



# PUBLIC MEETING

## I-90 Exit 48 Interchange Modification Study

**Project Location:** I-90 Exit 48 (Stagestop Road) in Summerset

**Project Number:** HP 5596(25)P

**Date:** Wednesday, Jan. 24, 2024, 5:30 p.m.; Presentation at **5:45 p.m.**

Paul Brown, FHU Project Manager / Steve Gramm, SDDOT Project Manager

# SDDOT MISSION

**To efficiently provide a safe and effective  
public transportation system.**

<https://dot.sd.gov/>

# PROJECT PURPOSE AND NEED

- The existing interchange has limitations
  - Poor sight distance, narrow shoulders, inadequate access spacing
  - Need to preserve opportunities for I-90 expansion
- Studies have identified future traffic concerns at exit 48
  - Beginning in 2000, multiple analyses have forecasted poor traffic operations



# PURPOSE OF THE MEETING

Involve the public in the  
planning and design  
process

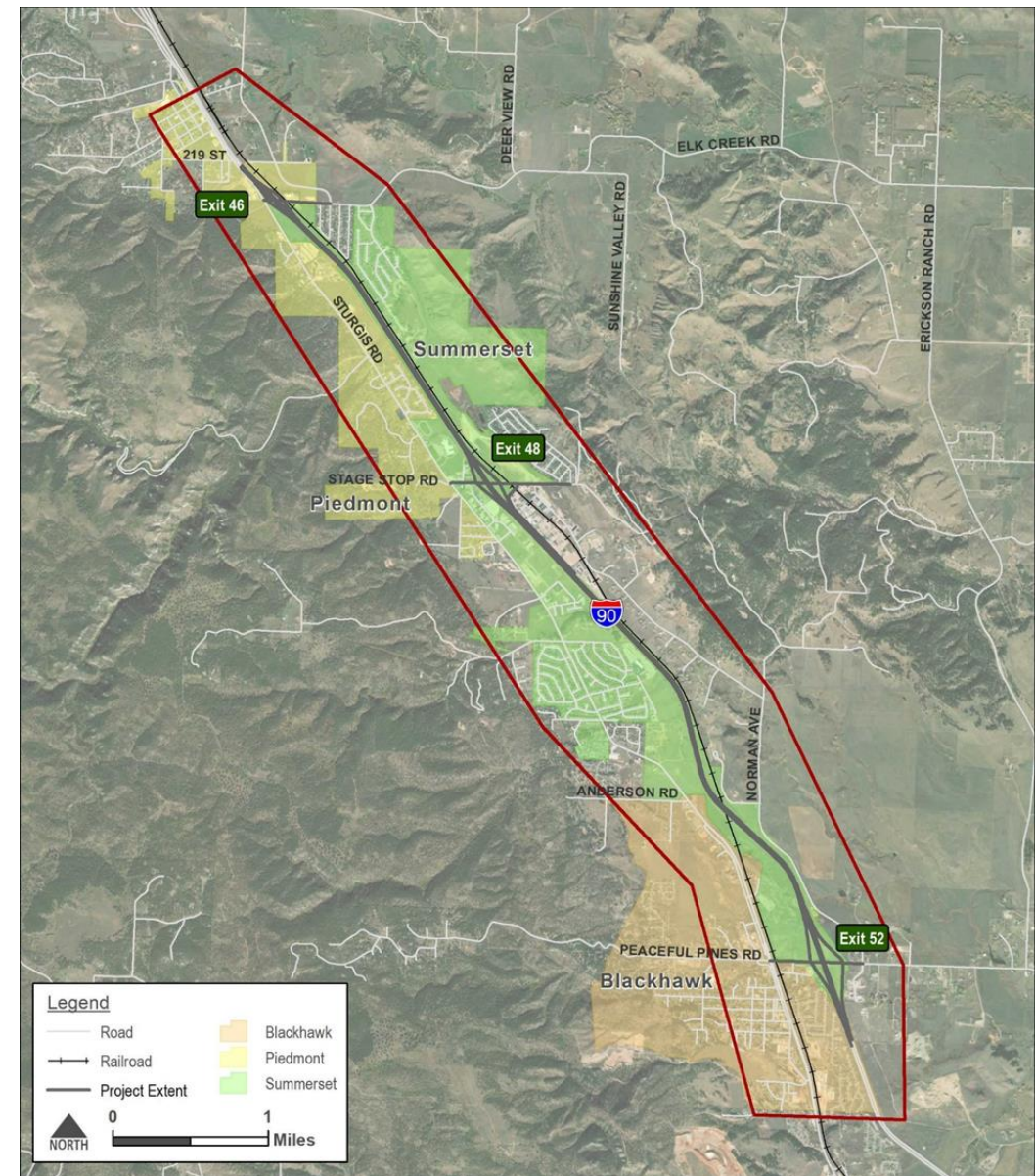
Provide a project  
overview

Gather input and  
comments

- ✓ Background information
- ✓ Proposed project
- ✓ Study schedule

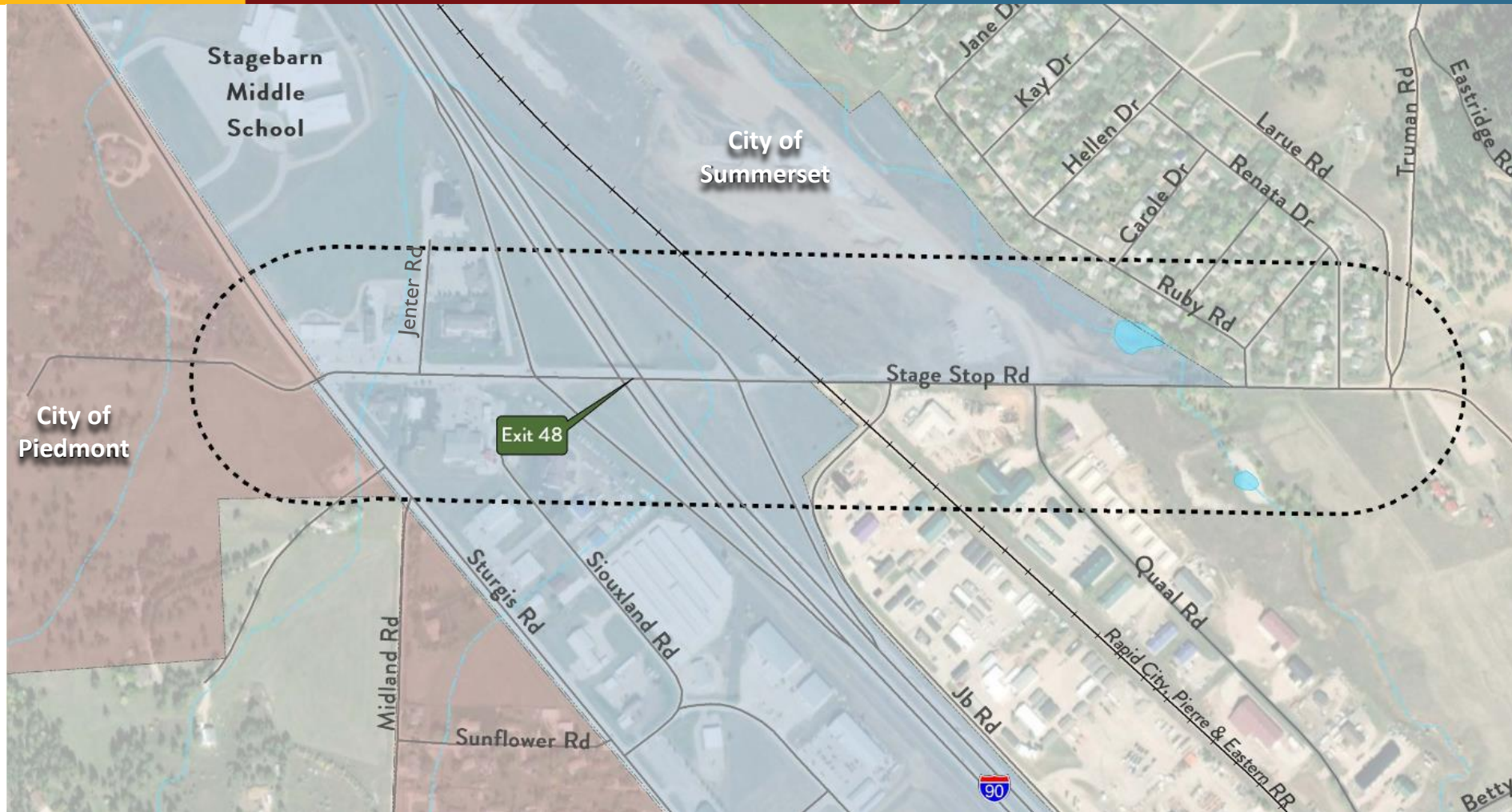
# PROJECT STUDY AREA

- I-90 between exit 46 and exit 52
- Interchanges
  - Exit 46 - Elk Creek Road
  - Exit 48 – Stagestop Road
