



Public Meeting

Tuesday,
February 28, 2012

3rd Floor Meeting Room
Parmly Billings Library
510 N. Broadway



Welcome & Introductions



Purpose of Meeting

- Provide Overview of Corridor Planning Study Process
- Discuss Corridor Study Background Information
- Present Key Findings from Draft Corridor Study Report
 - Corridor Needs and Objectives
 - Recommended Improvement Options
- Solicit Community Input



A Corridor Planning Study Is:

- A **planning-level assessment** of a study area that occurs before any project is forwarded for design or environmental review.

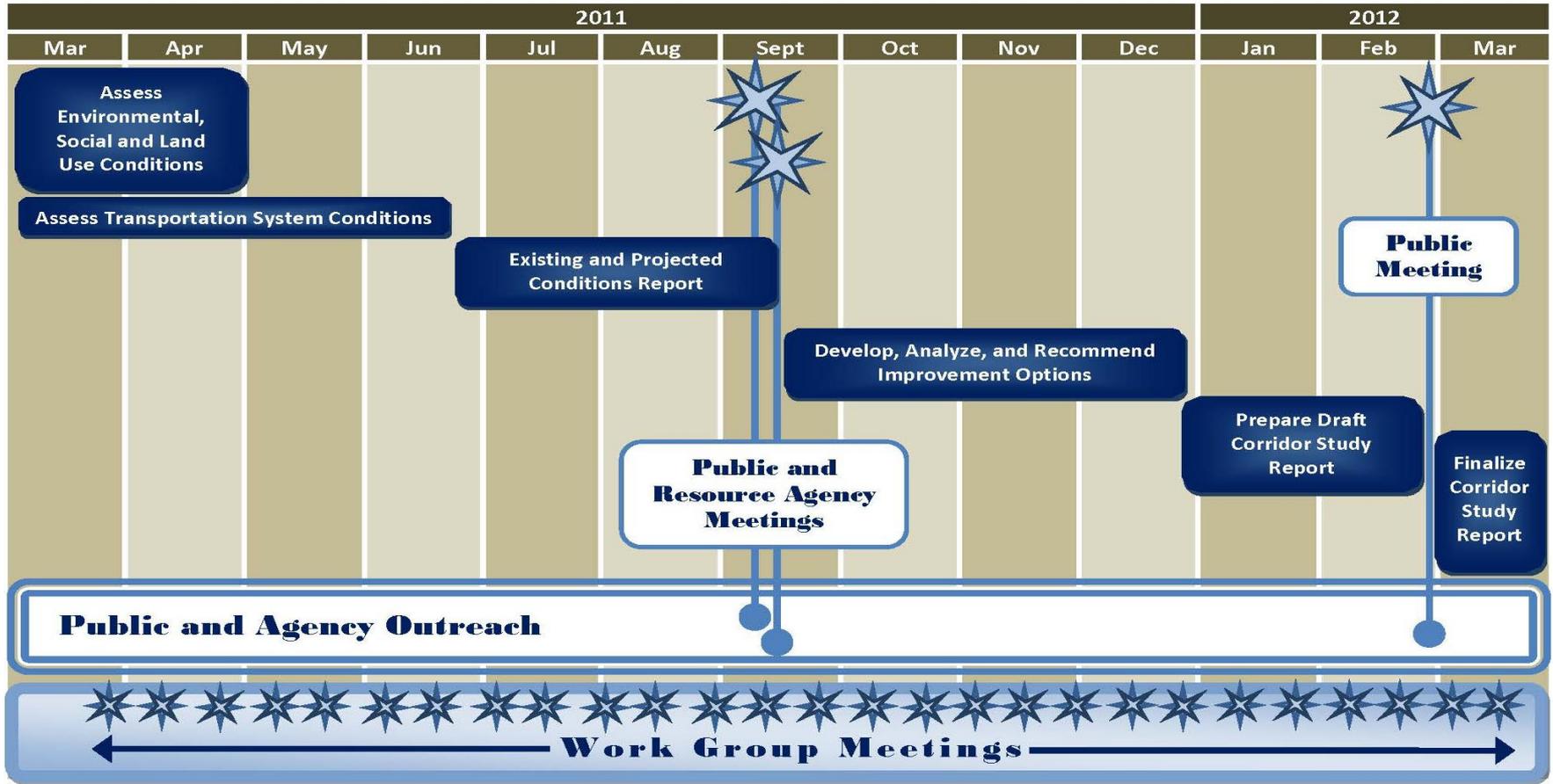
A Corridor Planning Study Is Not:

- A design, right-of-way acquisition, or construction project
- Environmental compliance document



Billings Area I-90 Corridor Planning Study

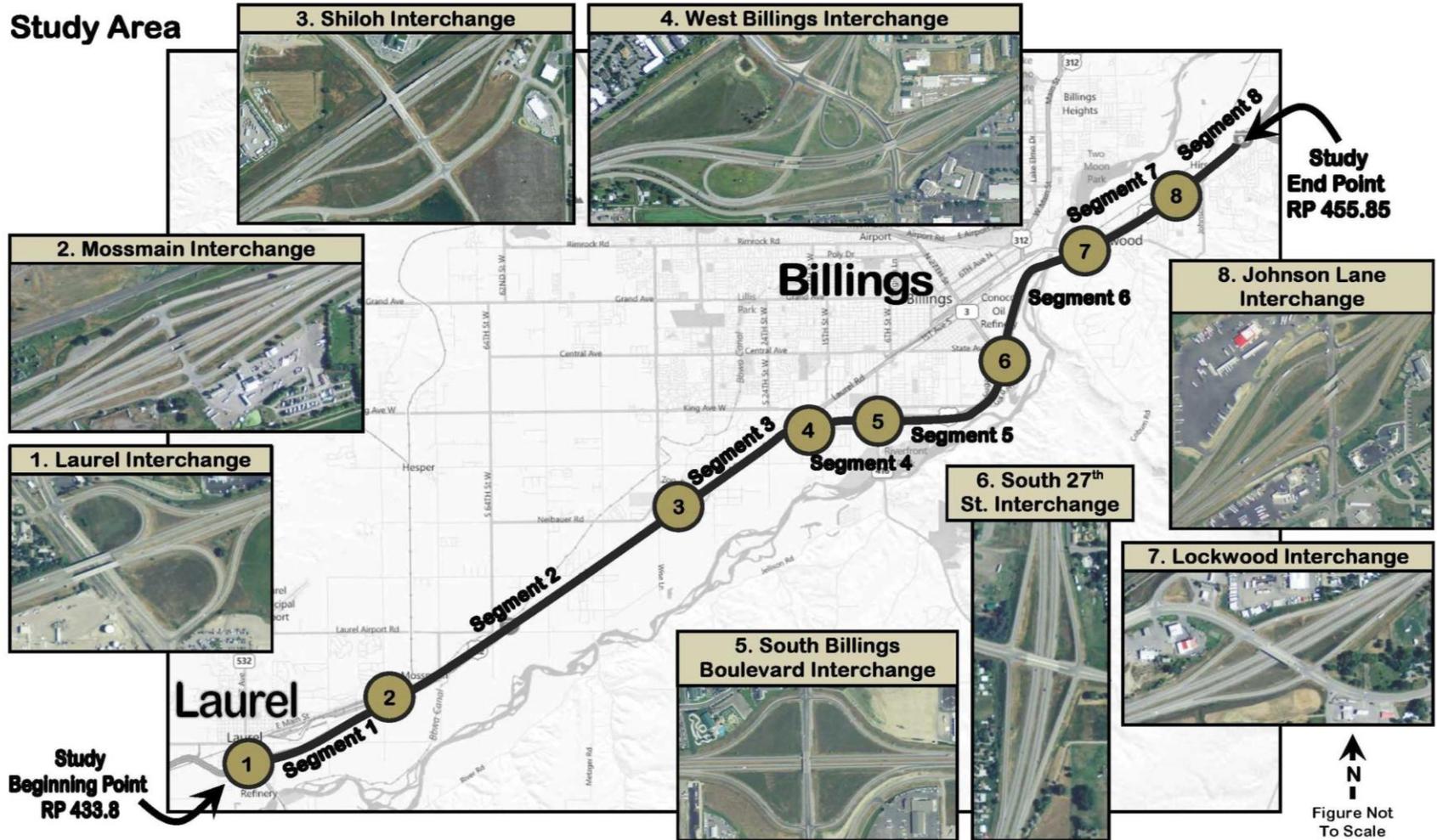
What are the Steps?





