

I-90
EXIT 46 IMJR Open House



WELCOME

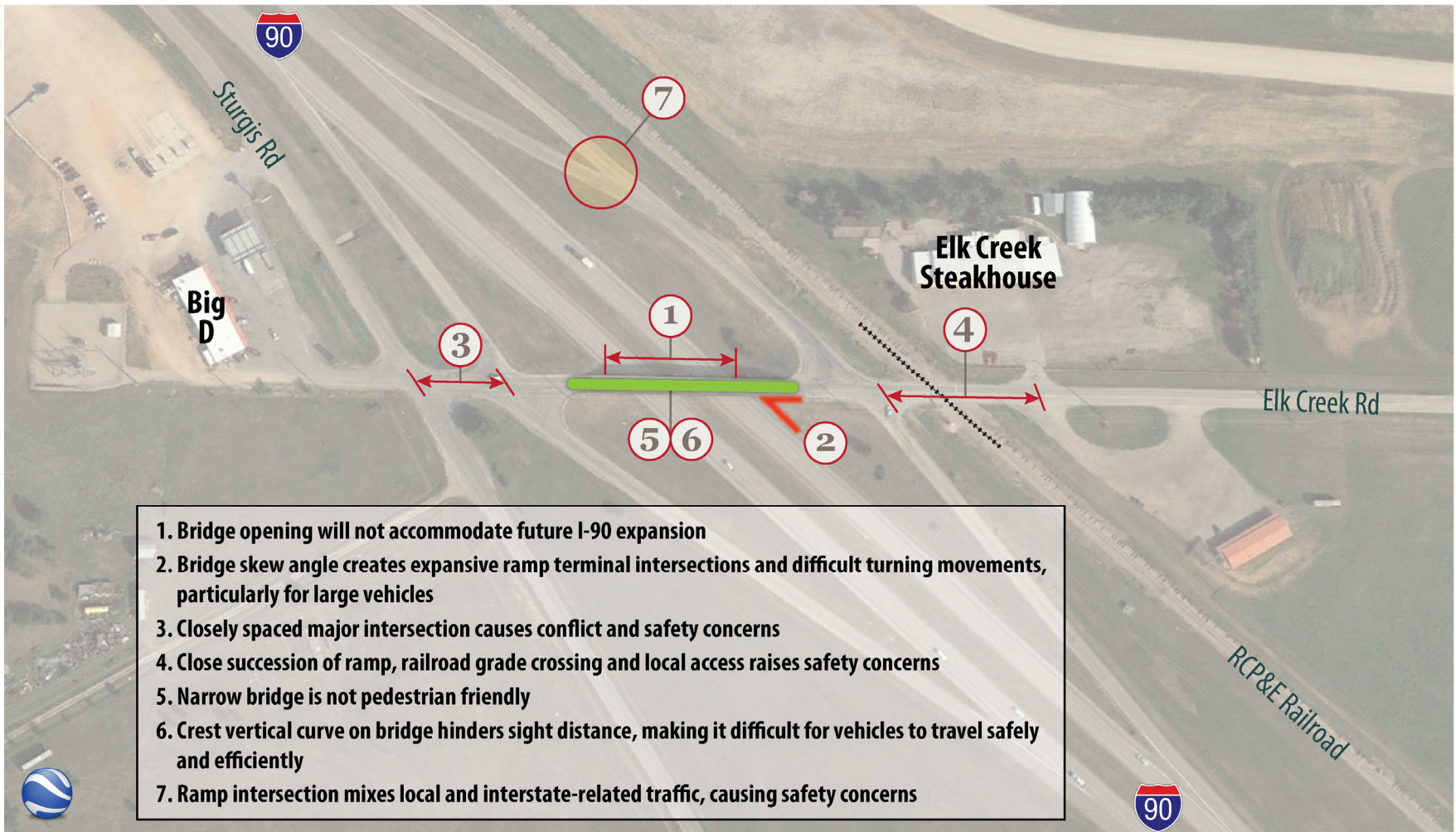
January 20, 2016



Presentation


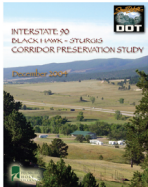

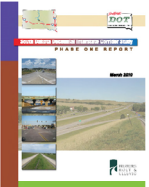




- Introduction
- Exit 46 project history
- Preferred alternative concept
- Interchange Modification Justification Report (IMJR) overview
- Existing traffic and safety conditions
- Future conditions
- Shared use path component
- Next steps

