CITY COUNCIL CONFERENCE

MUNICIPAL BUILDING CONFERENCE ROOM
201 WEST GRAY, NORMAN, OK

NOVEMBER 13, 2018

5:30 P.M.

1. **UPDATE AND DISCUSSION REGARDING THE I-35 CORRIDOR STUDY.**

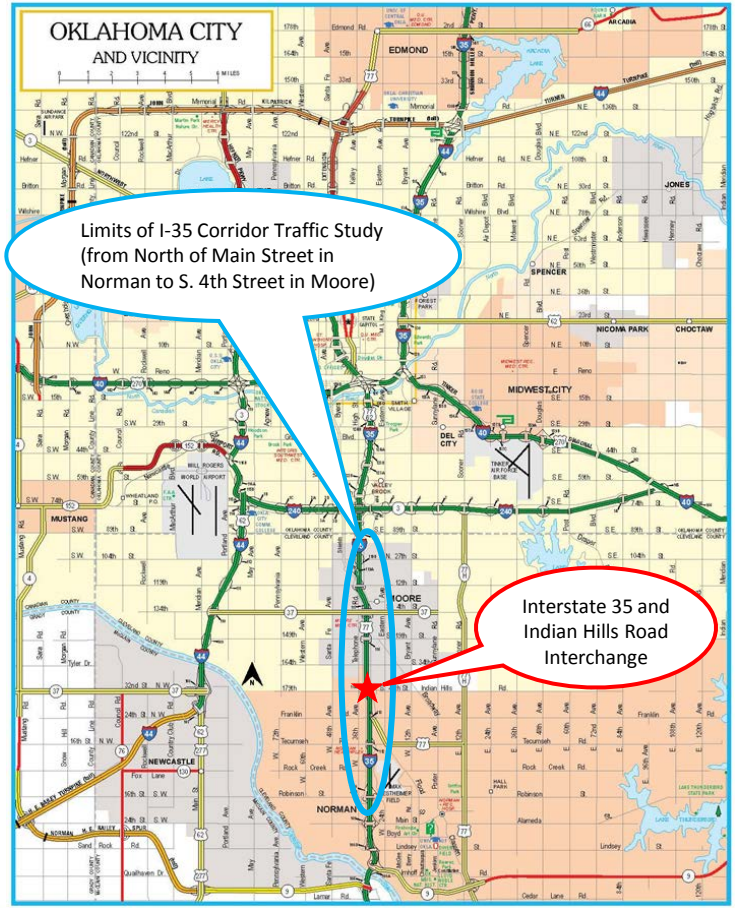
INTERSTATE 35 CORRIDOR STUDY UPDATE

PHASE 1

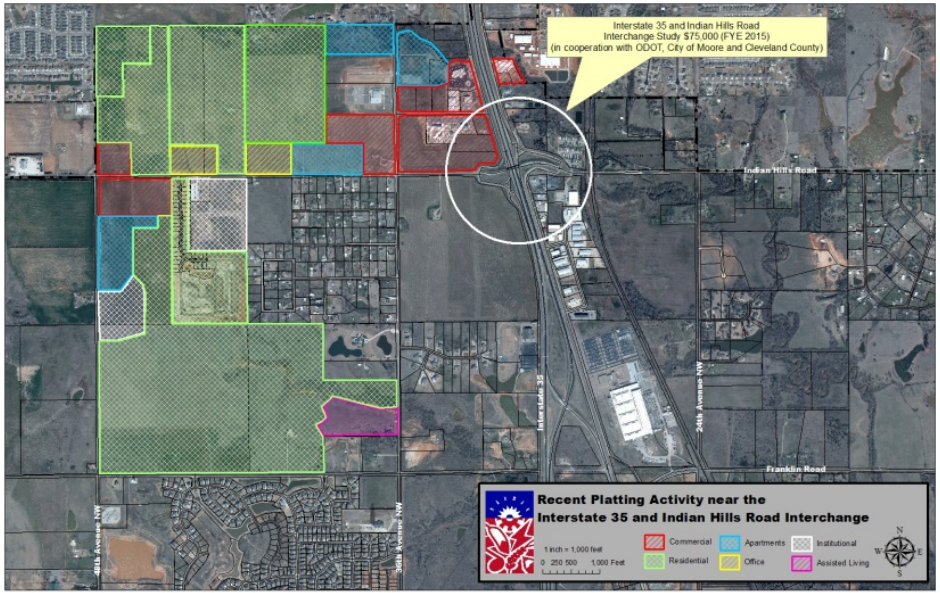
Contract K-1516-105

City Council Conference

November 13, 2018


OKLAHOMA CITY
AND VICINITY
Limits of I-35 Corridor Traffic Study (from North of Main Street in Norman to S. 4th Street in Moore)
Interstate 35 and Indian Hills Road Interchange
EDMOND
JONES
SPENCER
NICOMA PARK
CHOCTAW
MIDWEST CITY
DEL CITY
MUSTANG
MOORE
NEWCASTLE
NORMAN


EXIT 114
Indian Hill Rd


Interstate 35 and Indian Hills Road
Interchange Study $75,000 (FYE 2015)
(in cooperation with ODOT, City of Moore and Cleveland County)
Indian Hills Road
Interstate 35
24th Avenue NW
Franklin Road
Recent Platting Activity near the
Interstate 35 and Indian Hills Road Interchange
Commercial
Residential
Apartments
Office
Institutional
Assisted Living