  - Exit 52 – Peaceful Pines Road
- Context
  - Exit 46 reconstruction is currently being designed
  - I-90 improvements being reflected
  - Planned construction in 2024-2025





# EXIT 48 PROJECT LIMITS



# BACKGROUND INFORMATION

I-90 Corridor Preservation Study (2004)

I-90 Exit 40 to Exit 51 Environmental  
Assessment (2008)

Decennial Interstate Corridor Study  
(2000, 2010, 2020)

# TRAFFIC VOLUMES

## Stagestop Road

- 2023 Average Daily Traffic (ADT): 4,540 vehicles per day
- 2055 Projected ADT: 6,295 vehicles per day
- Trucks represent between 2 percent and 3 percent of traffic

## I-90

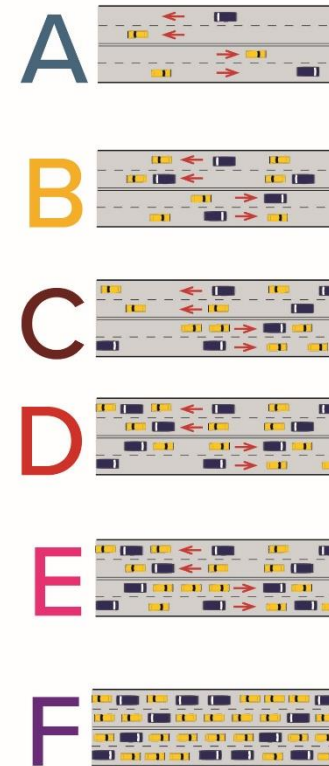
- 2023 ADT: 21,410 vehicles per day
- 2055 Projected ADT: 34,480 vehicles per day
- Trucks represent about 8 percent of traffic



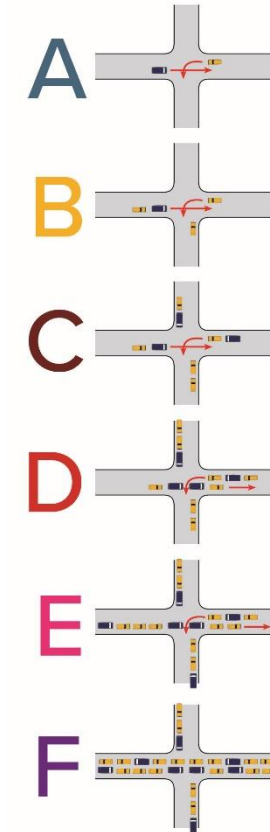
# TRAFFIC ANALYSIS METHODOLOGY

- Traffic analysis is used to describe a user's experience on a roadway.
- Metrics can include:
  - Level of Service (LOS)
  - Delay
  - Density
  - Queue lengths
- LOS is being used for this study.
  - Measured using letters from A to F, where LOS A is best and LOS F is worst.
  - LOS C has been chosen to define acceptable conditions.