Exit 46 - Deficiencies

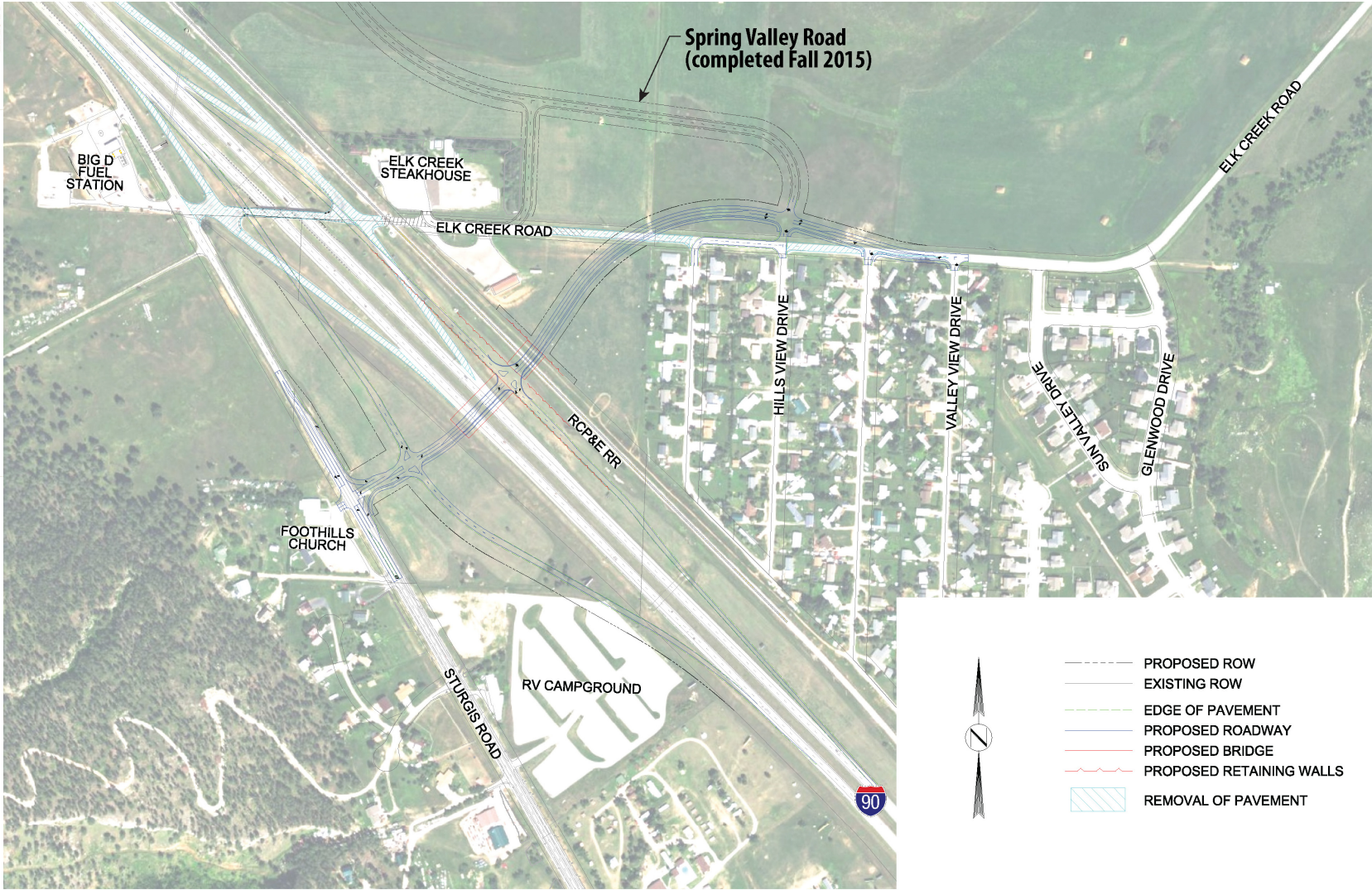


- 1. Bridge opening will not accommodate future I-90 expansion
- 2. Bridge skew angle creates expansive ramp terminal intersections and difficult turning movements, particularly for large vehicles
- 3. Closely spaced major intersection causes conflict and safety concerns
- 4. Close succession of ramp, railroad grade crossing and local access raises safety concerns
- 5. Narrow bridge is not pedestrian friendly
- 6. Crest vertical curve on bridge hinders sight distance, making it difficult for vehicles to travel safely and efficiently
- 7. Ramp intersection mixes local and interstate-related traffic, causing safety concerns

