I-35/SH-9W Interchange Improvements

Project History



1959
Original I-35 & SH-9W Interchange built

2001
H.E. Bailey Spur opens on the west side of SH-9

2003-2008
SH-9 widened to four (4) lanes from H.E. Bailey Spur to I-35

2004
Diamond interchange ramps built on west side of I-35

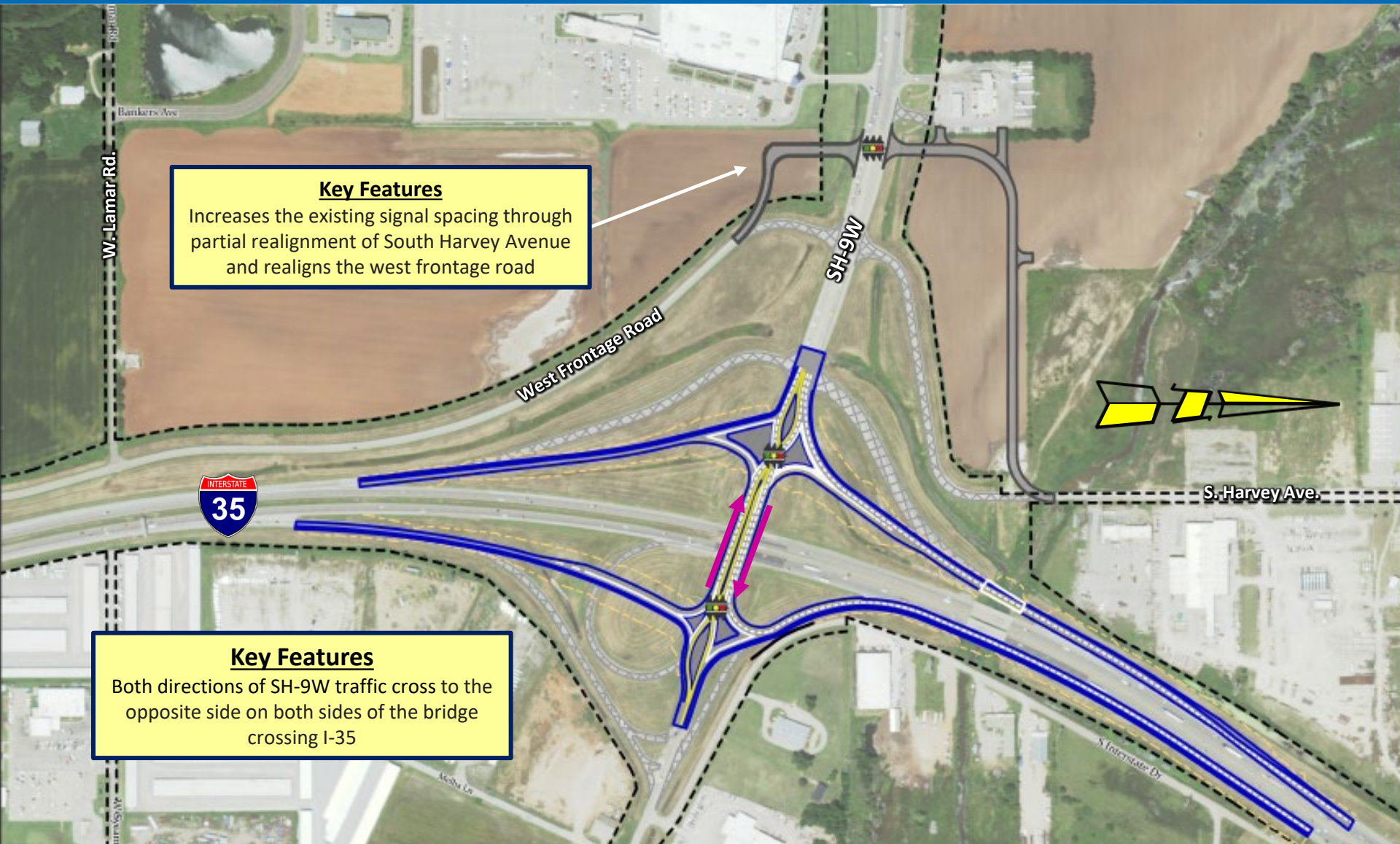
2009
New SH-9 bridge opens

2009-2019
Many interchange Alternatives are studied and revised

Today
From these interchange Alternatives, ODOT has selected four (4) for public input