Billings Area I-90 Corridor Planning Study

Study Area





Physical Characteristics

● Roadway Width

- Four-lane divided Interstate highway generally consisting of two separate two-lane roadbeds
- Area between the West Billings Interchange and the South Billings Boulevard Interchange (RP 446.3 to RP 446.8) includes a third auxiliary lane in each direction.

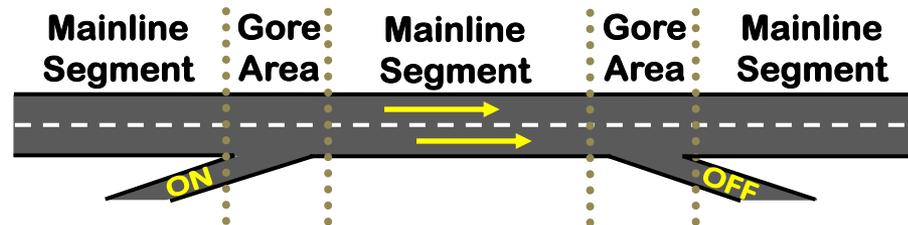
● Bridges

- 32 bridges within the study area
- 10 are functionally obsolete (4 of these eligible for rehabilitation)
- I-90 structures over the Yellowstone River are classified by MDT as “fracture critical.”



Analysis Locations

- **Mainline Interstate Segments** between interchanges and between merge/diverge (on-ramp and off-ramp) locations
- **Merge/Diverge Gore Areas** for on-ramps and off-ramps



- **Laurel and Mossmain Interchange Intersections**

Note: All other interchange intersections except for the West Billings Interchange were evaluated in the 2006 *Billings I-90 Interchanges Project* report (see Appendices B and D of the Draft Corridor Study Report)



Geometric Analysis Methodology

- Mainline Interstate
 - Ramp Gore Areas
 - Ramp Intersections for Laurel and Mossmain Interchanges
- **Horizontal Alignment Analysis**
 - Turns or bends in the road
 - **Vertical Alignment Analysis**
 - Grade or elevation changes and vertical curves (hills and valleys)



Analysis conducted according to MDT's Geometric Design Criteria for Freeways and Signalized/Non-signalized Intersections



Operational Analysis Methodology

● Level of Service (LOS)

- Report Card Concept
- A = Best Conditions
- F = Worst Conditions

● Existing Conditions (2010) and Projected Conditions (2035)

● Desirable LOS

- Mainline Interstate: LOS B
- Ramp Intersections: LOS C

<u>Level of Service</u>	
A	
B	
C	
D	
E	
F	



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Level of Service 2035

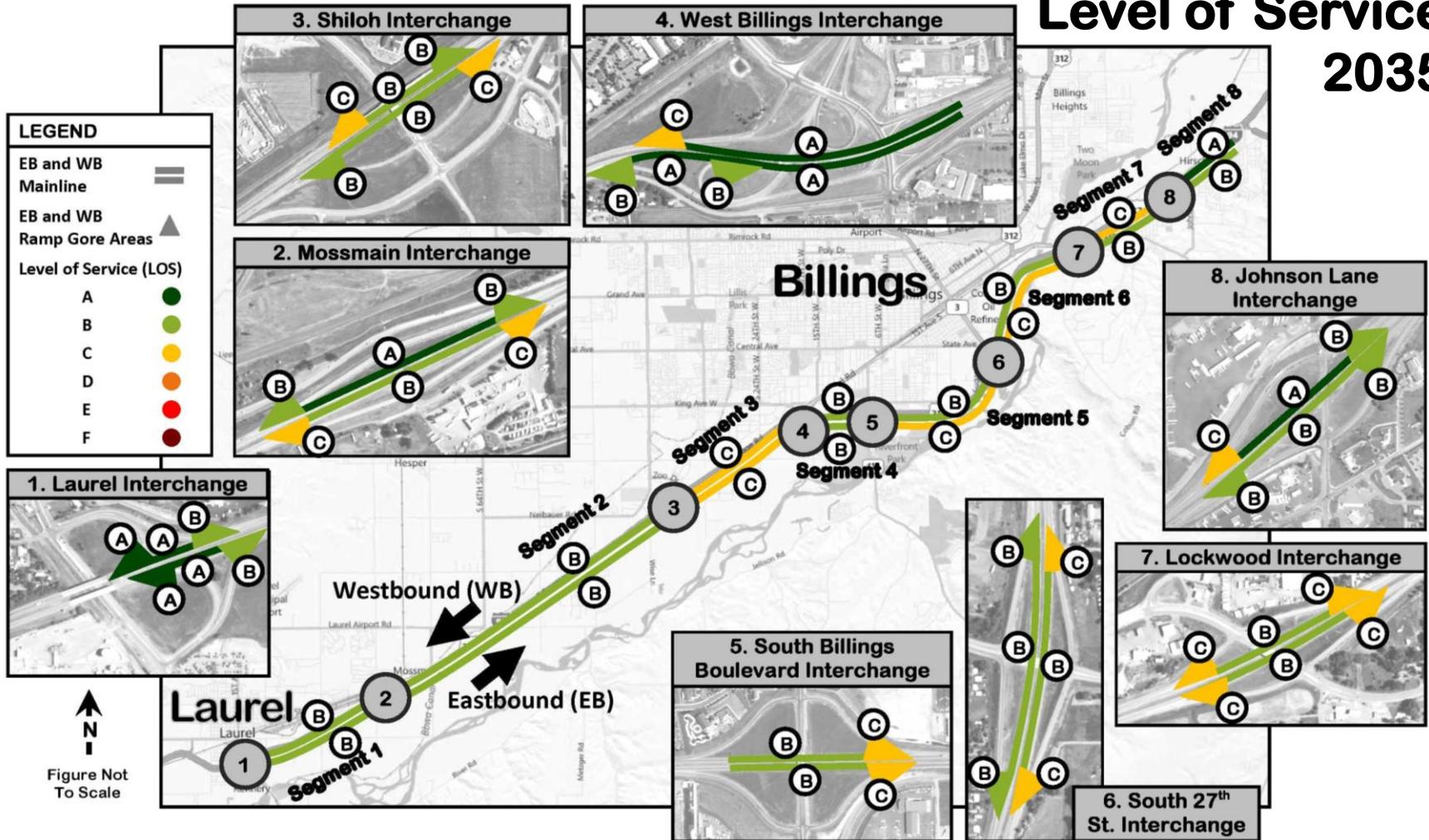
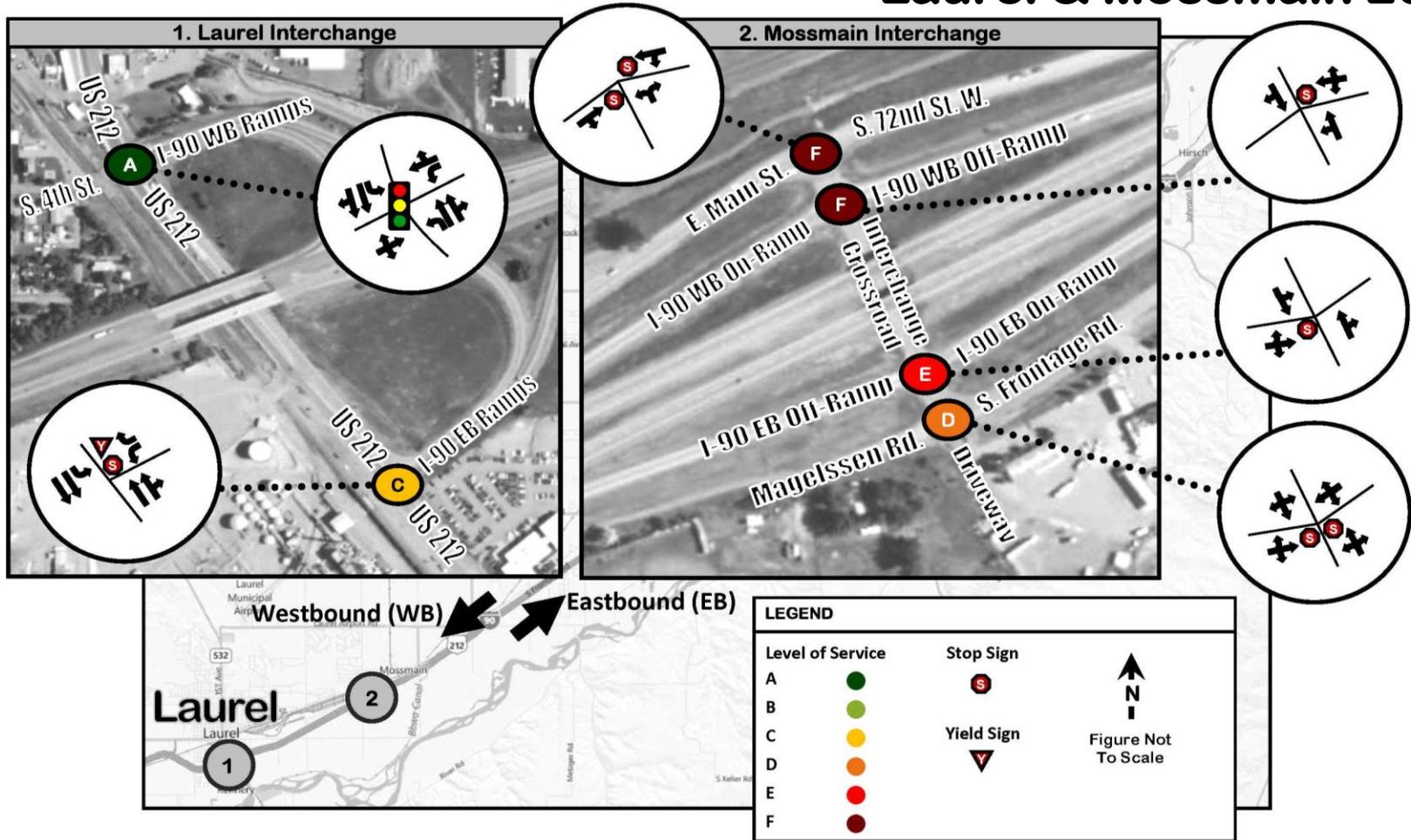