Planning Timeline

Year	2000	2004	2008	2010	2013	2014	2016	2017 - 2020	2020 - 2025
Document/ Procedural Step	SDDOT Decennial Interstate Corridor Study 	I-90 Black Hawk to Sturgis Corridor Preservation Study 	I-90 Environmental Assessment - Exit 40 to Exit 51 	SDDOT Decennial Interstate Corridor Study 	Piedmont Valley Regional Shared Use Path Summary and Recommendations 	SDDOT Statewide Transportation Planning Process	IMJR and Categorical Exclusion (Environmental Clearance) 	Complete Scoping and Design 	Construction 
Exit 46 Information	Identified concern of close service road spacing, recommended project to realign service roads	Addressed potential for widening of I-90 to six lanes, evaluated Exit 46 interchange reconfiguration alternatives	Selected Preferred Alternative of Realigned Exit 46 Diamond Interchange	Reaffirmed issues of close service road spacing and substandard interchange design	Identified path along Elk Creek Road and crossing of I-90 at Exit 46 as high priorities	SDDOT included Exit 46 reconstruction in the Developmental Program of its statewide planning process	Will provide documentation of preferred alternative needed for Federal approval of Exit 46 project	SDDOT process of defining the reconstruction project and completing final design plans	Construction effort to be overseen by SDDOT
Public Meeting(s)	No meetings	Yes	Yes	No meetings	Yes	Yes	Yes	Land Owner Meeting	To Be Determined