I-35/SH-9W Interchange Improvements

Alternative 2A: Diverging Diamond Interchange (DDI)



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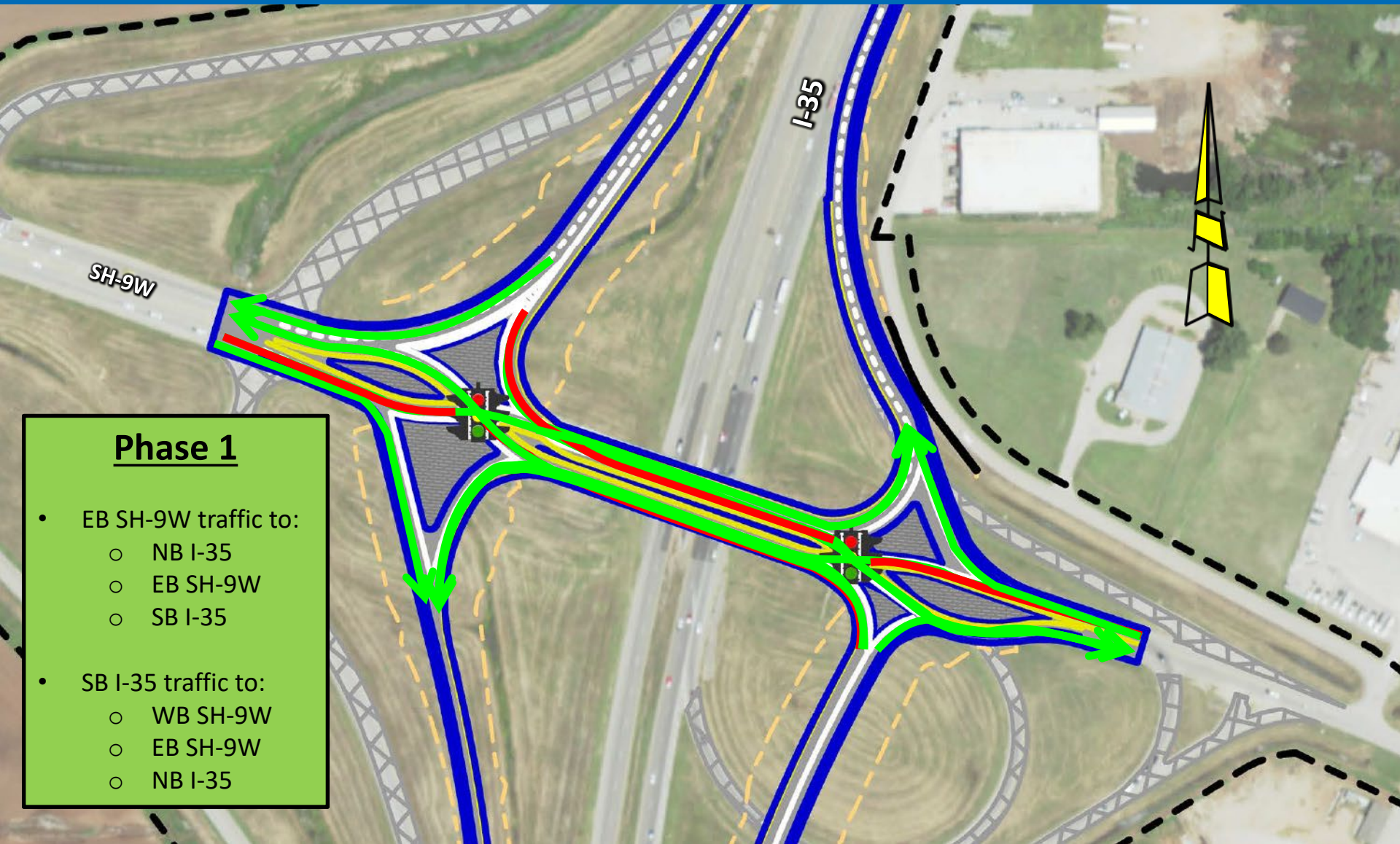
What is a Diverging Diamond Interchange?