Interstate 35 Corridor Study – Phase 1

- Two-Phase Study
- 3 Party Agreement
  - ODOT
  - City of Moore
  - City of Norman
- Total Cost of Study Phase 1 - $775,000
  - ODOT – 50% ($387,500)
  - City of Moore – 25% ($193,750)
  - City of Norman – 25% ($193,750)
- City's participation approved by Council on January 26, 2016 (Contract K-1516-105)
- Eighteen Month-Long Study

Interstate 35 Corridor Study - Phase 1

- Study will consider long term needs for corridor (from Robinson Street in Norman to SE 4th Street in Moore)
- Public Meetings
- Evaluation of every interchange in the corridor
- Consideration of new interchanges at Rock Creek Road in Norman and SE 34th Street in Moore
- Reconstruction and reconfiguration of the Robinson Street, Tecumseh Road and Indian Hills Road Interchanges

Interstate 35 Corridor Study - Phase 1 Accomplished Tasks

- Data Collection
- Traffic Counts
- Crash Data
- Public Involvement
- Universe of Alternatives for Individual Interchanges
- Draft Report
- Universe of Corridors
- 5 Corridor Alternatives + No Build

Interstate 35 Corridor Study - Phase 1
Basis of Study

- Congestion along I-35
- Reliability Issues
- Inconsistencies in Operations
- Limited East-West Access
- Limited North-South Local Access
- Insufficient Capacity
- Lack of Pedestrian / Bicyclists Facilities
- Confusing Local Access Patterns
- Funding Limitations

Interstate 35 Corridor Study - Phase 1
Goals and Objectives

Goals:

- Operations
- Functionality
- Efficiency
- Connectivity
- Safety
- Affordability

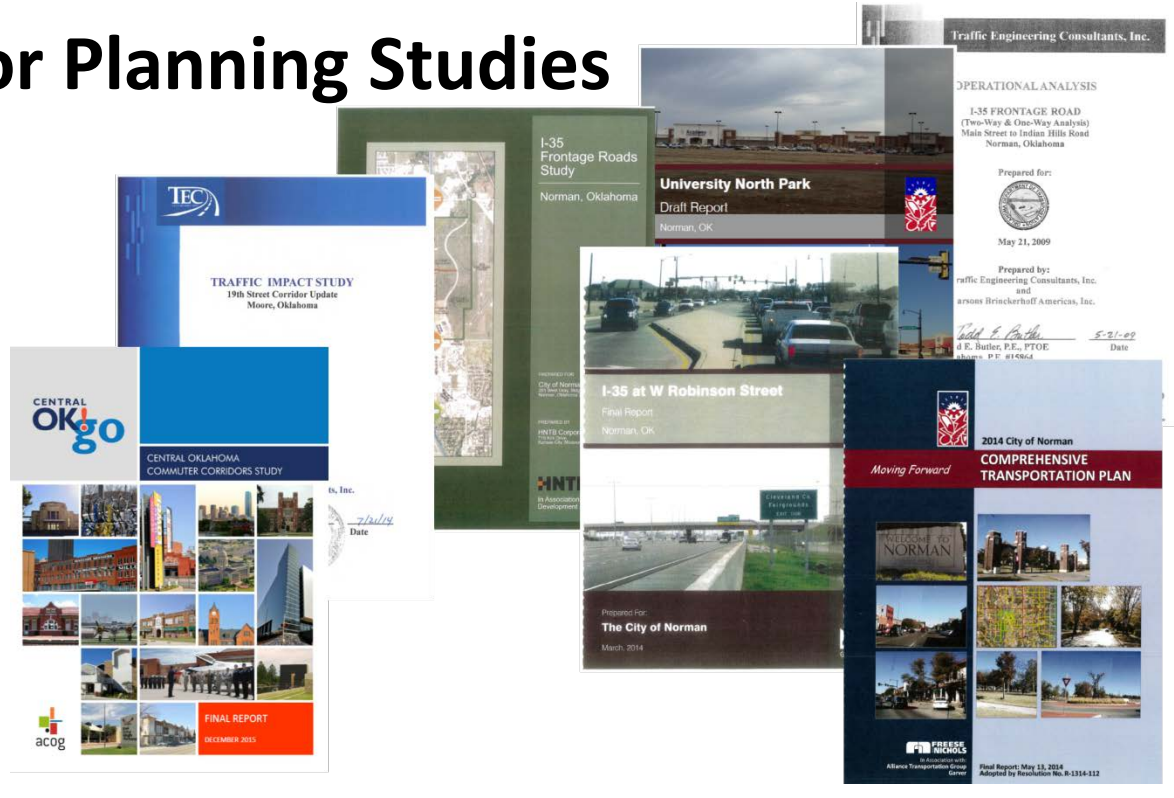
Objectives:

- Determine Traffic Demand
- Seek Public Input
- Potential Roadway Solutions
- Solutions with Minimal Impact
- Options for Emerging Technology
- Consider Local Plans

Interstate 35 Corridor Study - Phase 1
Planning Context

Current and Prior Planning Studies

- ODOT
- Moore
- Norman
- ACOG



Interstate 35 Corridor Study - Phase 1
Evaluation of Current Conditions

Existing Plus Committed Network

- Existing System: 2017 Conditions
- Committed Network Includes:
  - Robinson Avenue: West Leg Intersection Improvements
  - SW 34th Street: Bridge over I-35
  - I-35 Striping between Robinson Avenue and Main Street
  - Indian Hills Bridge