Conceptual Design

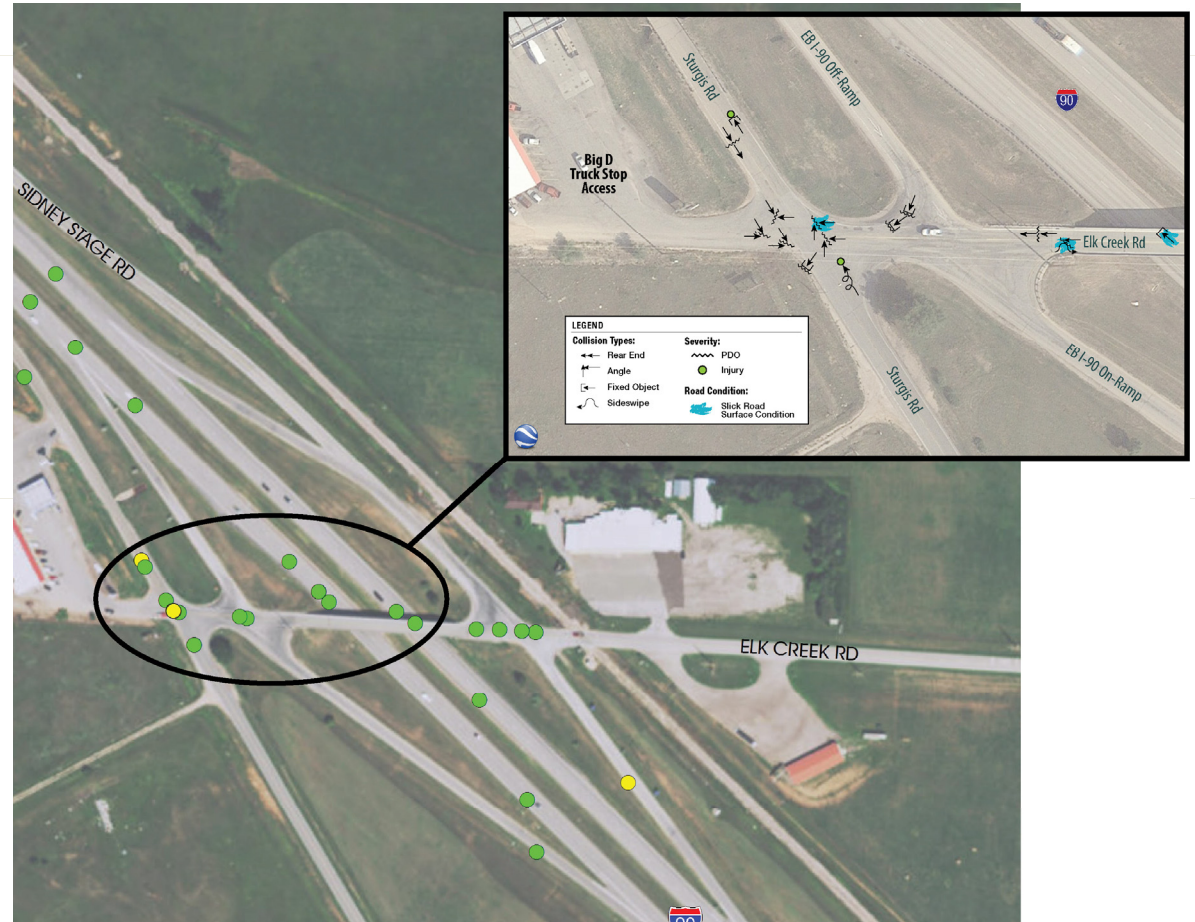


What is an IMJR?

- ◆ An Interchange Modification Justification Report (IMJR) is a planning document prepared to gain approval from the Federal Highway Administration to make changes to an existing freeway interchange. The document addresses eight policy points to ensure that the proposed change uniquely meets the need(s), provides acceptable traffic flow and operations, fits with local and regional plans, and will be included in required environmental evaluation, review and processing.