Phase 1

- EB SH-9W traffic to:
  - NB I-35
  - EB SH-9W
  - SB I-35
- SB I-35 traffic to:
  - WB SH-9W
  - EB SH-9W
  - NB I-35

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What is a Diverging Diamond Interchange?

- An interchange in which two directions of traffic on the non-freeway road cross to the opposite side on both sides of the bridge at the freeway
- Can reduce congestion by eliminating the need for separate left turn arrows at the ramp intersections
- Reduces wait time
- Allows higher capacity for interchanges with heavy ramp volumes
- Uses additional medians, signing and striping on the roadway to make the routes very clear

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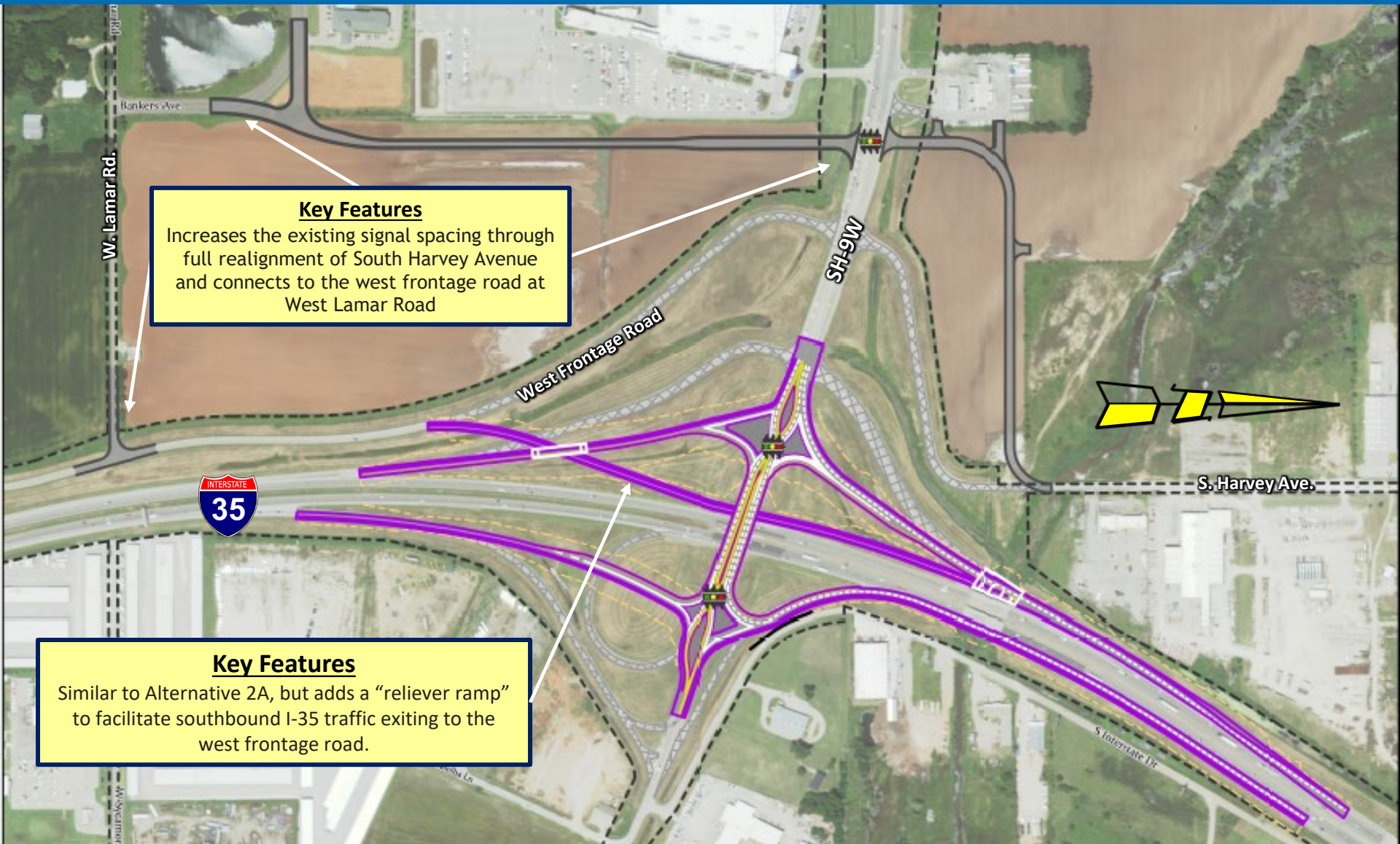
Alternative 2B: Diverging Diamond Interchange (DDI) with Reliever Ramp