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Billings Area I-90 Corridor Planning Study

Laurel & Mossmain 2035





Corridor Needs and Objectives

- **Need 1**: Accommodate existing and future transportation demand on I-90.

Objectives

- Maintain Level of Service (LOS) B or better for rural and urban mainline segments and interchange ramps through the 2035 planning horizon year.
- Maintain LOS C or better for Laurel and Mossmain ramp intersections through the 2035 planning horizon year.



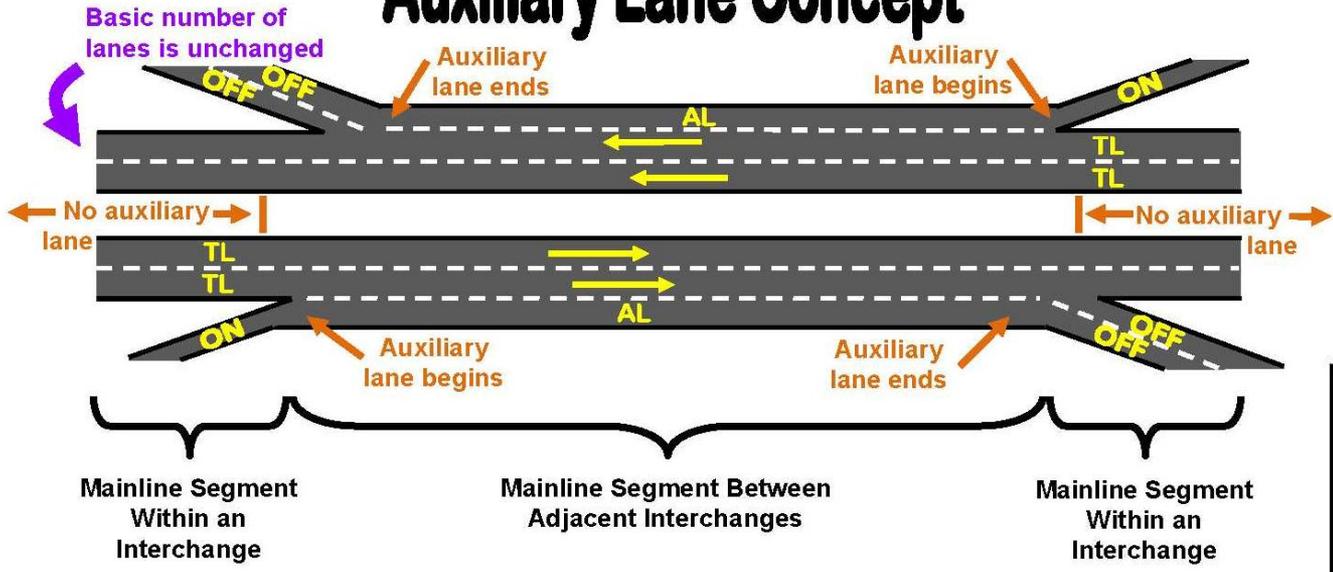
Corridor Needs and Objectives

- **Need 2:** To the extent practicable, provide a facility that safely accommodates Interstate travel.

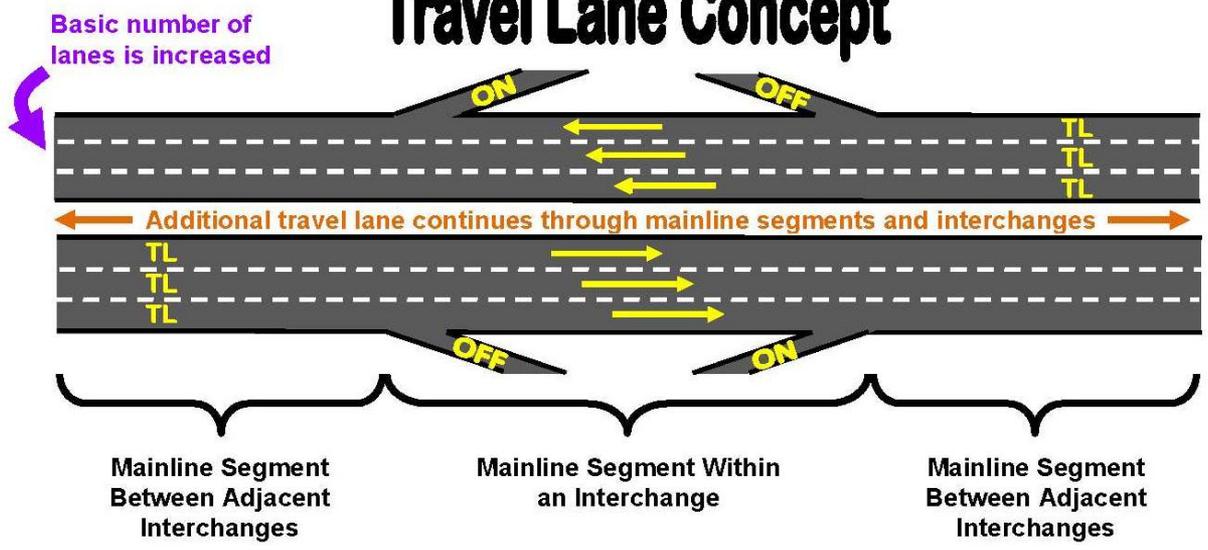
Objectives

- Provide roadway elements that meet current MDT design standards.
- Provide bridge structures that meet current MDT design standards.

Auxiliary Lane Concept



Travel Lane Concept



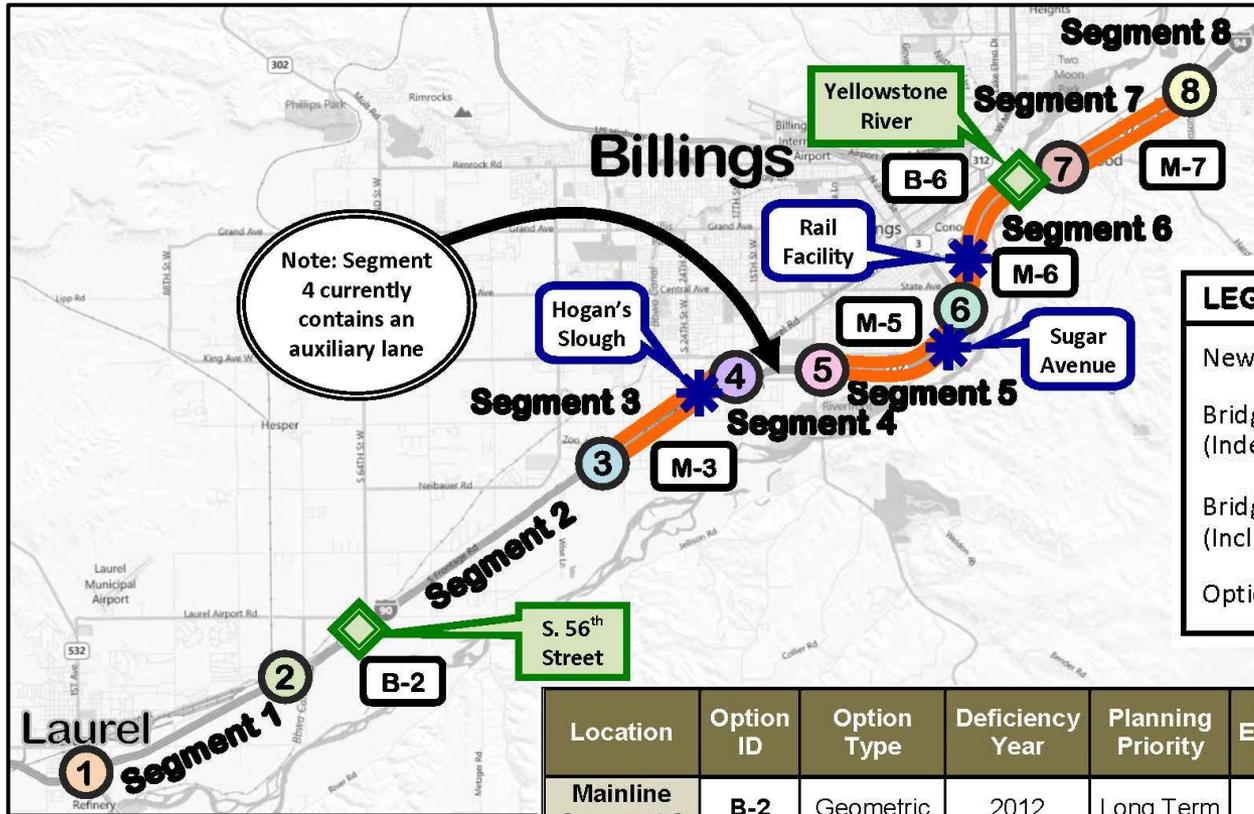
Key
 TL: Travel Lane
 AL: Auxiliary Lane
 ON: On-Ramp
 OFF: Off-Ramp