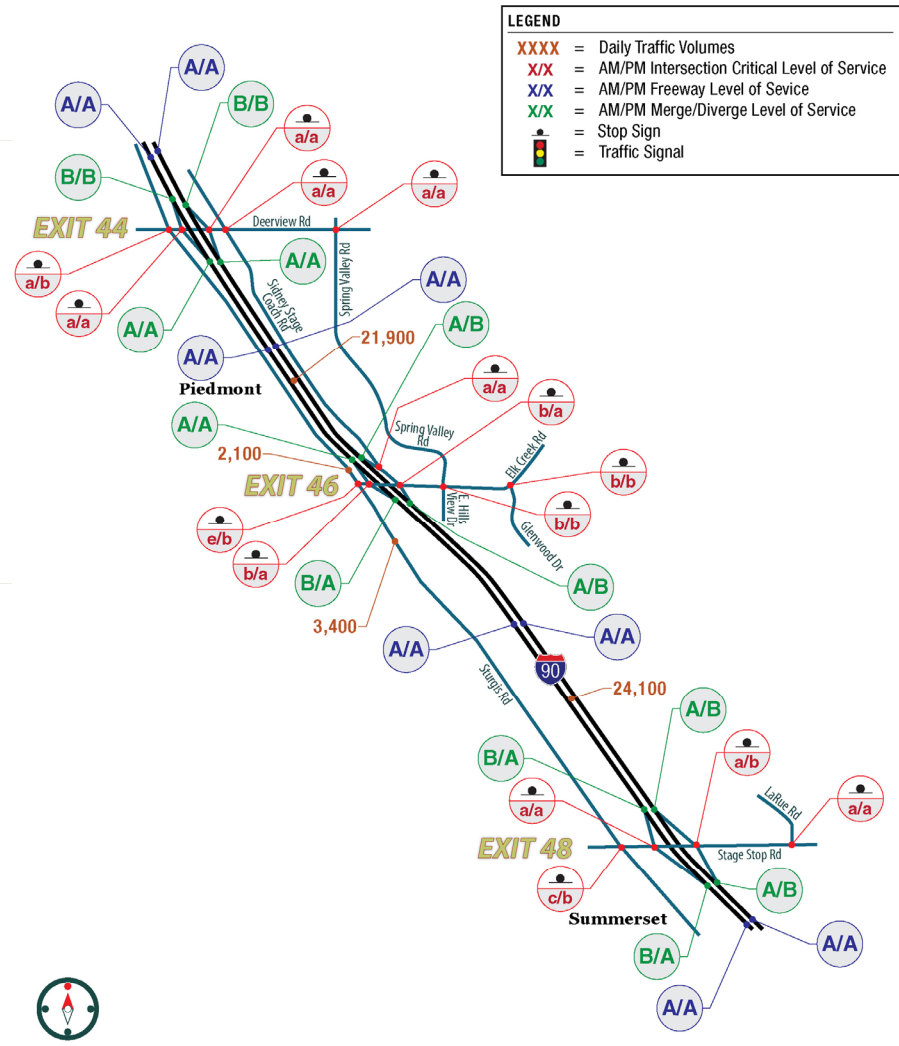
Crash History, 2010-2014

- Reported crashes show minor concentration at Sturgis Road/Elk Creek Road
- No significant correctable patterns
- Unreported crashes could show more significant pattern(s)
- Public input welcome regarding safety concerns



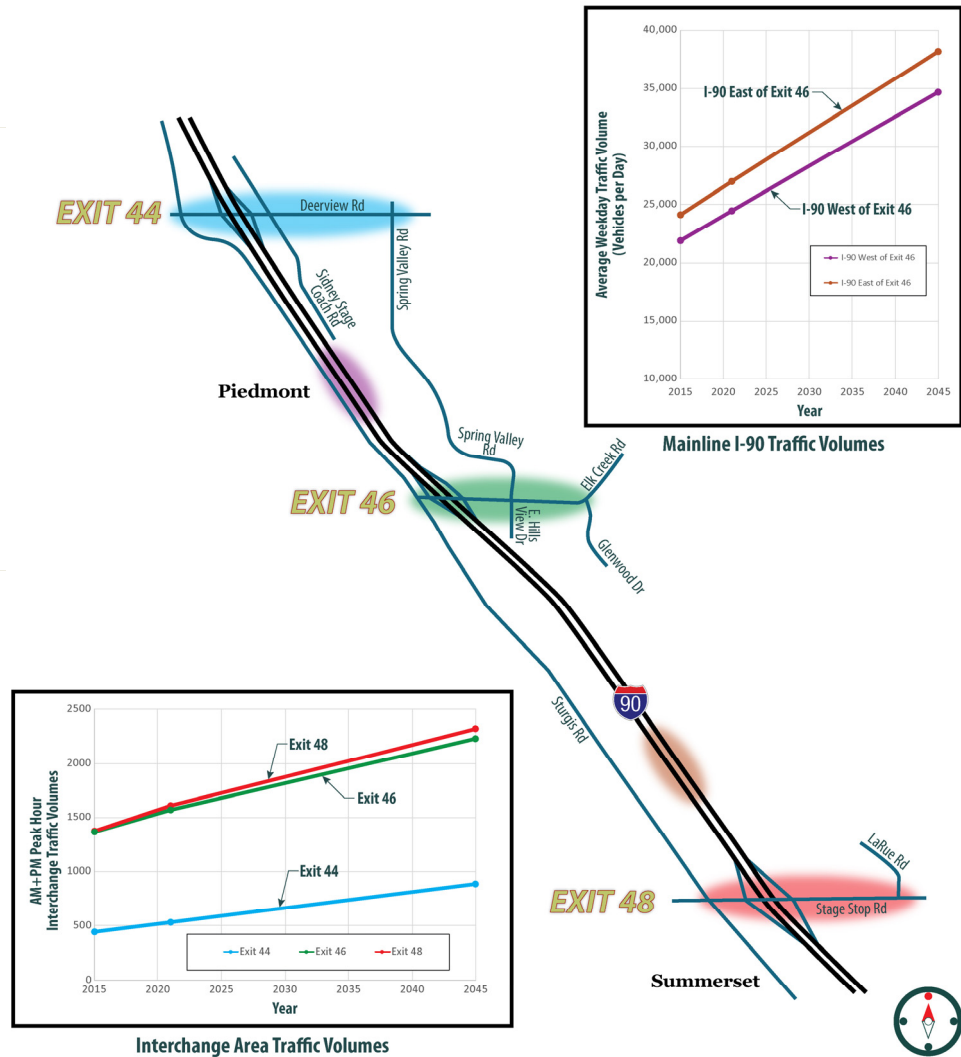
2015 Traffic Operations

- Study area includes adjacent interchanges and surface streets
- Mainline I-90 carries 20-25,000 vehicles per day, Sturgis Road 2-4,000
- Level of Service findings indicate no substandard freeway or ramp conditions
- Some surface street movements show concern (Sturgis/Elk Creek Road)