## FREEWAY



## INTERSECTION



# TRAFFIC OPERATIONS RESULTS

## Existing (Year 2023)

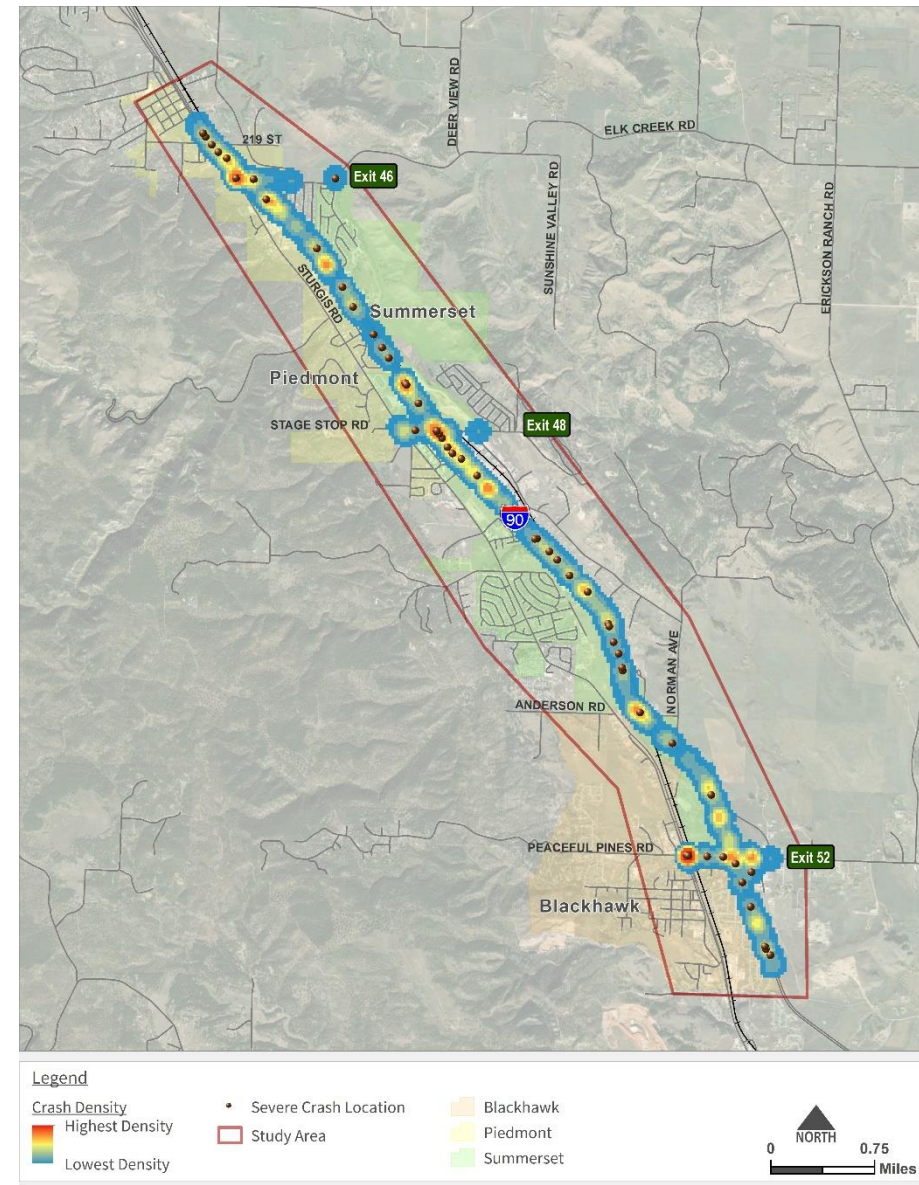
- Interchanges
  - Exit 46 – Acceptable operations (LOS C or better)
  - Exit 48 – Acceptable operations (LOS C or better)
  - Exit 52 – Mostly acceptable operations (one LOS E)
- I-90
  - Acceptable operations (LOS A or B)

## Future (Year 2055)

- Interchanges
  - Exit 46 – Acceptable operations (LOS C or better), reflects reconstruction
  - Exit 48 – Mixed operations (LOS E at two locations)
  - Exit 52 – Mixed operations (one location at LOS F)
- I-90
  - Mostly acceptable operations (LOS C or better, LOS D at one location)

# CRASH HISTORY

- Historical crash data (between 2018 and 2022) were reviewed
  - 371 crashes were recorded
  - Two fatal crashes on I-90
- I-90 Observations
  - Most crashes occurred on I-90
  - Animal crashes were most common
- Interchange Observations
  - Stagestop Road had the fewest crashes; Peaceful Pines had the most.
  - Broadside and rear end crashes were most common





# AREA CONCERNS

- Future growth and intersection operations
- At-grade railroad crossing
- Future I-90 widening to 6 lanes
- Proximity of side streets and driveways
- Skewed interchange and ramp intersections
- Proximity to RCP&E railroad and existing development
- Sight distance and safety at ramp intersections
- Pedestrian and bicycle connections
- Bridge condition and age



# INTERCHANGE OPTIONS – GENERAL

- Previous studies have identified:
  - Seven concepts for the exit 48 interchange
  - Three concepts for connectivity east of the railroad
- Cross Sections
  - Widening of I-90 to meet current standards and possible added lanes
  - Three lanes on Stagestop Road over I-90, five lanes possible
  - Shared use path on north side of Stagestop Road
- Options reflect JB Road and Siouxland Road access changes