Note: This figure is intended for illustrative purposes only and does not represent any portion of the I-90 study corridor.



Billings Area I-90 Corridor Planning Study

Mainline Improvement Options



LEGEND	
New Mainline Auxiliary Lane	
Bridge Reconstruction (Independent Option)	
Bridge Reconstruction (Included in Other Options)	
Option ID	

Location	Option ID	Option Type	Deficiency Year	Planning Priority	Impacts to Environmental Resources	Right-of-Way Acquisition	Estimated Cost
Mainline Segment 2	B-2	Geometric	2012	Long Term	No	No	\$2,300,000
Mainline Segment 3	M-3	Capacity	2027	Long Term	Yes	No	\$10,000,000
Mainline Segment 5	M-5	Capacity	2028	Long Term	Yes	No	\$9,600,000
Mainline Segment 6	M-6	Capacity	2023	Long Term	Yes	No	\$8,800,000
	B-6	Capacity Geometric	2012	Near Term	Yes	No	\$33,400,000
Mainline Segment 7	M-7	Capacity	2027	Long Term	No	No	\$5,800,000

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Estimated costs reflect construction only.



Billings Area I-90 Corridor Planning Study

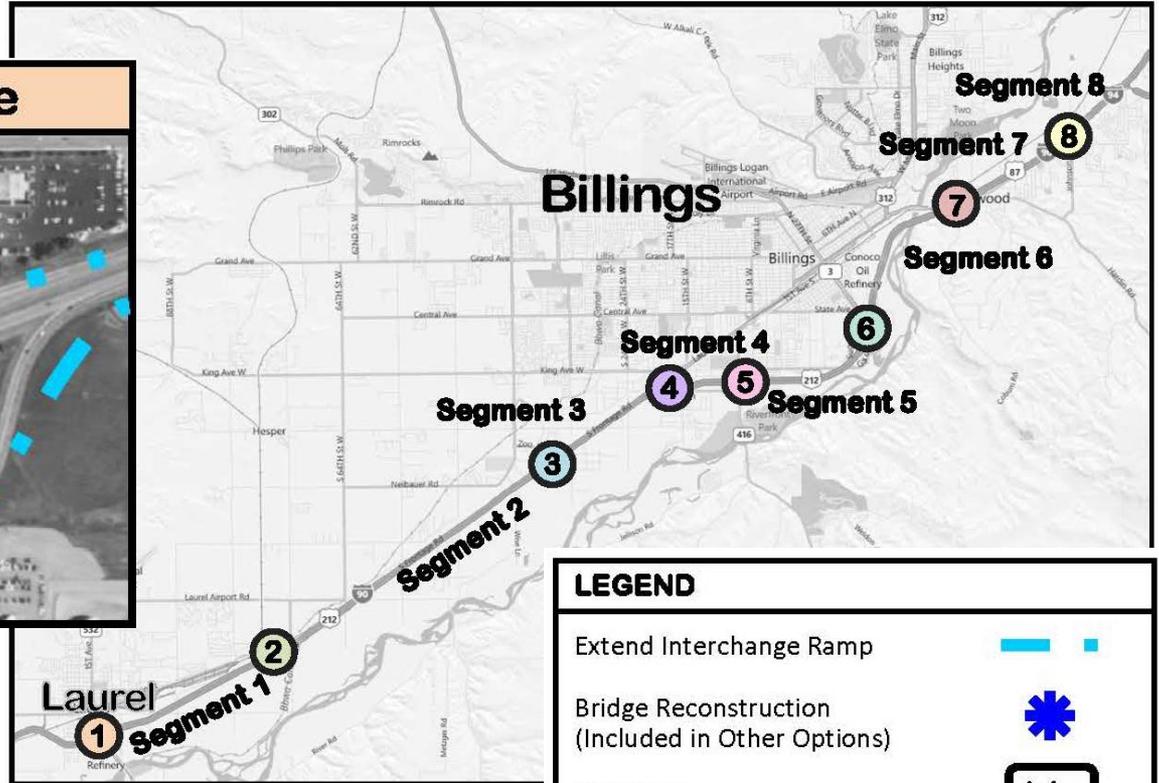
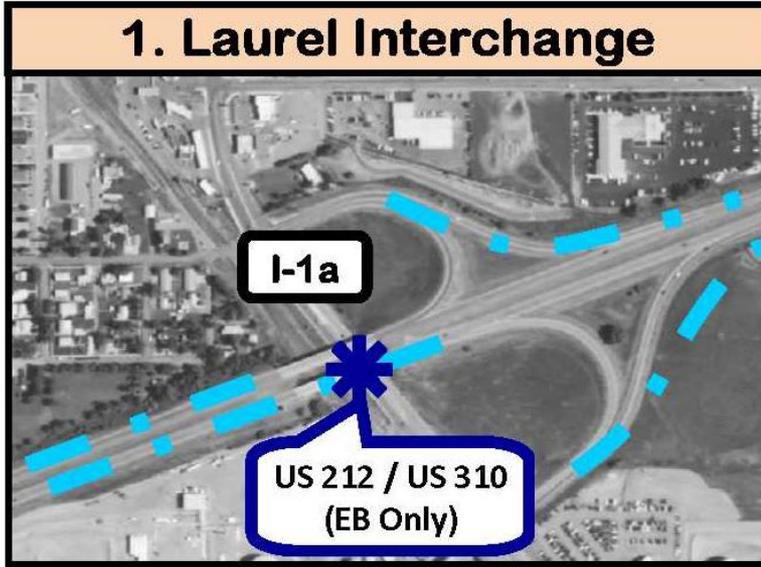


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Estimated costs reflect construction only.

Location	Option ID	Option Type	Deficiency Year	Planning Priority	Impacts to Environmental Resources	Right-of-Way Acquisition	Estimated Cost
Interchange 1: Laurel	I-1a	Geometric	2012	As Needed	Yes	Yes	\$6,400,000
	I-1b	Safety	2012	As Needed	No	No	\$400,000