Key Features

Increases the existing signal spacing through full realignment of South Harvey Avenue and connects to the west frontage road at West Lamar Road

Key Features

Similar to Alternative 2A, but adds a "reliever ramp" to facilitate southbound I-35 traffic exiting to the west frontage road.

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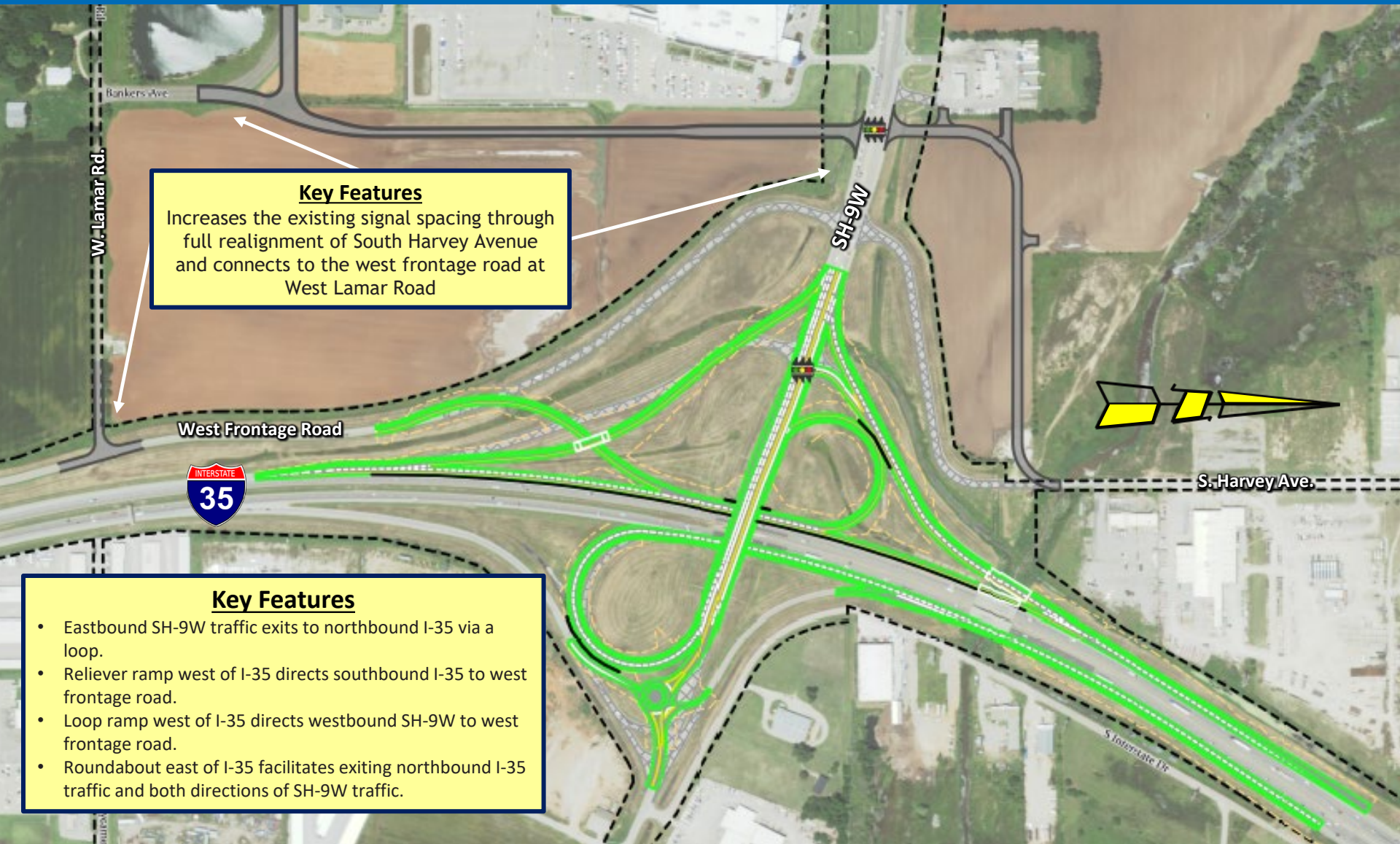
Alternative 3D: Loop Interchange with Reliever Ramp