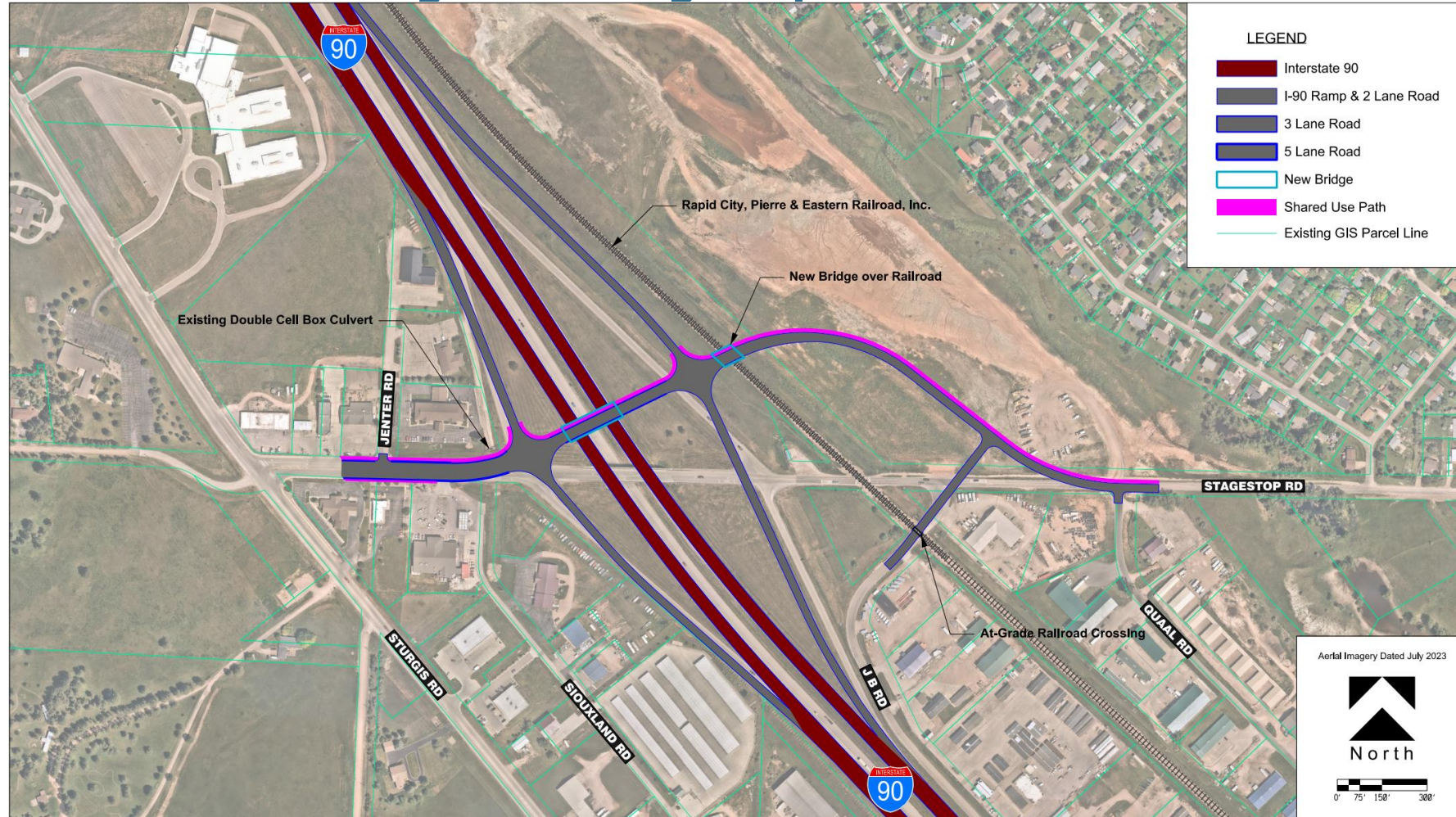
# INTERCHANGE OPTIONS – NO BUILD





# CONCEPT OPTION #1

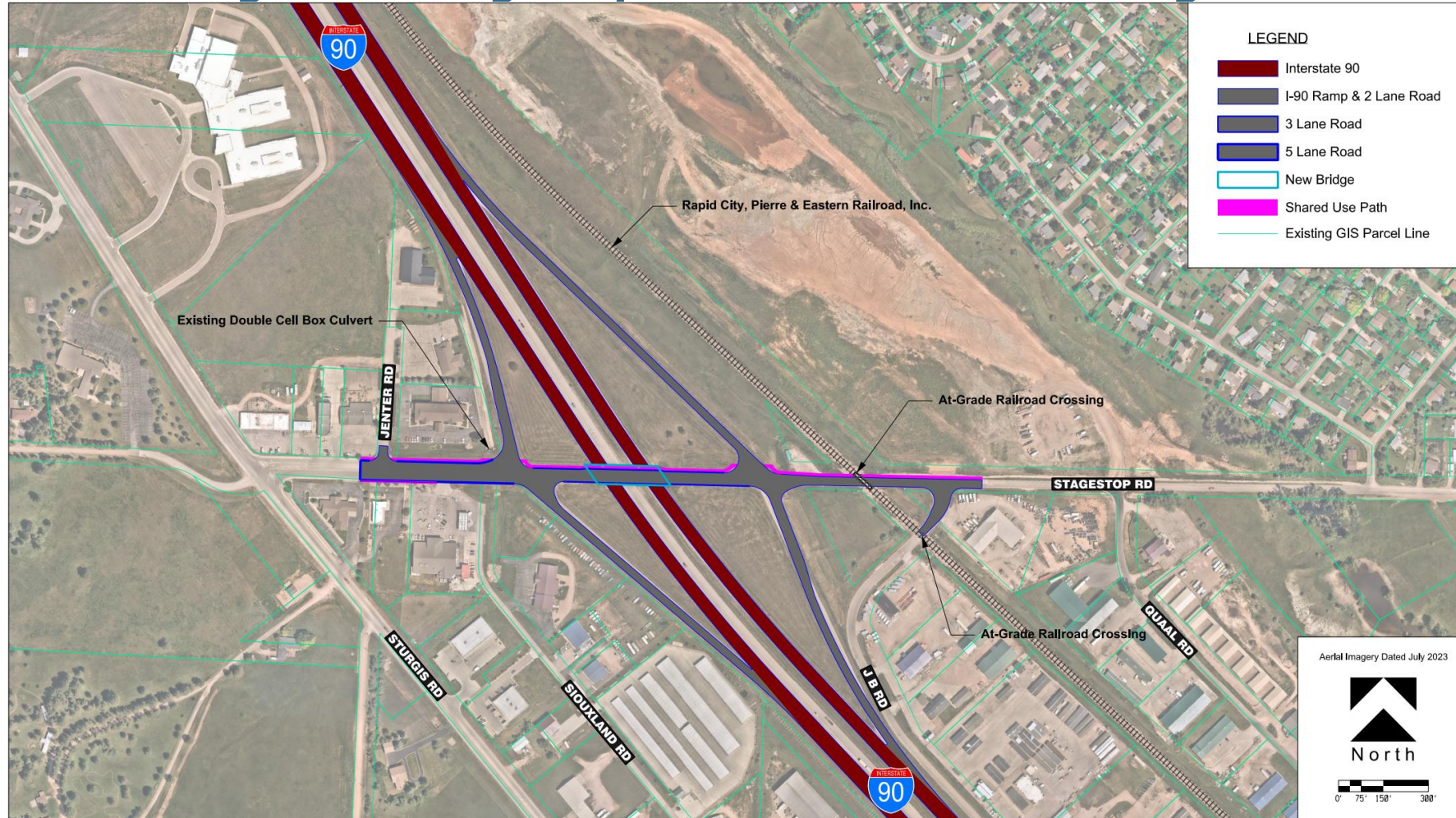
## Shifted Diamond Interchange with Stagestop Road over I-90 and Railroad