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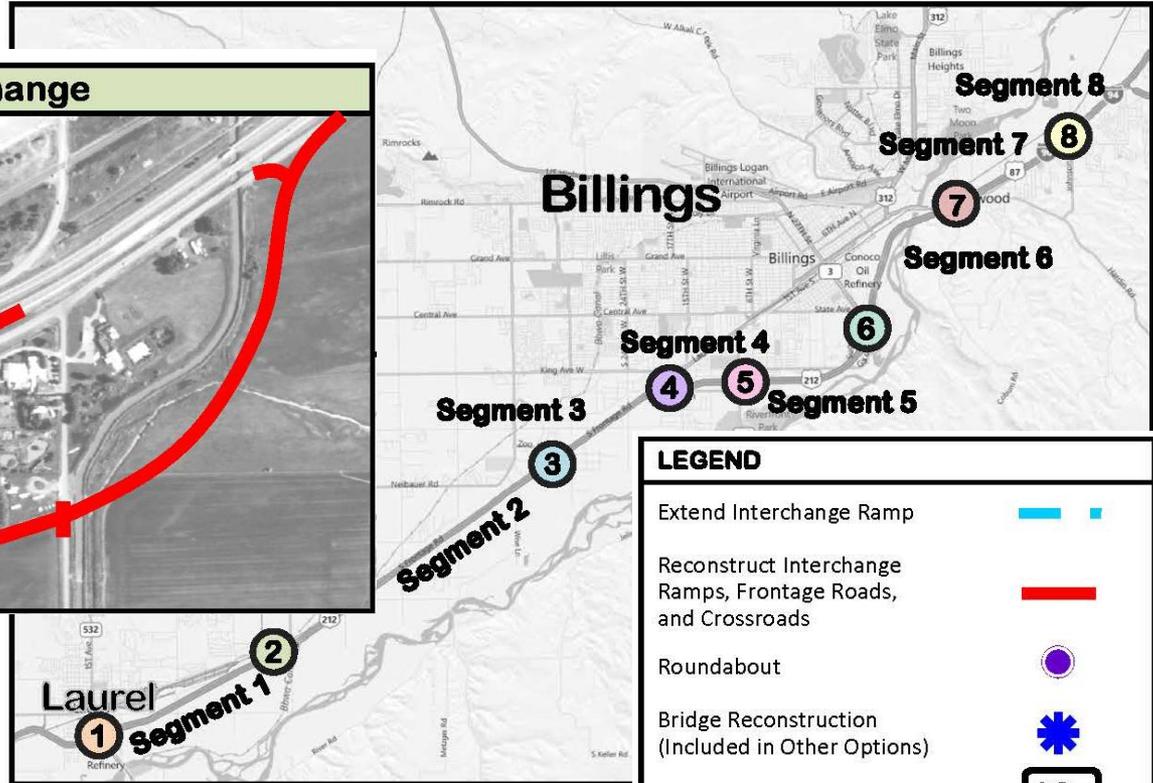
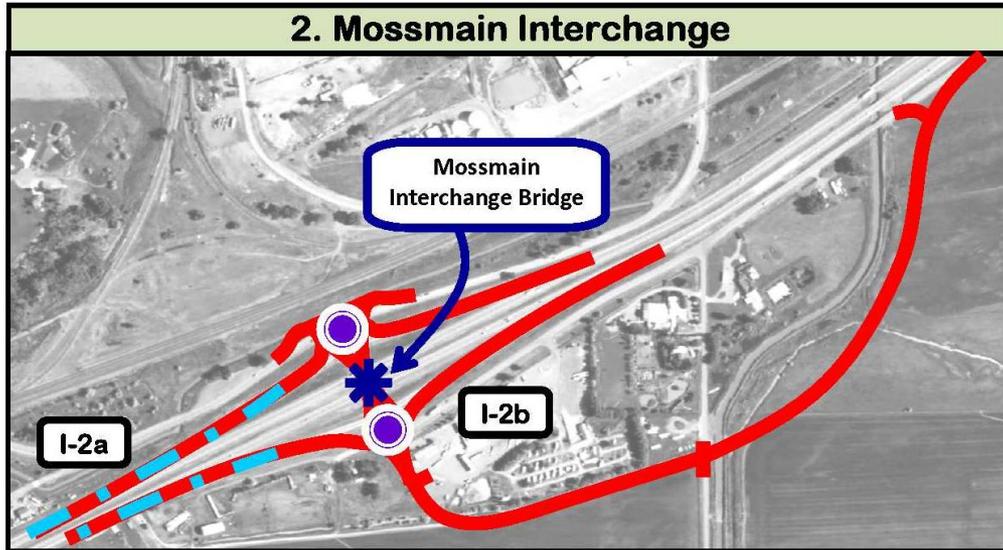


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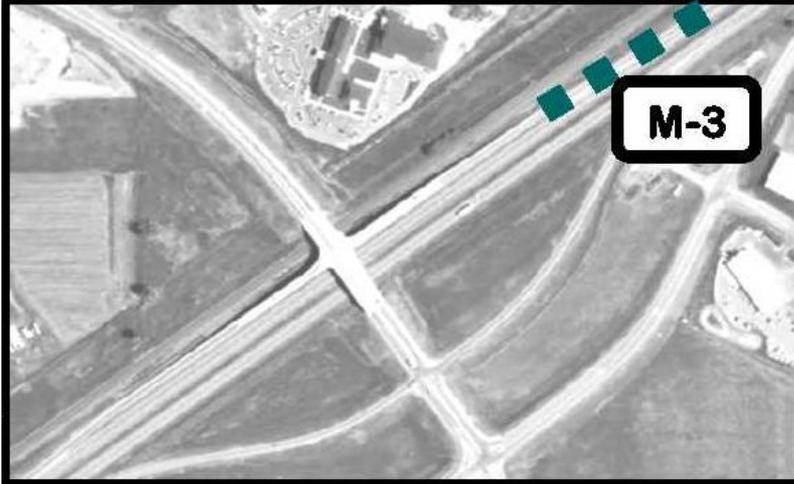
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Location	Option ID	Option Type	Deficiency Year	Planning Priority	Impacts to Environmental Resources	Right-of-Way Acquisition	Estimated Cost
Interchange 2: Mossmain	I-2a	Geometric	2012	Near Term	No	No	\$800,000
	I-2b	Capacity	2012	Near Term	Yes	Yes	\$11,100,000
	I-2c	Safety	2012	As Needed	No	No	\$400,000



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3. Shiloh Interchange



M-3



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Estimated costs reflect construction only.



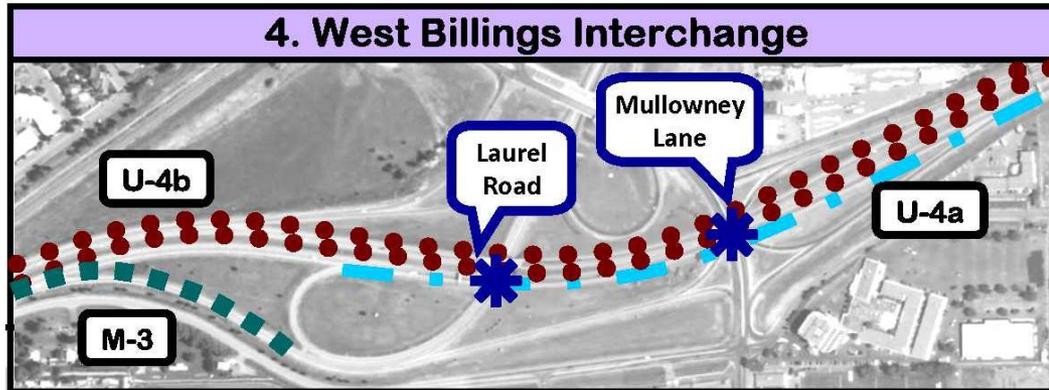
LEGEND

- New Mainline Auxiliary Lane
- New Off-Ramp Lane at Ramp Gore
- Bridge Reconstruction (Included in Other Options)
- Option ID M-3

Location	Option ID	Option Type	Deficiency Year	Planning Priority	Impacts to Environmental Resources	Right-of-Way Acquisition	Estimated Cost
Mainline Segment 3	M-3	Capacity	2027	Long Term	Yes	No	\$10,000,000