Key Features

Increases the existing signal spacing through full realignment of South Harvey Avenue and connects to the west frontage road at West Lamar Road

Key Features

- Eastbound SH-9W traffic exits to northbound I-35 via a loop.
- Reliever ramp west of I-35 directs southbound I-35 to west frontage road.
- Loop ramp west of I-35 directs westbound SH-9W to west frontage road.
- Roundabout east of I-35 facilitates exiting northbound I-35 traffic and both directions of SH-9W traffic.

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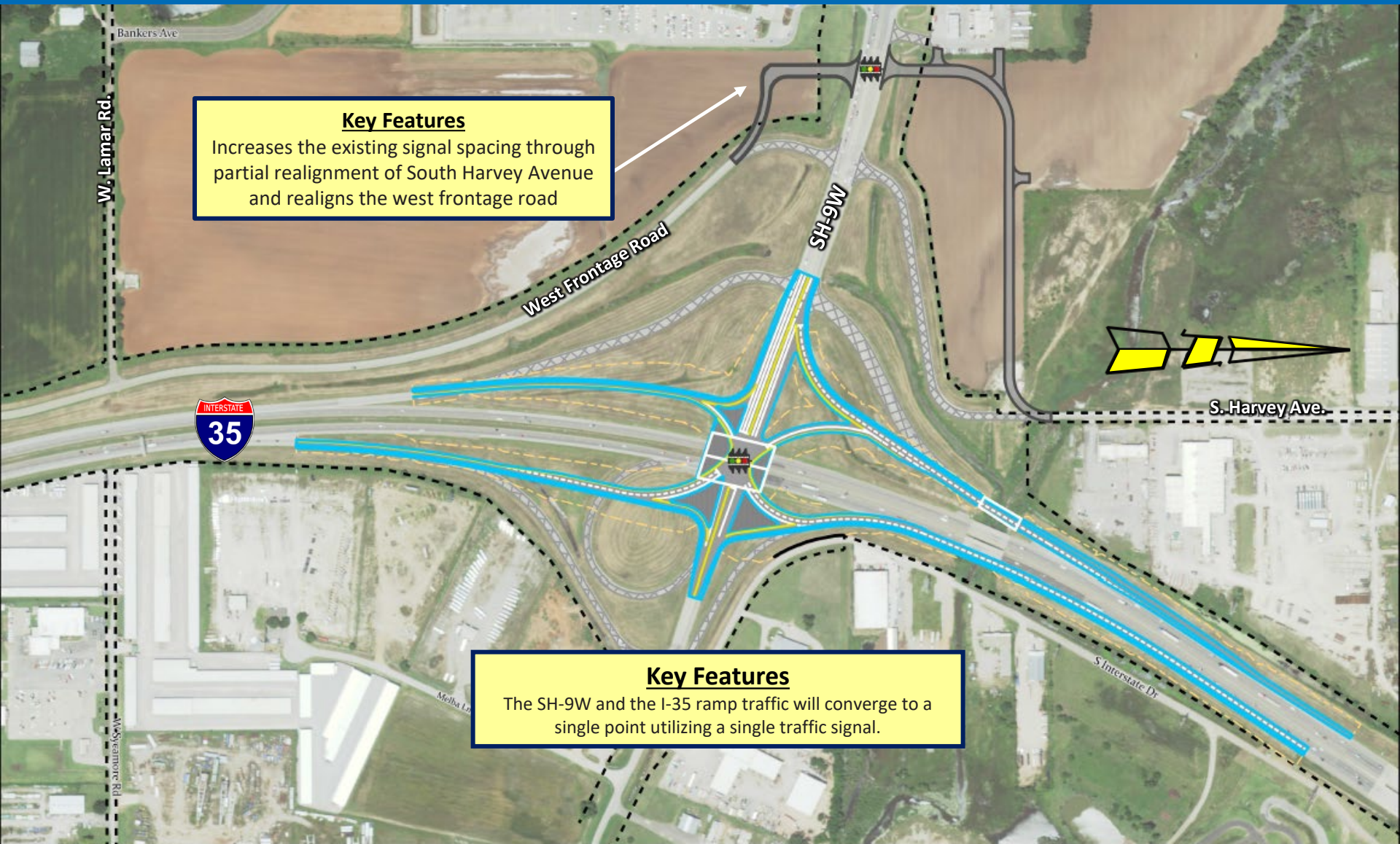
Alternative 4: Single Point Urban Interchange (SPUI)