# CONCEPT OPTION #2

## Diamond Interchange with Stagesop Road over I-90 and At-grade Crossing





# CONCEPT OPTION #3

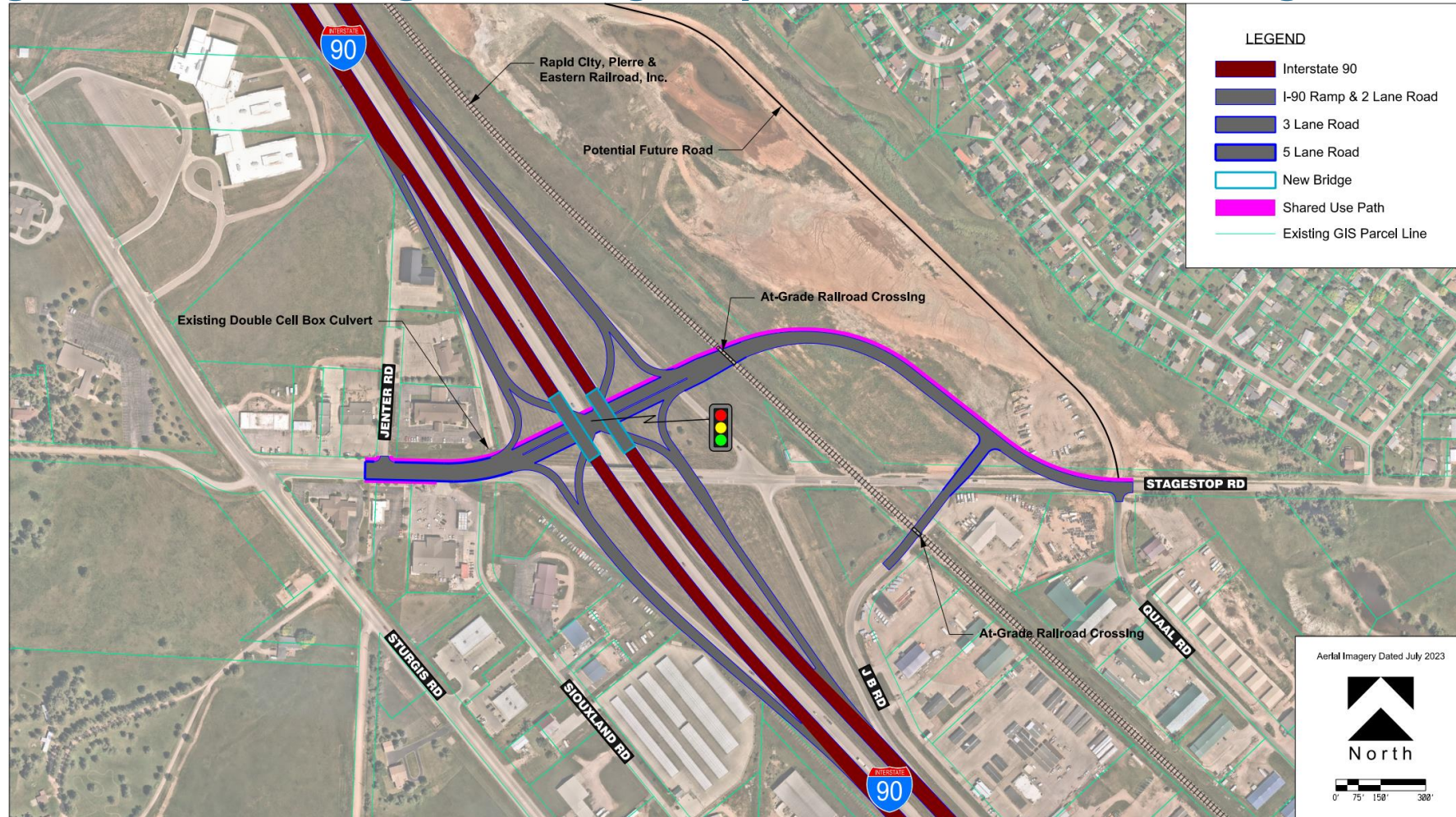
## Shifted Diamond Interchange With Stagesop Road Under I-90 And At-grade Crossing