Interstate 35 Corridor Study - Phase 1
Traffic Projections and I-35 Operational Analysis

Design Traffic

- Raw Traffic Data Collection
- 2017 Design Traffic Development
- 2045 Future Design Traffic Development

Mainline I-35 Operations

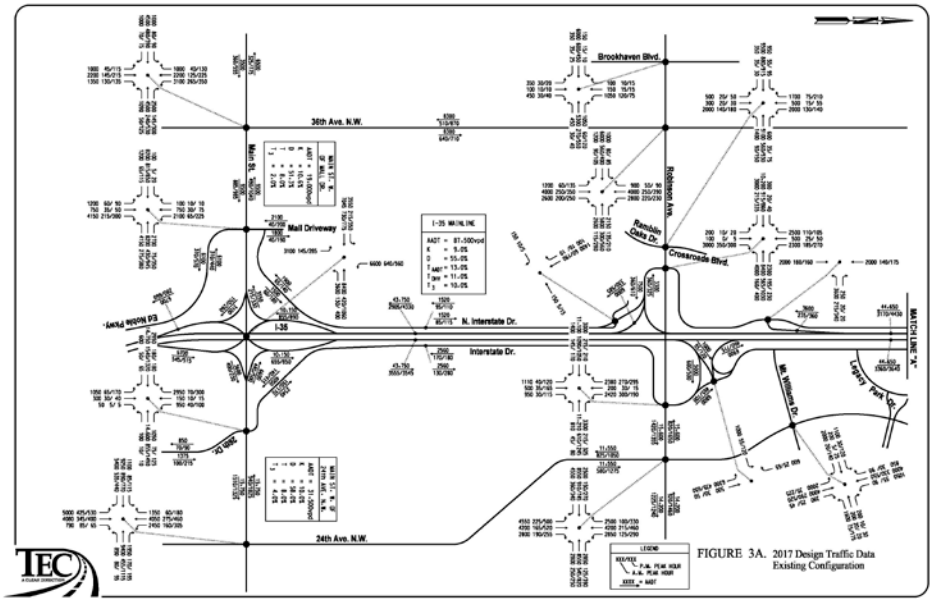


FIGURE 3A. 2017 Design Traffic Data Existing Configuration

Interstate 35 Corridor Study - Phase 1
Operational Analysis for I-35 (Level of Service)

I-35 Southbound 2017							
	Level of Service						
	A	B	C	D	E	F	Facility Average
AM		5	6	13	1		C
PM	1	7	4		13		F

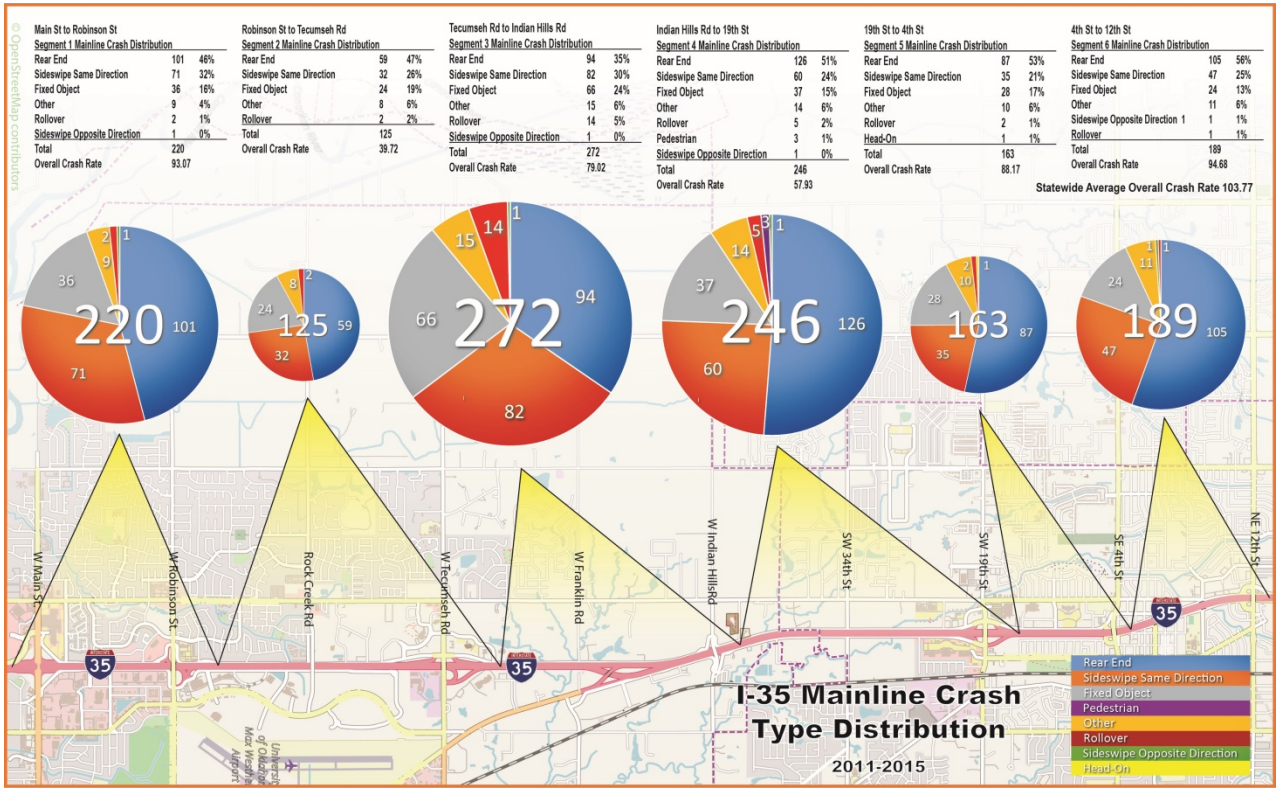
I-35 Northbound 2017							
	Level of Service						
	A	B	C	D	E	F	Facility Average
AM		3	8	9	4		D
PM		1	8	11	4		D