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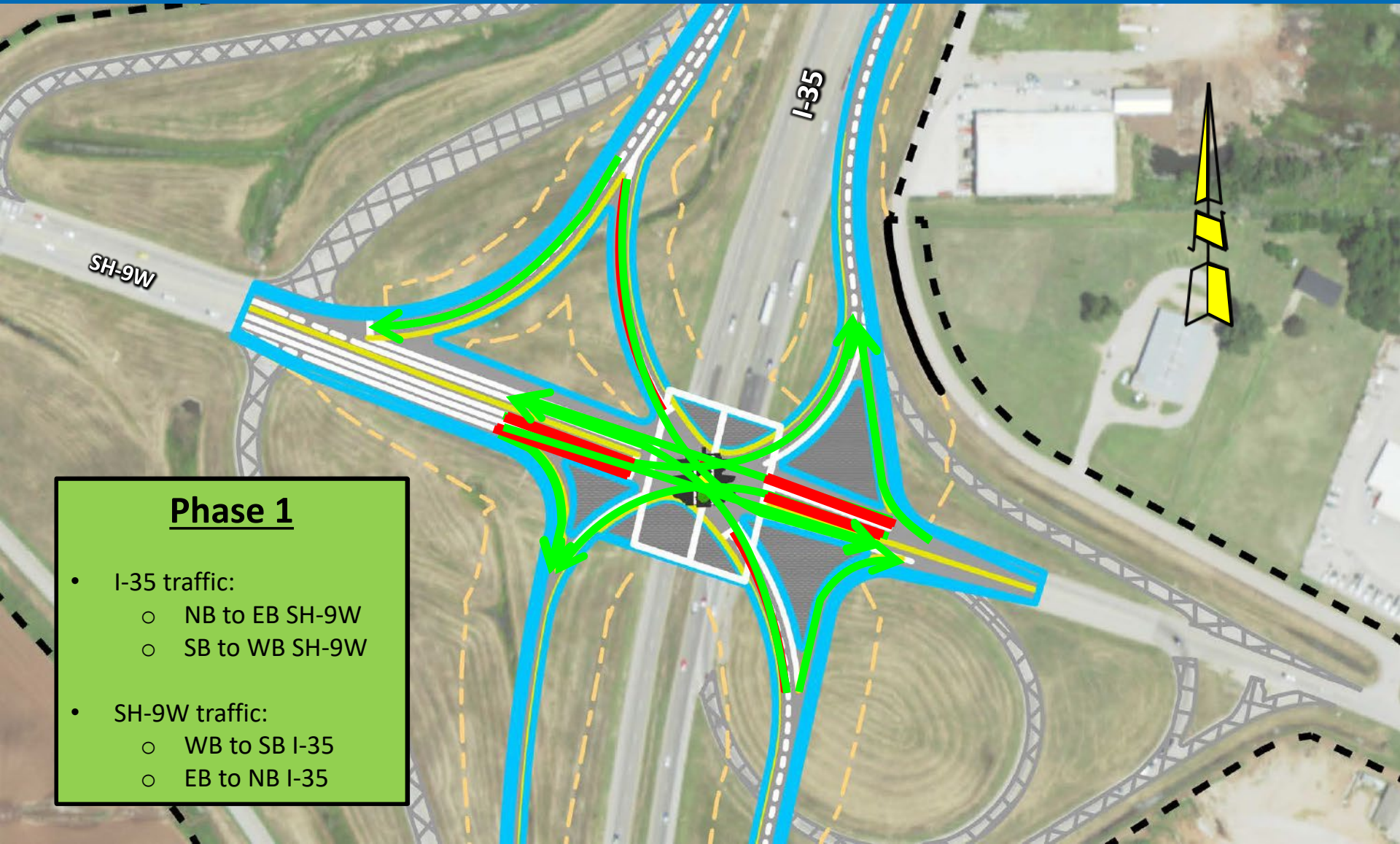
What is a Single Point Urban Interchange?



Phase 1

- I-35 traffic:
  - NB to EB SH-9W
  - SB to WB SH-9W
- SH-9W traffic:
  - WB to SB I-35
  - EB to NB I-35

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What is a Single Point Urban Interchange?

- An interchange with a single signalized central intersection in the center of the bridge
- Accommodates most movements with a single traffic signal
- Can accommodate higher turn capacities
- Larger vehicles, such as trucks, can easily navigate the wide turns
- Uses additional signing and striping on the roadway to make the routes very clear

I-35/SH-9W Interchange Improvements

Interchange Alternative Operation Comparison

Measure of Effectiveness (2050)	No Build		2A DDI		2B DDI w/ Reliever		3D Loop w/ Reliever		4 SPUI	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Average Delay	4.6 min	10.1 min	4.0 min	6.9 min	3.5 min	3.9 min	3.1 min	4.8 min	5.1 min	6.8 min
Average Speed	27 mph	13 mph	29 mph	18 mph	31 mph	27 mph	33 mph	24 mph	25 mph	18 mph
Average Travel Time	8.0 min	12.8 min	7.1 min	9.7 min	6.7 min	6.9 min	6.4 min	7.7 min	8.3 min	9.6 min
Vehicle Throughput	79.9%	61.6%	86.9%	74.0%	88.3%	87.0%	89.6%	82.3%	81.5%	74.4%
Average Number of Stops	6	24	5	14	4	6	3	9	7	13
Overall Operation Comparison										

Excellent Very Good Good Fair Poor

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Studies to Identify Constraints

Studies Performed to Identify Constraints

- Wetlands and Waters
- Threatened & Endangered Species Critical Habitat
- Archeological Sites
- Historic Properties in compliance with Section 106 of the National Historic Preservation Act
- Aboveground or Underground Storage Tanks
- Oil/Gas Wells
- Residential and Commercial Facilities
- Tribal Properties
- Utilities

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Constraints

Constraints

- **Control sediments created by construction to minimize Canadian River habitat impacts**
- **Potential for impact to Whooping Crane habitat**
- **Avoid construction during migratory bird nesting season of March 1 – August 31, or place netting over structures**
- **Avoid offsite cultural resource sites (2)**

These constraints are consistent with all four alternatives.