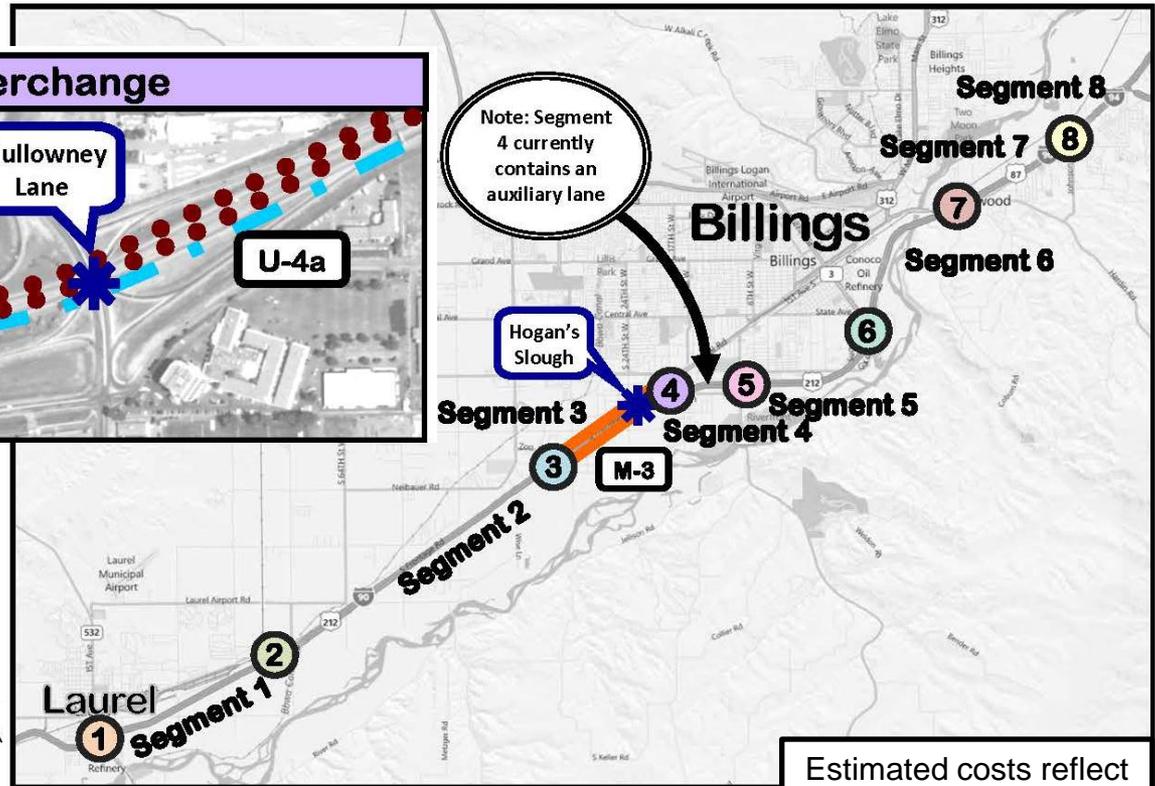


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LEGEND	
New Mainline Auxiliary Lane	
New Mainline Travel Lane	
New Off-Ramp Lane at Ramp Gore	
Extend Interchange Ramp	
Bridge Reconstruction (Included in Other Options)	
Option ID	

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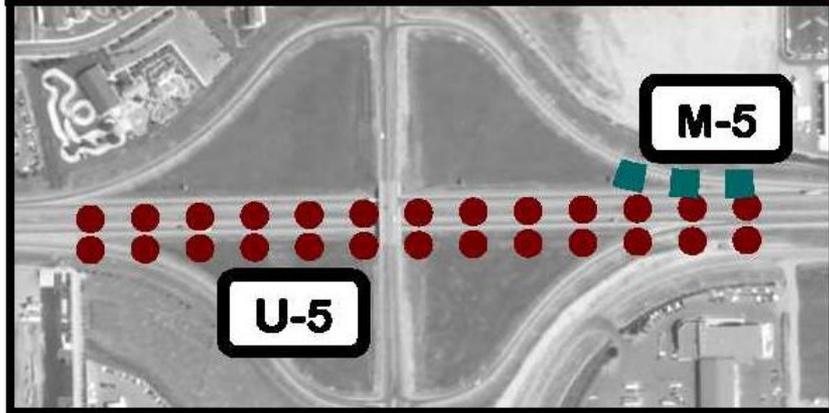
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Location	Option ID	Option Type	Deficiency Year	Planning Priority	Impacts to Environmental Resources	Right-of-Way Acquisition	Estimated Cost
Mainline Segment 3	M-3	Capacity	2027	Long Term	Yes	No	\$10,000,000
Interchange 4: West Billings	U-4a	Safety	2012	Near Term	No	No	\$6,900,000
	U-4b	Traffic Operations & Lane Balance	2028	Long Term	No	No	\$12,600,000

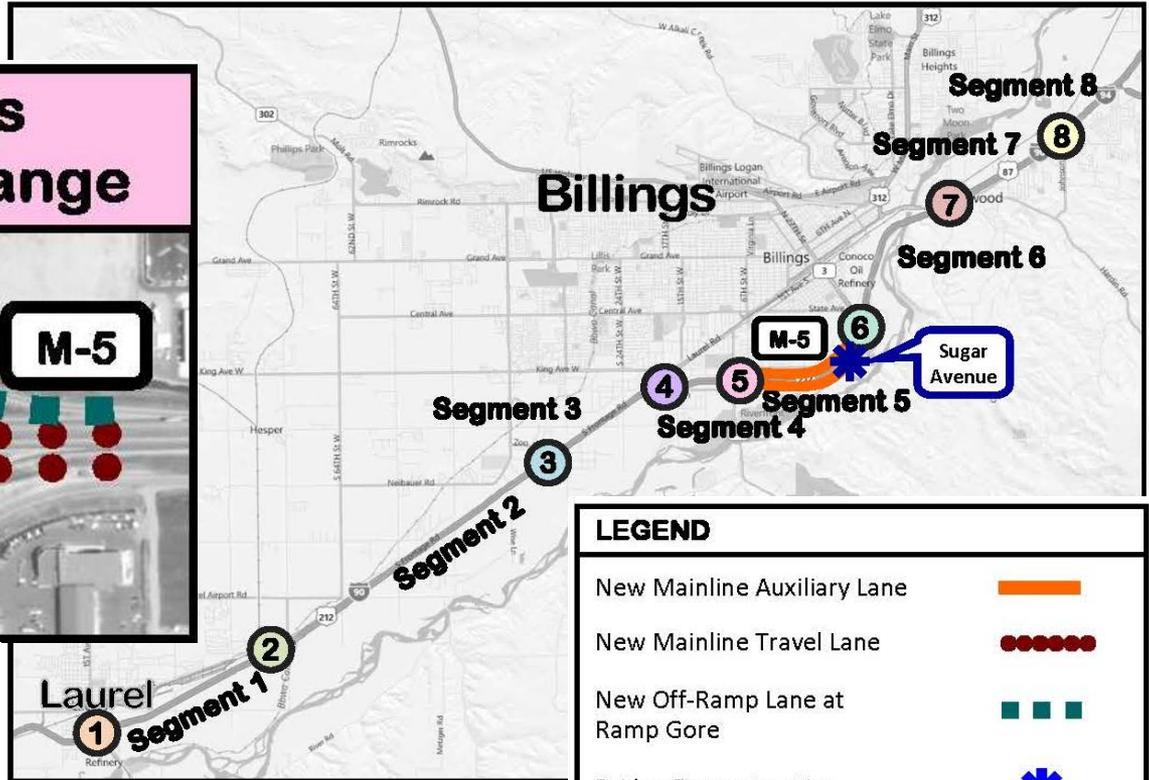


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5. South Billings Boulevard Interchange



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LEGEND

- New Mainline Auxiliary Lane ▬
- New Mainline Travel Lane ●●●●●
- New Off-Ramp Lane at Ramp Gore ■ ■ ■
- Bridge Reconstruction (Included in Other Options) ✳
- Option ID M-5

Estimated costs reflect construction only.

Location	Option ID	Option Type	Deficiency Year	Planning Priority	Impacts to Environmental Resources	Right-of-Way Acquisition	Estimated Cost
Interchange 5: South Billings Boulevard	U-5	Traffic Operations & Lane Balance	2028	Long Term	No	No	\$1,600,000
Mainline Segment 5	M-5	Capacity	2028	Long Term	Yes	No	\$9,600,000



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6. South 27th St. Interchange