I-35 Southbound 2045							
	Level of Service						
	A	B	C	D	E	F	Facility Average
AM	4	6	1			14	F
PM	2					23	F

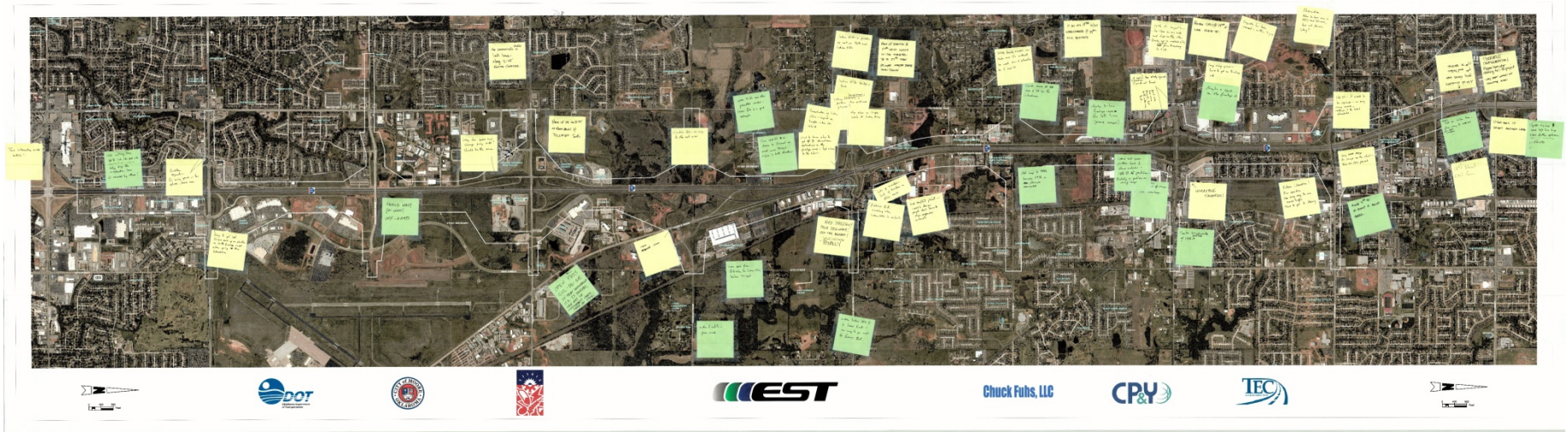
I-35 Northbound 2045							
	Level of Service						
	A	B	C	D	E	F	Facility Average
AM			4	4	1	15	F
PM			4	2		18	F

Interstate 35 Corridor Study - Phase 1 Safety Assessment

Crash Data
From January 1, 2011 to December 31, 2015



Interstate 35 Corridor Study - Phase 1
Community Input



Public Open House held on April 27, 2017

Interstate 35 Corridor Study - Phase 1 Community Input

Main Street:

- Pleased with SPUI intersection.

Robinson Street:

- Intersection issues west of I35.
- West Leg traffic backs up

Rock Creek:

- Need on/off I35 access.

Tecumseh Road:

- Southbound ramp backs
- Suggestion for a two-way backage road.

Indian Hills Road:

- Suggestion for a SPUI.
- Bridge needs fixing.

Interstate 35 Corridor Study - Phase 1
Screening Criteria Development and Methodology

Factors considered for Phase 1 - Qualitative

1. Operations
2. Functionality
3. Efficiency
4. Connectivity
5. Safety
6. Emerging Technologies
7. Affordability
8. Impacts
9. Public Agency Input
10. Overall Ranking

Interstate 35 Corridor Study - Phase 1
Development of Alternatives

Interchange Types

- Diamond Interchange
- Tight Urban Diamond Interchange (TUDI)
- Single Point Urban Interchange (SPUI)
- Diverging Diamond Interchange (DDI)
- Partial Cloverleaf Interchange (Parclo)
- Cloverleaf Interchange
- Offset Diamond Interchange

Interstate 35 Corridor Study - Phase 1
Diamond Interchange

Interstate 35 Corridor Study - Phase 1
Tight Urban Diamond Interchange

Interstate 35 Corridor Study - Phase 1

Single Point Urban Interchange

Interstate 35 Corridor Study - Phase 1
Diverging Diamond Interchange

Interstate 35 Corridor Study - Phase 1

Partial Cloverleaf Interchange

Interstate 35 Corridor Study - Phase 1
Cloverleaf Interchange

Interstate 35 Corridor Study - Phase 1
Development of Alternatives

Frontage Roads: One-Way

- Interchange Spacing
- Diamond Interchanges
- Auxiliary Lanes
- Driveways
- U-turns
- Grade Separations
- Grade Separation Orientation
- Frontage Road Width
- Intersection Approach Width
- Public Acceptance and Affordability