I-35/SH-9W Interchange Improvements

Features of All Alternatives

- All Alternatives improve traffic operations
- Construction can be completed with no property acquisitions and no frontage road work east of I-35
- Existing signal spacing is increased between the southbound I-35 off-ramp and South Harvey Avenue through the realignment of South Harvey Avenue
- South Harvey Avenue realignment improves safety and traffic flow to/from local businesses

I-35/SH-9W Interchange Improvements

Pros and Cons of All Alternatives

PROS	2A	2B	3D	4
Least delays in 2050		✓		
Lowest construction cost	✓			
Shortest construction duration	✓			
Reuses existing SH-9W bridge over I-35	✓	✓	✓	
Reduced traffic conflict points	✓	✓		
Better sight distance for turns	✓	✓		✓
Increased left turn capacities	✓	✓		✓
Easier turns for larger vehicles				✓
1 or no traffic signals at interchange			✓	✓
Reduced opportunity for wrong way entry to I-35	✓	✓		✓
NEUTRAL	**2A**	**2B**	**3D**	**4**
Southbound I-35 traffic has single exit, which meets driver expectations	✓			✓
Southbound I-35 traffic has multiple exits, allowing traffic to pass first exit		✓	✓	
CONS	**2A**	**2B**	**3D**	**4**
Highest construction cost alternate				✓
Longest construction duration				✓
SH-9W bridge over I-35 must be replaced				✓
Worst overall performance in 2050 delays across entire network				✓
Some drivers unfamiliar with SPUI operation*				✓
Some drivers unfamiliar with DDI operation	✓	✓		
Exiting I-35 traffic unable to re-enter interstate without leaving interchange	✓	✓		
Requires at least 2 traffic signals	✓	✓		
Other facilities/destinations may also request a reliever ramp		✓	✓	
Southbound I-35 entrance/reliever ramp exit presents a weave conflict			✓	
Potential for confusion with multiple southbound I-35 exit ramps			✓	
Loop entrance ramps require lower posted speeds due to geometry			✓	

***Single Point Urban Interchanges are in operation very near the project location: I-35 & Lindsay and I-35 and Main**

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Overall Interchange Alternative Comparison

Measure of Effectiveness	No Build	2A DDI	2B DDI w/ Reliever	3D Loop w/ Reliever	4 SPUI
Operation Comparison (2050)					
Construction Impacts	No Build	2A	2B	3D	4
Construction Cost	N/A	$18,889,328 	$22,900,382 	$21,388,775 	$32,754,157 
Construction Duration	N/A	195 	225 	265 	410 
Overall Comparison	No Build 	2A 	2B 	3D 	4 

 Excellent  Very Good  Good  Fair  Poor

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Submit Your Comments

- Leave your written comments with us tonight.
- Download and submit a comment form at:
  www.odot.org/publicmeetings
- Submit your written comments by mail to:
  Oklahoma Department of Transportation
  Environmental Programs Division
  200 N. E. 21st Street
  Oklahoma City, OK 73105
- Email your comments to:
  environment@odot.org
- Call and leave your comments in a detailed message:
  (405) 325-3269
- **Please submit your comments by December 9, 2021.**

Meeting material will be available for review after tonight's meeting!

I-35/SH-9W Interchange Improvements

Next Steps for ODOT

- Consider Comments from Public Meeting
- Select Preferred Alternative
- Complete Environmental Document
- Right-of-Way Acquisition and Utilities Relocation – FFY 2022
- Construction Begins - FFY 2023

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