# CONCEPT OPTION #4

## Shifted Single Point Interchange with Stagestop Road under I-90 and At-grade Crossing





# CONCEPT OPTION #5

## Single Point Interchange with Stagesstop Road over I-90 and At-grade Crossing





# CONCEPT OPTION #6

## Shifted Single Point Interchange with Stagesstop Road over I-90 and Railroad





# CONCEPT OPTION #7

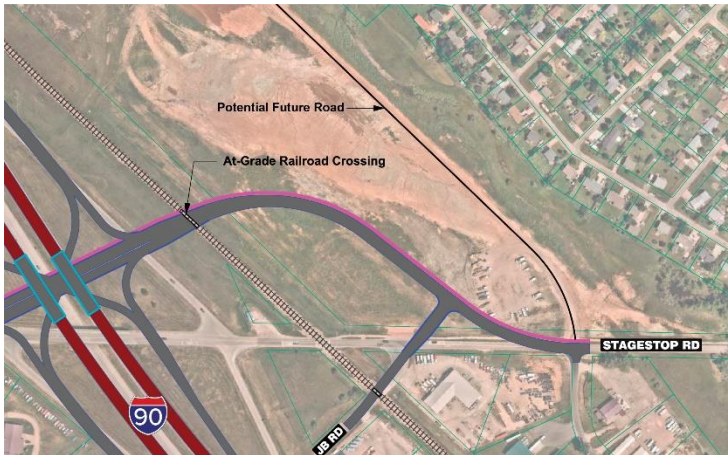
## Relocate Diamond Interchange to North





# POTENTIAL CROSS ROAD OPTIONS

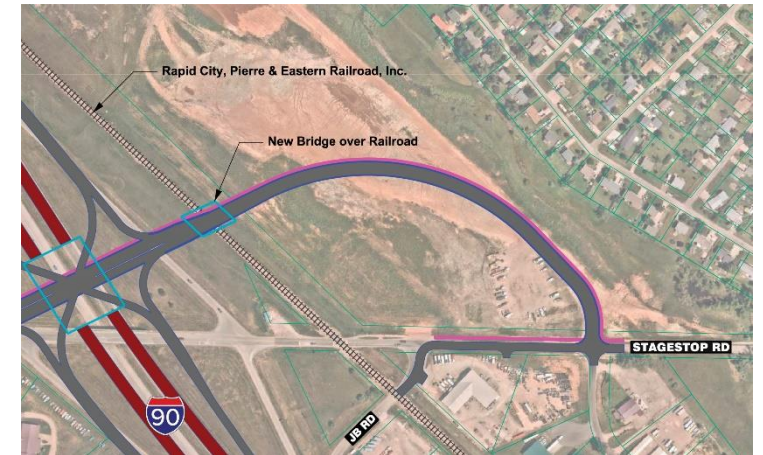
**Option A**  
**Realign Stageshop Road**