Interstate 35 Corridor Study - Phase 1
Development of Alternatives

Frontage Roads: Two-Way

- Interchange Compatibility
- Separation From Freeway Interchanges
- Frontage Road Functionality
- Footprint
- Approach Lanes
- Highly Customized Designs

Interstate 35 Corridor Study - Phase 1
Development of Alternatives

Low-Cost Interchange Alternatives

- Meet current and near-term traffic demand
- Avoid rebuilding bridges
- Preserve current frontage road operations
- Minimize developed land use impacts
- Able to be implemented in a short time

Interstate 35 Corridor Study - Phase 1
Development of Alternatives

Universe of Alternatives

- Previously Studied Alternatives
- Developed Additional Alternatives
- Determined Feasibility for Two-Way and One-Way Frontage Roads

Type of Alternative	Location and Alternative Number							
	Robinson Ave	Rock Creek Rd	Tecumseh Rd	Franklin Rd	Indian Hills Rd	SW 34th St	SW 19th St	SW 4th St
One-Way Frontage Roads								
Diamond	1				1		1(a)(b)	
Diamond (X-Ramps)	1x				1x		1x(a) 1x(b)	1x
Tight Diamond					1(a)(b)			
Tight Diamond (X-Ramps)								
Single Point Urban		1		1				
Diverging Diamond		1						
Modified Diamond				1				1
Partial Clover		1				1		1
Partial Clover (X-Ramps)		1x				1x		
Two-Way Frontage Roads								
Diamond		2	2		2		2	2
Tight Diamond	2	2	2		2	2	2	2(a)(b)
Tight Diamond (X-Ramps)	2x	2x	2x					
Offset Diamond		2	2				2(a)(b)	
Modified Diamond				2 (a)(b)(c)				
Diverging Diamond	2		2		2		2	2
Single Point Urban	2(a)	2	2	2	2(a)(b)	2	2	2
Single Point Urban – reverse profile	2(b)							
Partial Clover			2		2		2	
Partial Clover (X-Ramps)								
Total Alternatives	**7**	**9**	**7**	**6**	**10**	**4**	**11**	**8**

Interstate 35 Corridor Study - Phase 1
Summary of Screening Criteria Results

Phase 1 screening process was applied to each interchange alternative

I-35 Corridor Study

Figure 87. SW 19th Street – Option 2 – Diamond

Description:

- Constructs a diamond interchange by replacing existing ramps.
- Maintains existing two-way frontage roads but requires realignment in three quadrants.
- Relocates the existing ramp intersections with 19th Street.

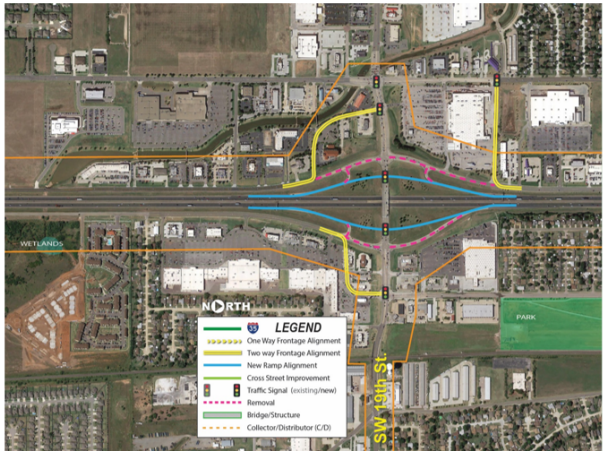
Impacts:

- Realigns existing two-way frontage roads and separates them from the interstate and ramp system.
- Maintains merge/diverge locations along I-35.
- Adds two new traffic signals along 19th Street.

Pass/Fail:

- Passes Level 1 screening; satisfies five of eight criteria.