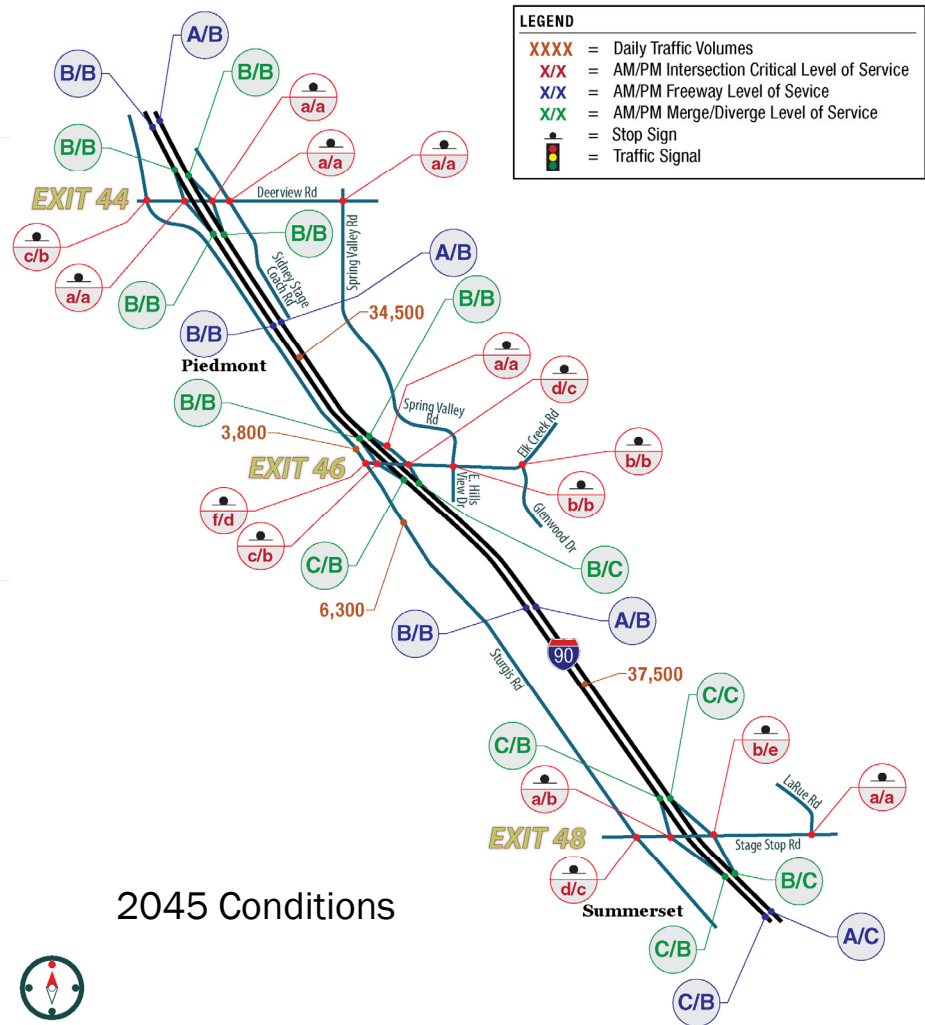
Future Growth

- Rapid City Area MPO's Regional Travel Demand Model used to develop forecasts, 2021 and 2045
- I-90 to grow by about 60% to 2045, surface streets similar
- Exit 46 and 48 interchanges currently carry similar volume levels, expected to continue