**Option B**  
**Glenwood Drive Connection**

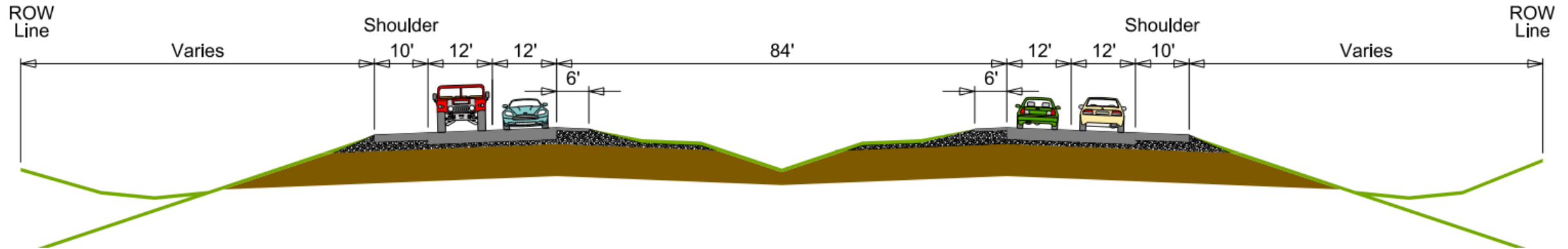


**Option C**  
**Quaal Road Connection**

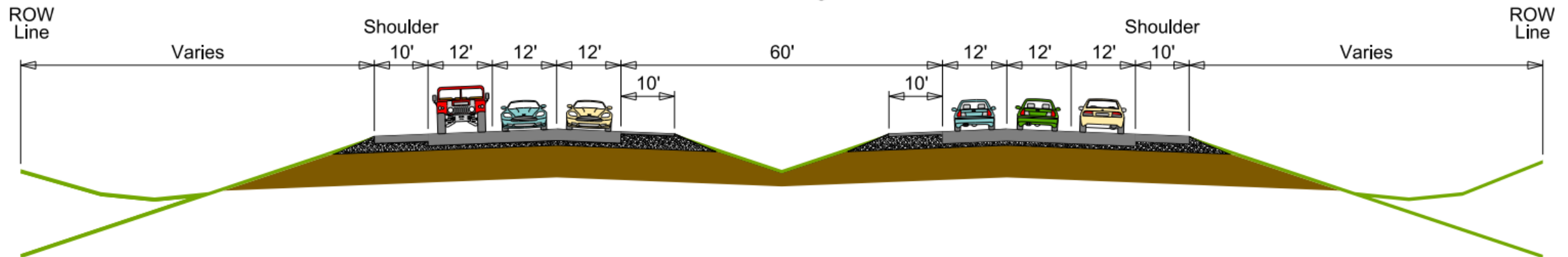


# PROPOSED CROSS SECTIONS – I-90

Mainline I-90  
Proposed 4 Lanes



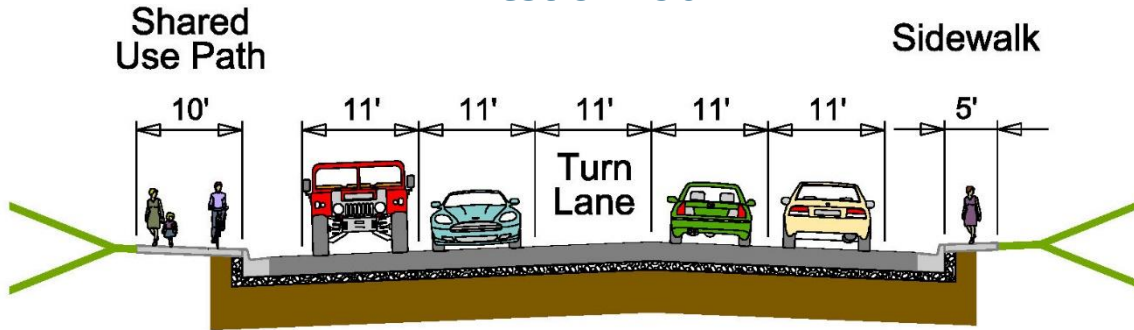
Mainline I-90  
Future Widening 6 Lanes



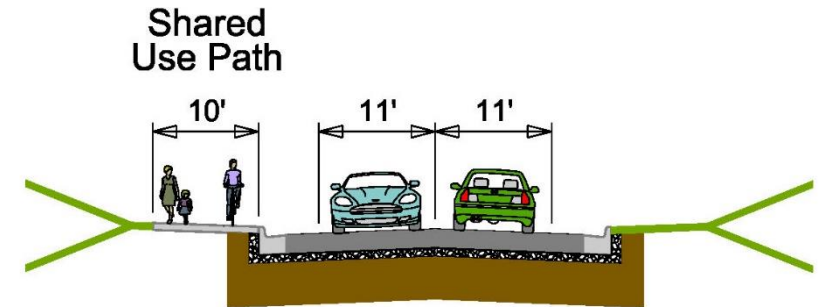


# PROPOSED CROSS SECTIONS – STAGESTOP ROAD

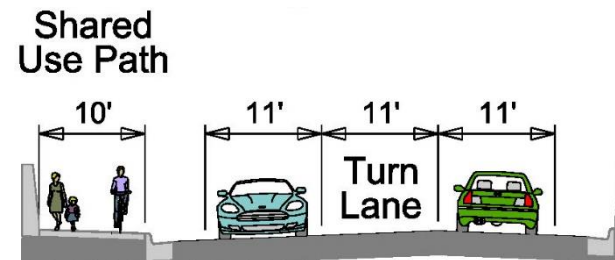
Stagestop Road  
West of I-90



Stagestop Road  
East of I-90

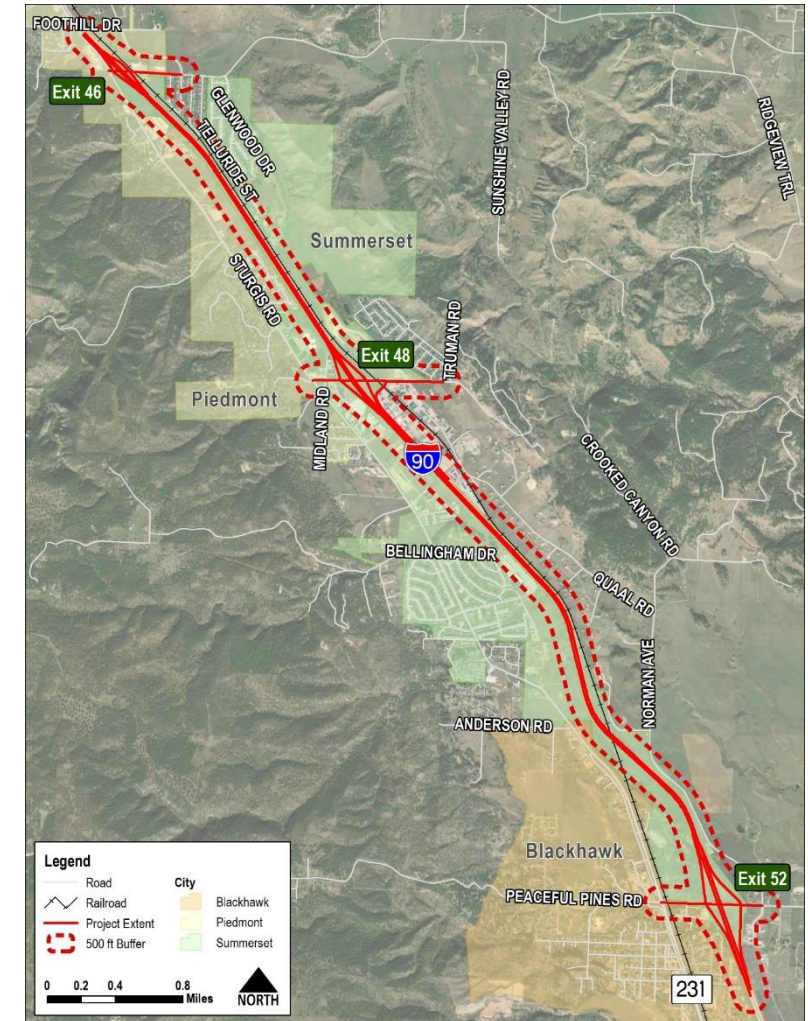


Stagestop Road  
Over I-90



# ENVIRONMENTAL, SOCIAL, AND ECONOMIC PROCESS

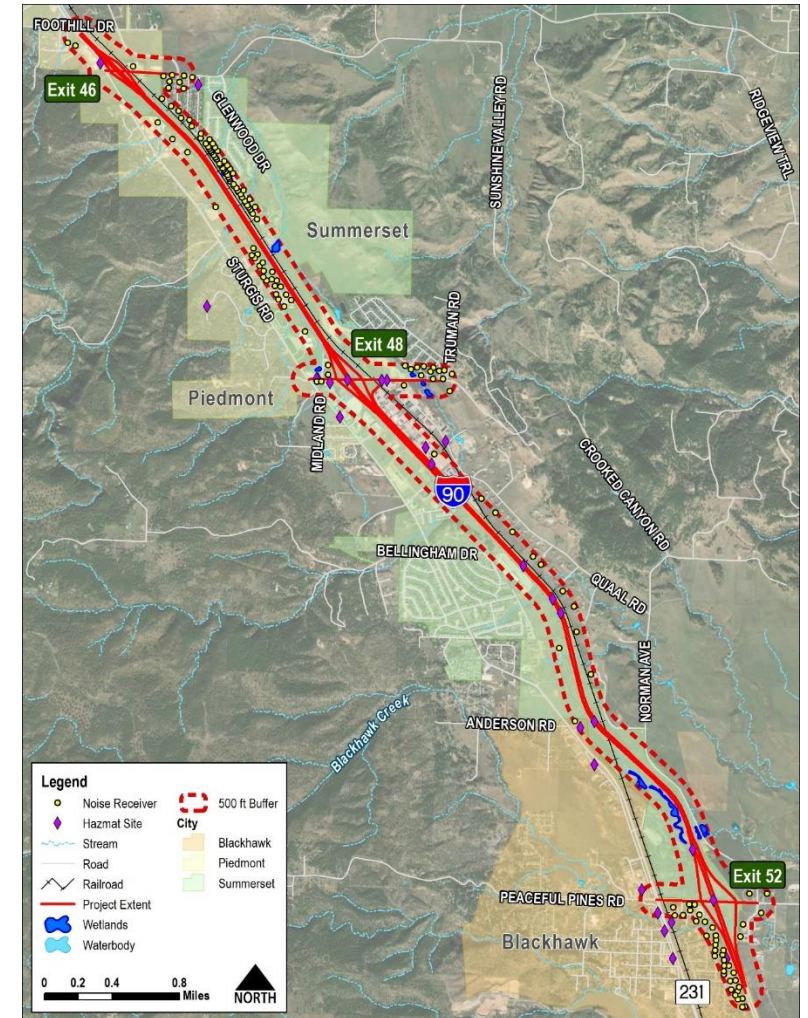
- Environmental Screening Study
  - Developed per State and Federal regulations
- Environmental study area
  - 500-foot buffer along I-90 between exit 46 and exit 52
- Prepare for the NEPA process
  - The NEPA study area will likely be smaller than the Screening Study area



# KEY ENVIRONMENTAL, SOCIAL, AND ECONOMIC ELEMENTS

Existing Conditions being evaluated:

- Biological resources