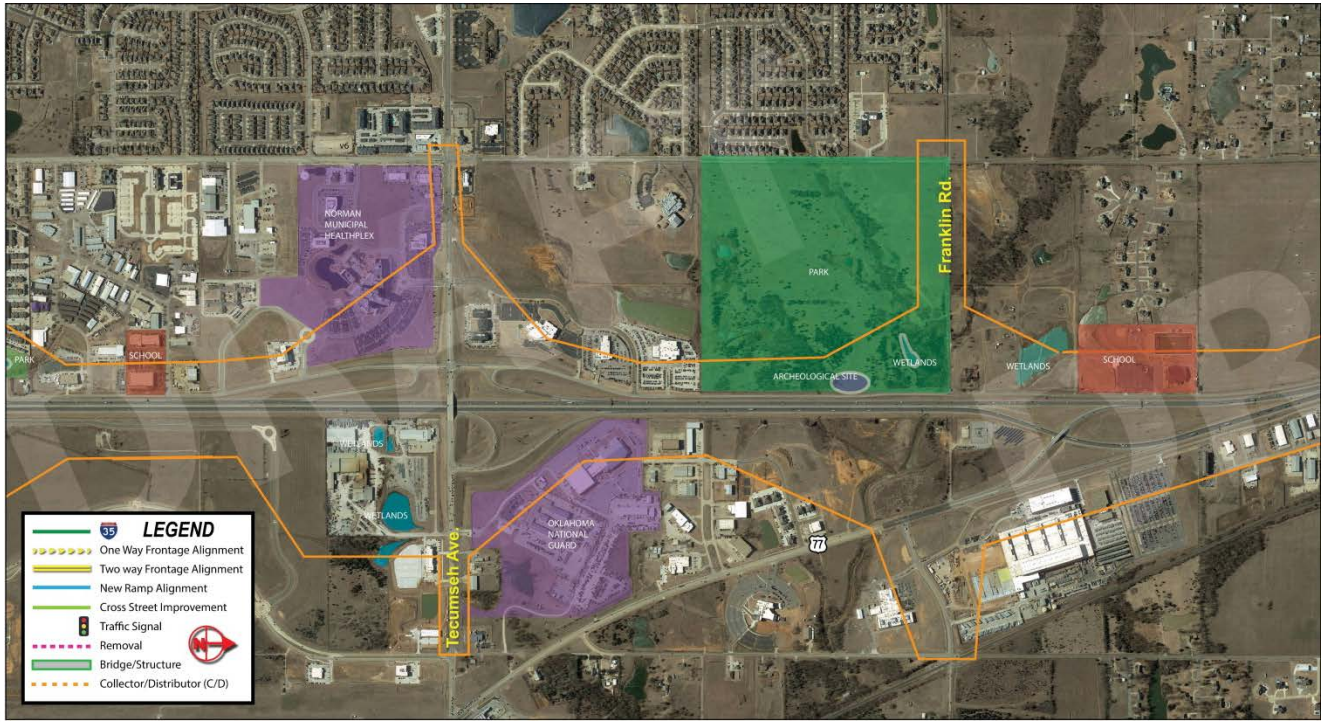
Screening Criteria:	Level 1	Level 2
Capacity	●	
Functionality	●	
Efficiency	○	
Connectivity	○	
Safety – Uniformity	●	
Flexibility	●	
Affordability	●	
Environmental/ROW	○	
ODOT Support		
Cities Support		
Overall		



Interstate 35 Corridor Study - Phase 1
Corridor Alternatives

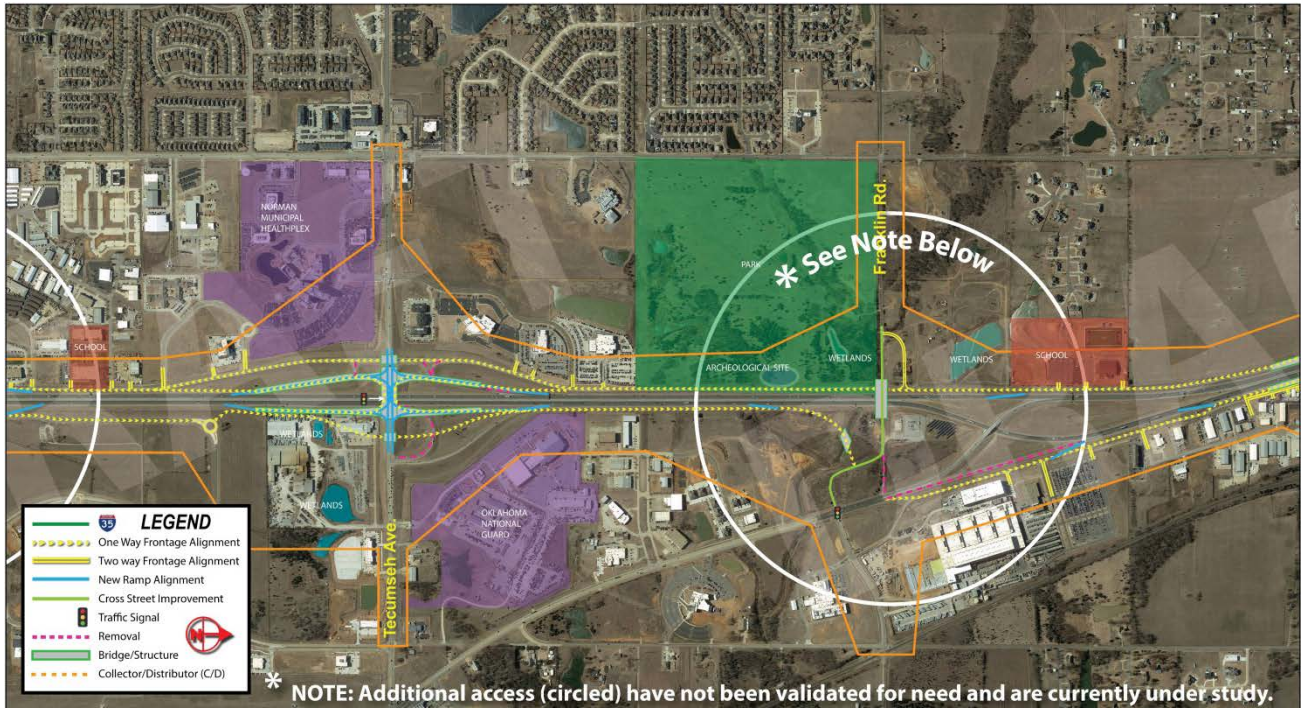
1. One-Way Frontage Road Alternative (Option 1)
2. Two-Way Frontage Road Alternative (Option 2)
3. One-Way Frontage Road Alternative – B (Option 1B)
4. One-Way Frontage Road Alternative with X-Ramping (Option 1X)
5. One-Way Frontage Road Alternative with X-Ramping – B