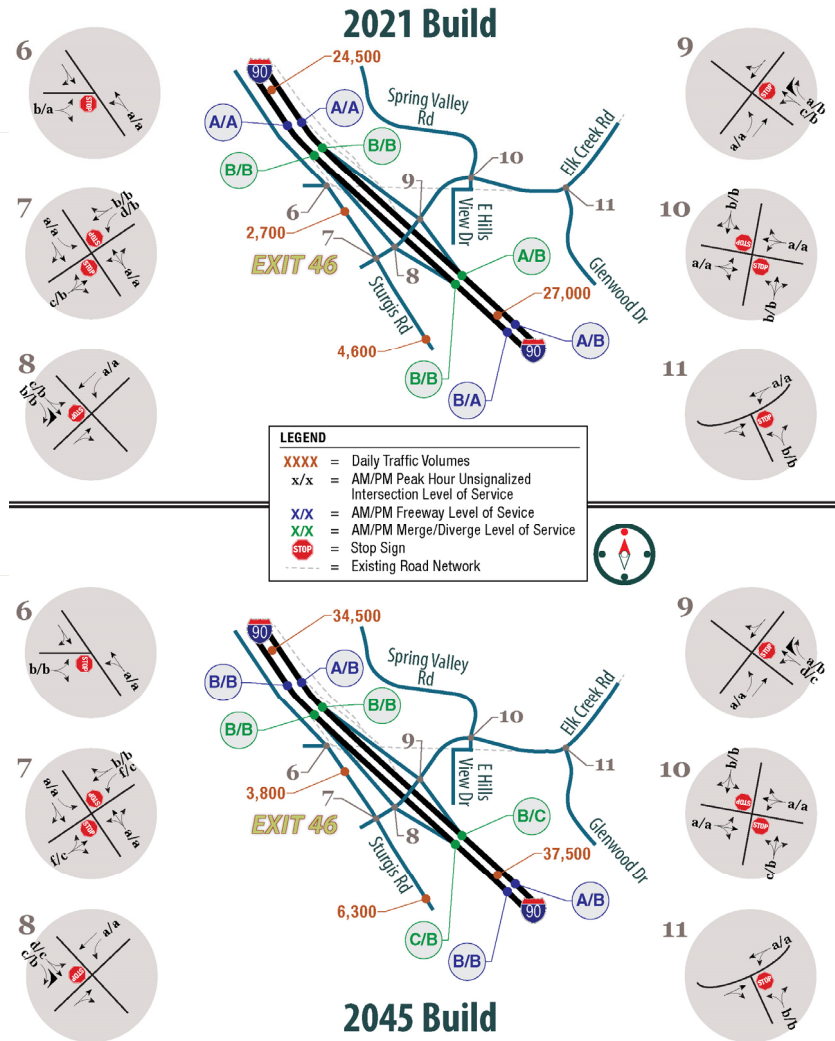
Future Conditions- No Action

- General worsening of operational conditions across the study area
- Some movements through Elk Creek Road intersections reach substandard levels during peak hours
- Overall, operations remain at acceptable LOS
- Mainline I-90 and ramps continue to operate acceptably with 4-lane I-90



Future Conditions- Preferred Alternative

- Additional lanes at surface street intersection improve some movements
- Some movements through Elk Creek Road intersections remain at substandard levels during peak hours
- Mainline I-90 and ramps operate acceptably with 4-lane I-90



I-90 **EXIT 46** IMJIR **Option A: South Side of Elk Creek Road**

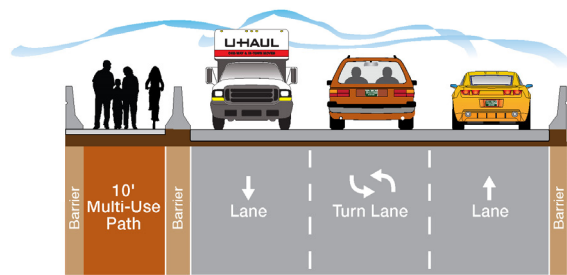


Option B: North Side of Elk Creek Road

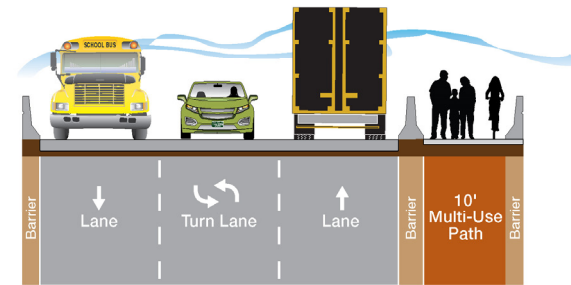


Path Options

Cross-Sectional View (looking west across Exit 46 bridge)



Cross-Sectional View (looking west across Exit 46 bridge)



- ◆ Compile input received from public and stakeholders
- ◆ Develop Draft and Final IMJR
- ◆ Complete Environmental Process (Categorical Exclusion)