- Wetlands and other water resources
- Hazardous materials
- Noise and air quality
- Cultural and historic resources
- Community and social resources
- Visual and aesthetics

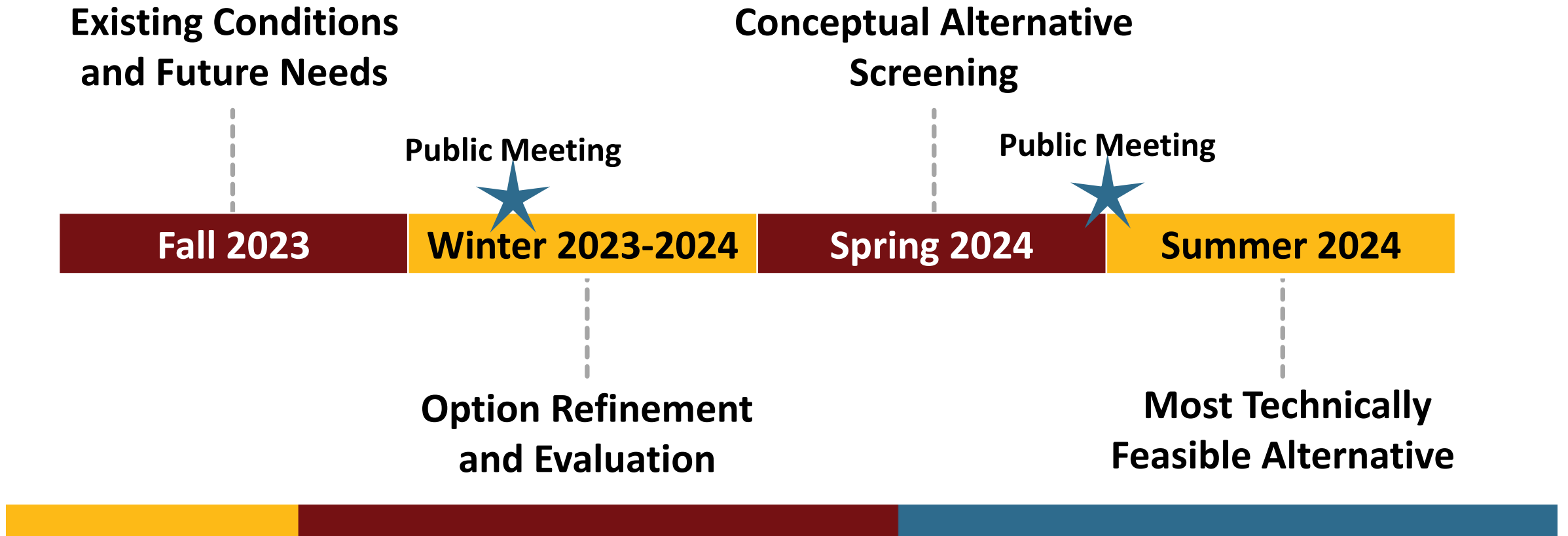


# EVALUATION CRITERIA

- Draft Evaluation Criteria include:
  - Physical
    - Right of way, access management, utilities, structures, railroad, constructability
  - Traffic
    - I-90 and Stagestop Road operations, railroad queues
  - Safety
    - I-90 and Stagestop Road safety, railroad crossing, conflicts
  - Multimodal
    - Trail connectivity, bicycles, pedestrians, multimodal school access
  - Environmental
    - Historical, noise, hazardous materials, communities of concern, wetlands
- We need your input
  - Share your preferences between these criteria.



# TENTATIVE STUDY SCHEDULE





# QUESTIONS OR COMMENTS

## DEADLINE:

Wednesday, Feb. 7, 2024

## SUBMIT TO:

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## WEBSITE:

<https://fhu.mysocialpinpoint.com/i-90-exit-48-interchange-study>

## THANK YOU!



SCAN ME