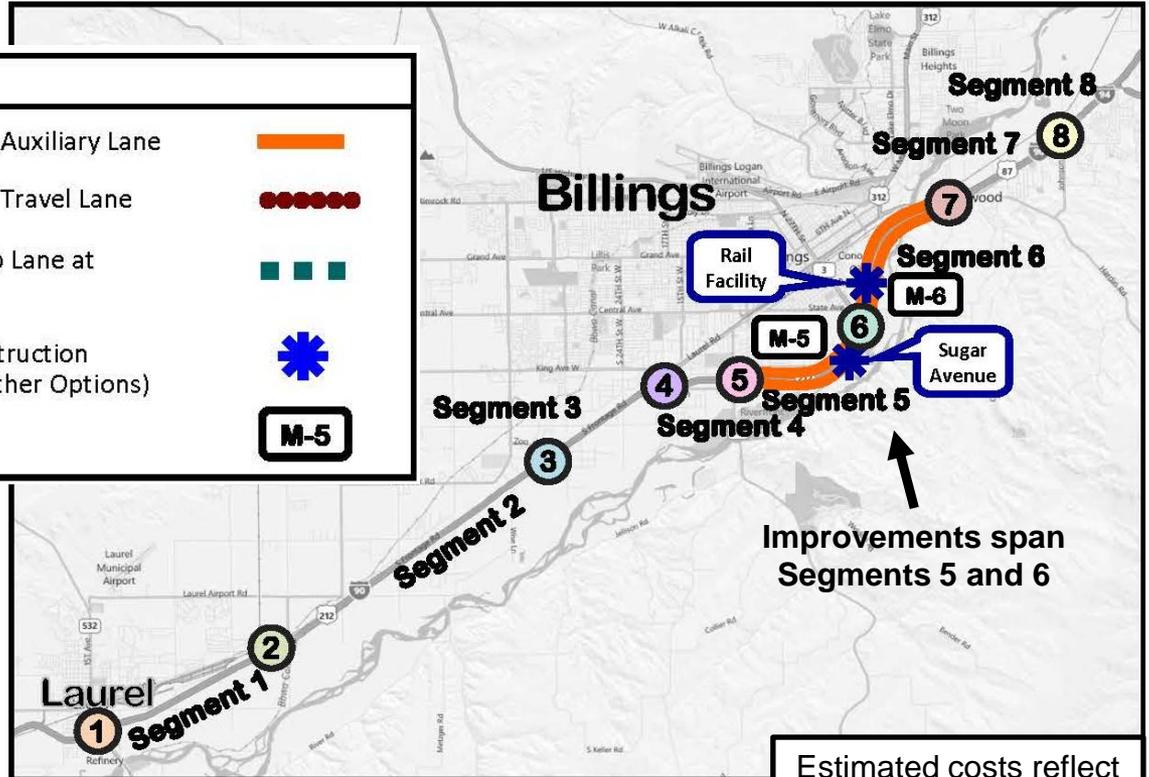
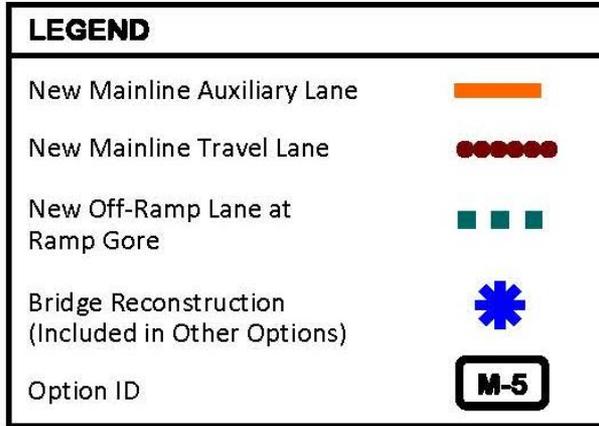
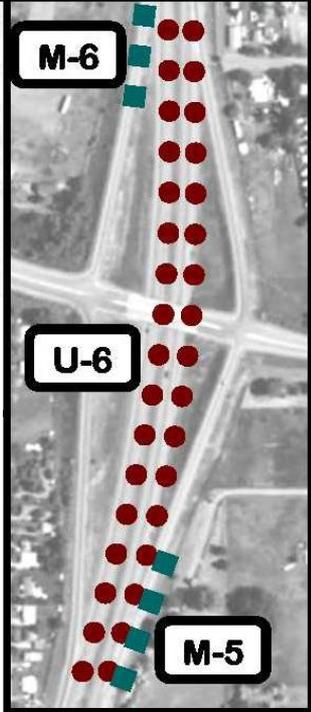


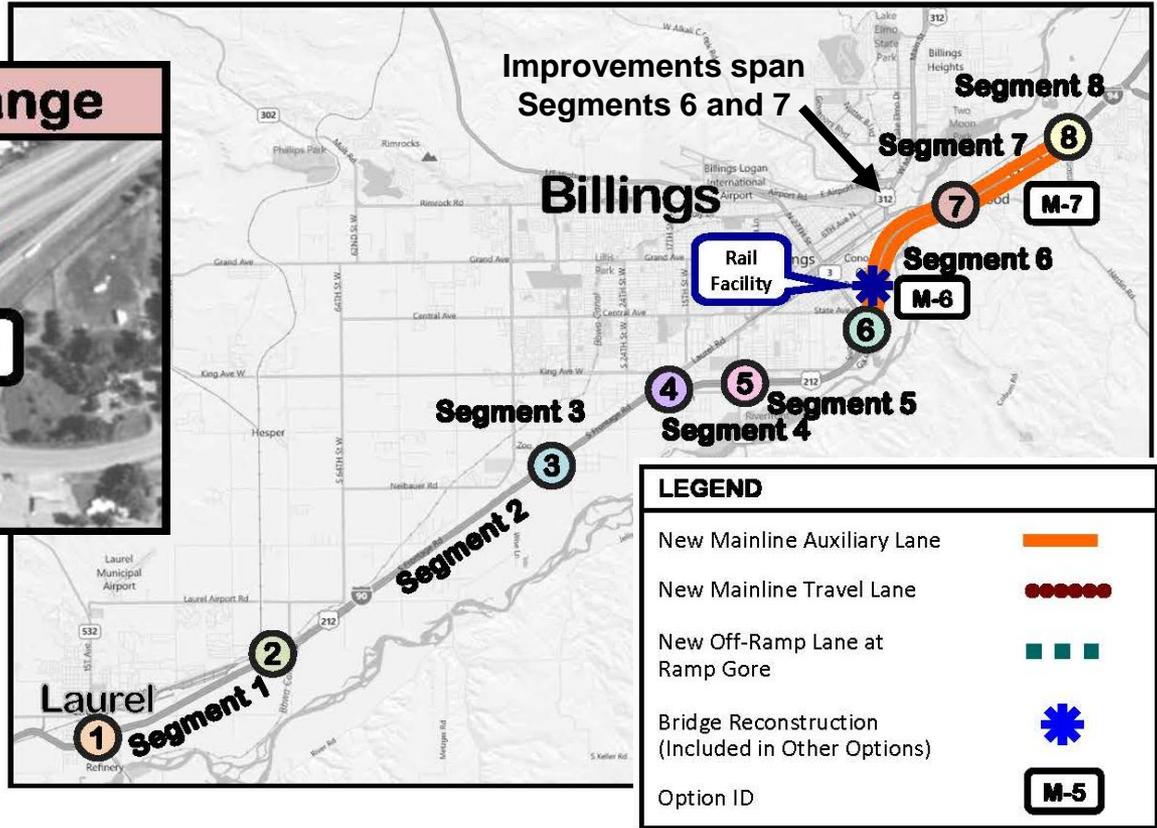
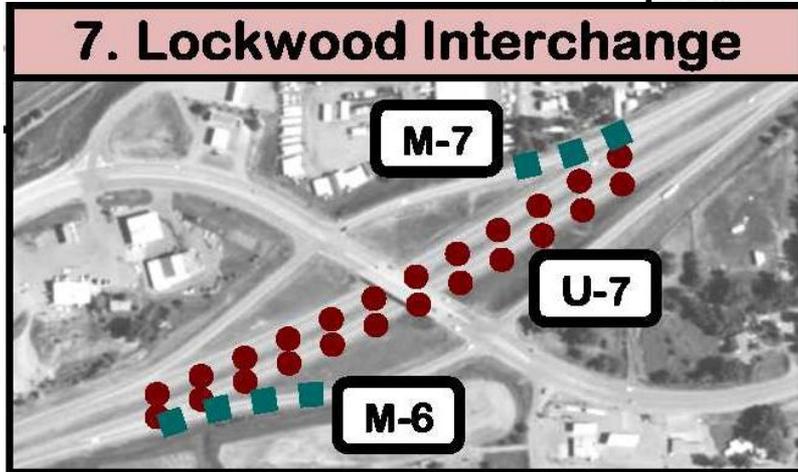
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Location	Option ID	Option Type	Deficiency Year	Planning Priority	Impacts to Environmental Resources	Right-of-Way Acquisition	Estimated Cost
Mainline Segment 5	M-5	Capacity	2028	Long Term	Yes	No	\$9,600,000
Interchange 6: South 27 th Street	U-6	Traffic Operations & Lane Balance	2028	Long Term	No	No	\$1,900,000
Mainline Segment 6	M-6	Capacity	2023	Long Term	Yes	No	\$8,800,000



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Location	Option ID	Option Type	Deficiency Year	Planning Priority	Impacts to Environmental Resources	Right-of-Way Acquisition	Estimated Cost
Mainline Segment 6	M-6	Capacity	2023	Long Term	Yes	No	\$8,800,000
Interchange 7: Lockwood	U-7	Traffic Operations & Lane Balance	2027	Long Term	Yes	No	\$1,900,000
Mainline Segment 7	M-7	Capacity	2027	Long Term	No	No	\$5,800,000