Interstate 35 Corridor Study - Phase 1
Corridor Alternative - No Build



Interstate 35 Corridor Study - Phase 1

Corridor Alternatives - Option 1 – One-Way Frontage Road

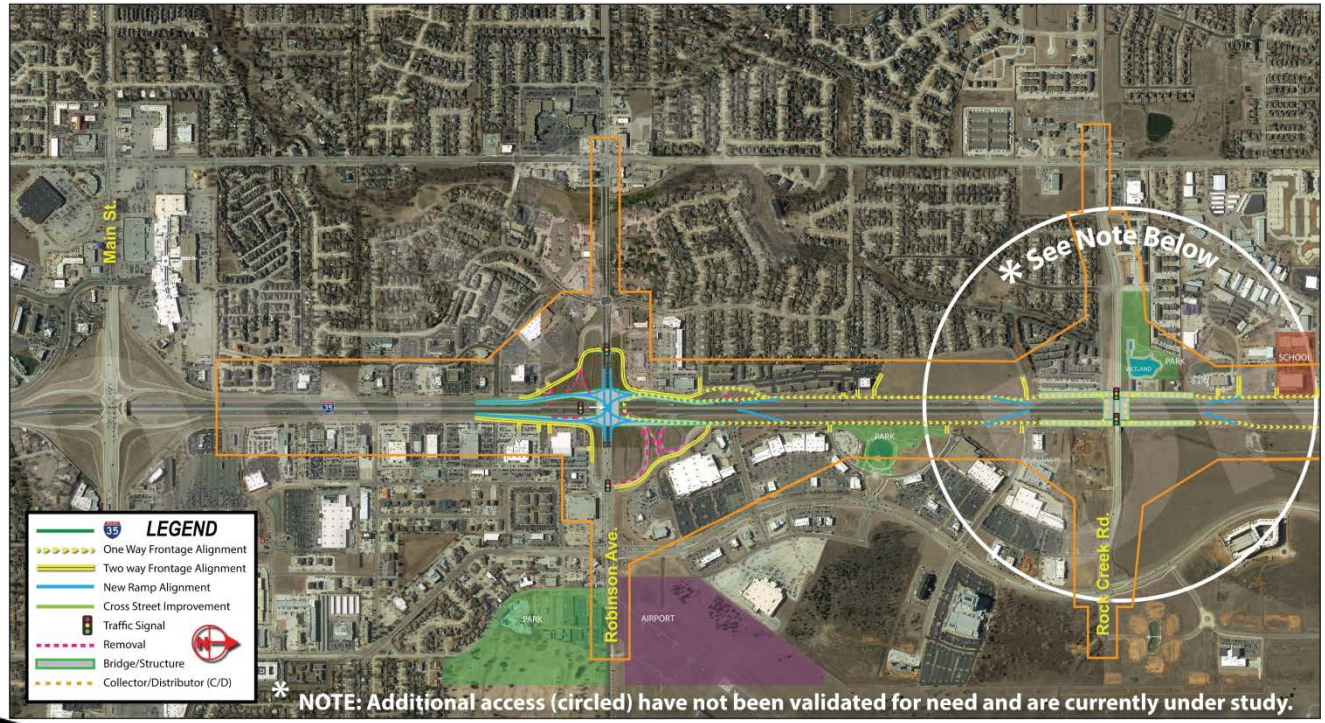


Interstate 35 Corridor Study - Phase 1

Corridor Alternatives - Option 1B – One-Way Frontage Road

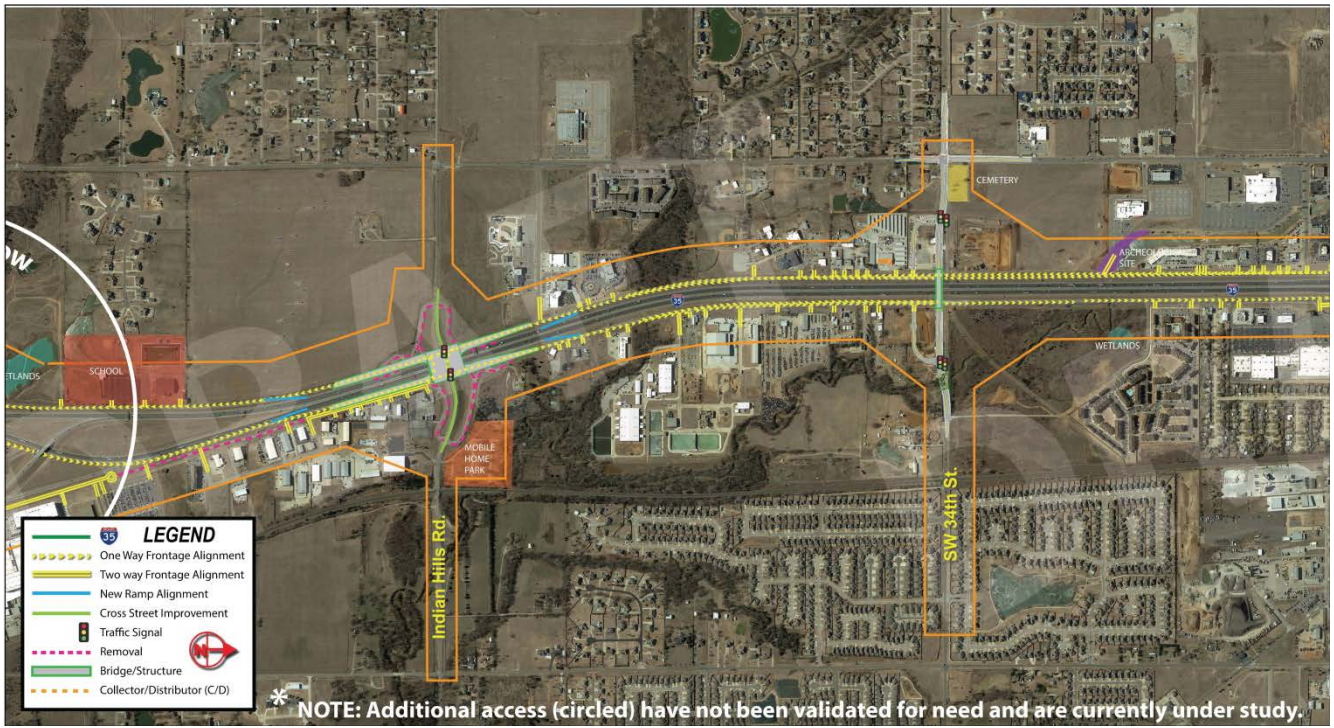
Interstate 35 Corridor Study - Phase 1

Corridor Alternatives - Option 1X – One-Way Frontage Road



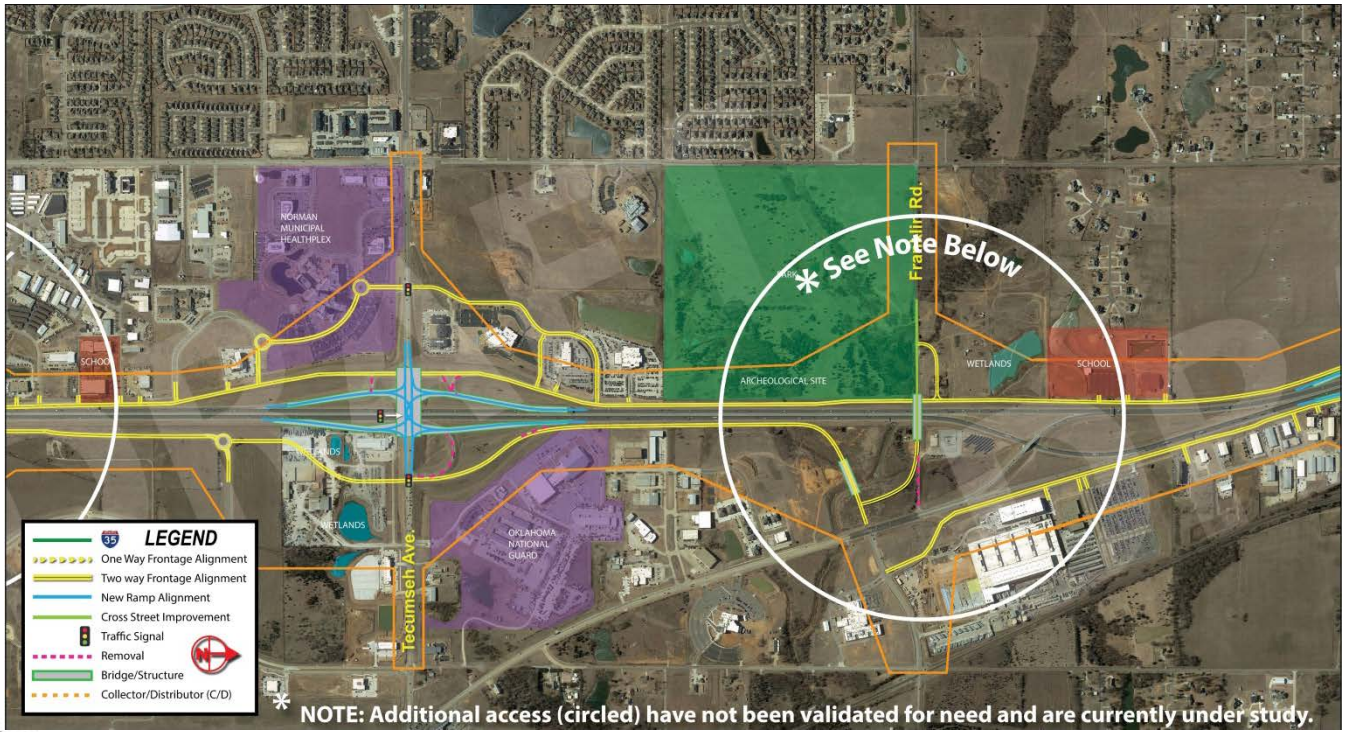
Interstate 35 Corridor Study - Phase 1

Corridor Alternatives - Option 1XB – One-Way Frontage Road



Interstate 35 Corridor Study - Phase 1

Corridor Alternatives - Option 2 – Two-Way Frontage Road



Interstate 35 Corridor Study - Phase 1
Next Steps

Phase II

- Contract Amendment and additional contribution
- Operations Analysis w/Trip Redistribution
- Potential Traffic Generators
- Development of Preferred Alternatives
- Second Public Meeting
- Selection of Alternatives
- Prioritize Project Packages
- Final Report