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8. Johnson Lane Interchange

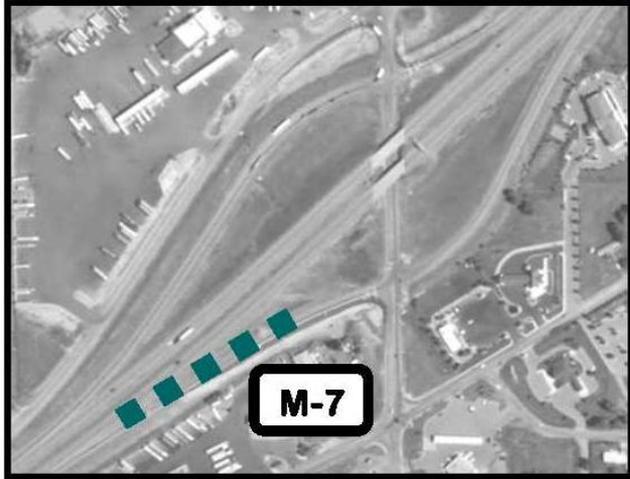
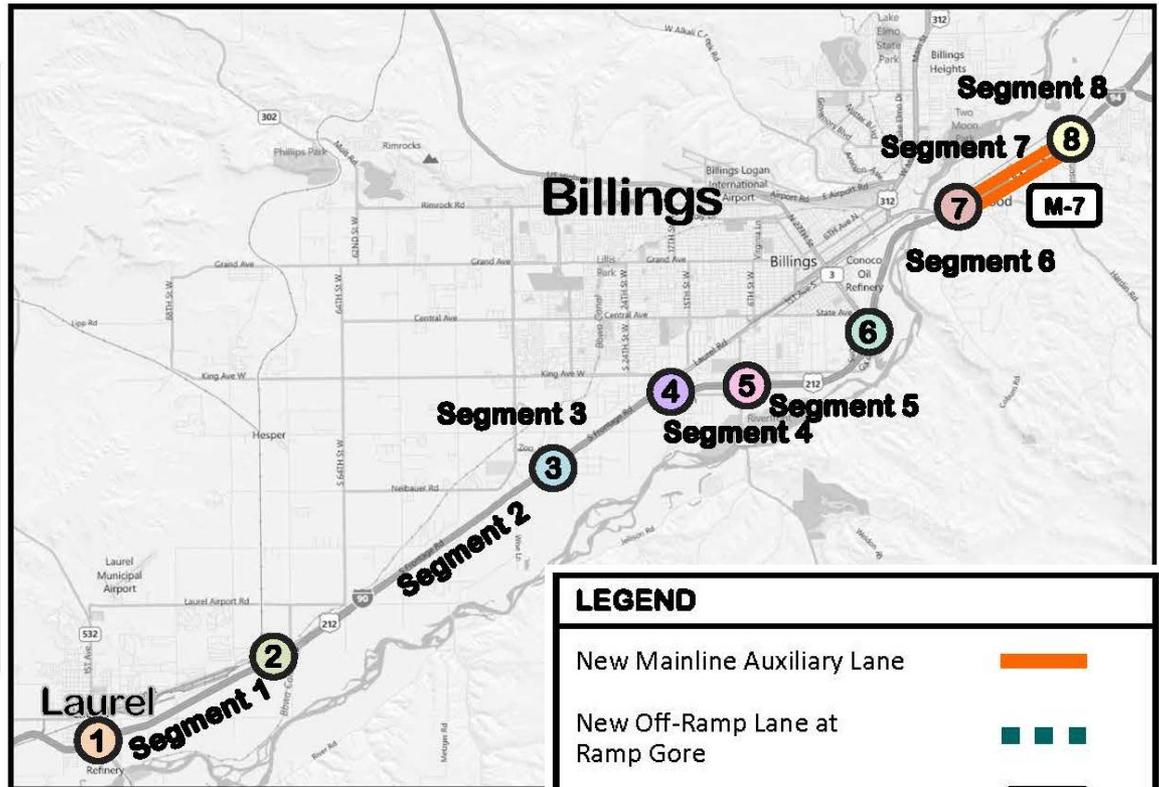


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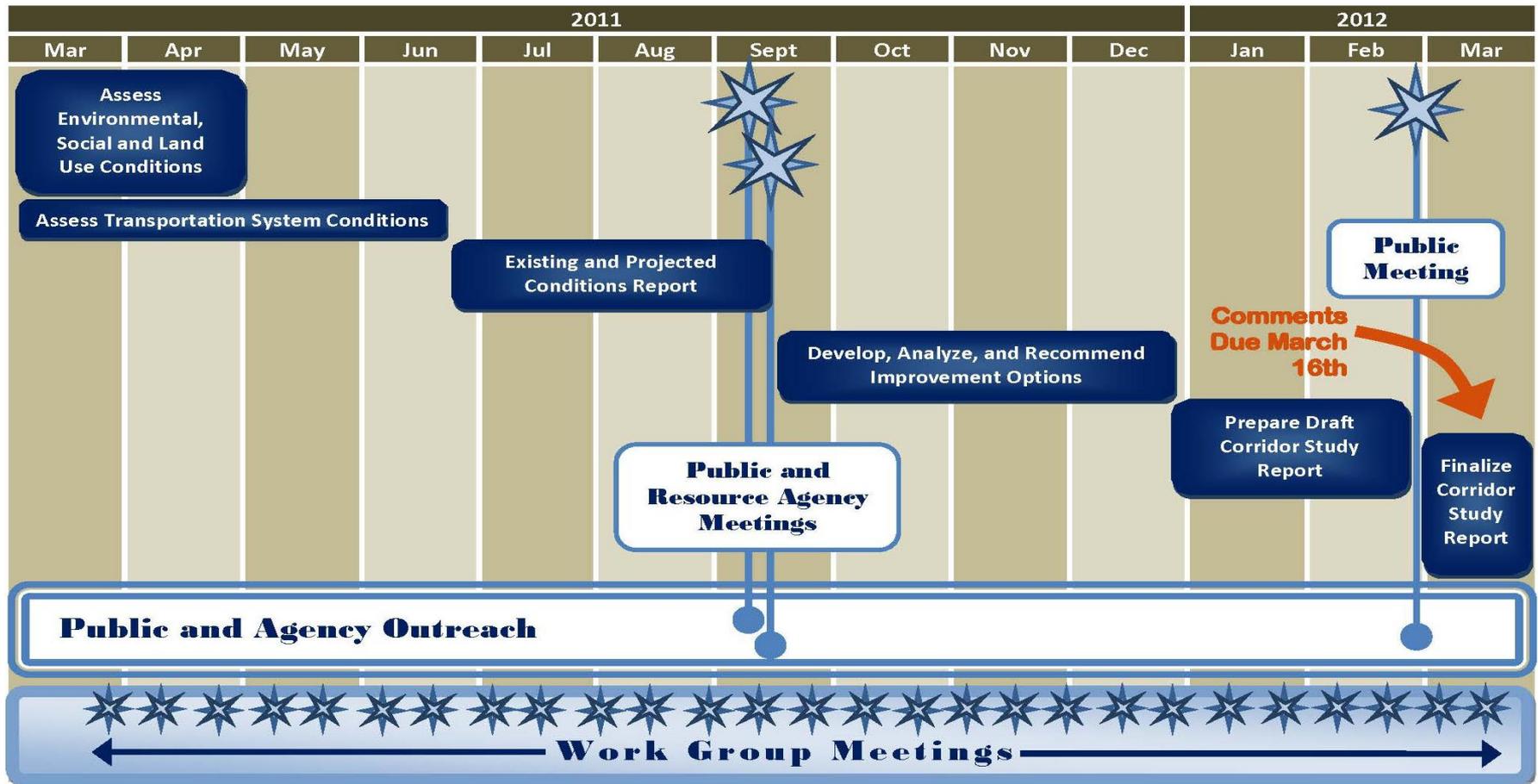
LEGEND	
New Mainline Auxiliary Lane	
New Off-Ramp Lane at Ramp Gore	
Option ID	

Location	Option ID	Option Type	Deficiency Year	Planning Priority	Impacts to Environmental Resources	Right-of-Way Acquisition	Estimated Cost
Mainline Segment 7	M-7	Capacity	2027	Long Term	No	No	\$5,800,000



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Next Steps





Please Submit Comments!

- **Submit Comment Sheet Tonight**
- **Submit Comments on Website**
<http://www.mdt.mt.gov/pubinvolve/i90corridor>
- **Call or email:**
Gary Neville at 406.657.0232 or gneville@mt.gov
Sarah Nicolai at 406.442.0370 or snicolai@dowlhkm.com
Tom Kahle at 406.444.9211 or tkahle@mt.gov
- **Mail comments to:**
Sarah Nicolai
DOWL HKM
PO Box 1009
Helena, MT 59624

Comments Due March 16, 2012