



**LOCKWOOD
INTERCHANGE**
RECONSTRUCTION

Welcome

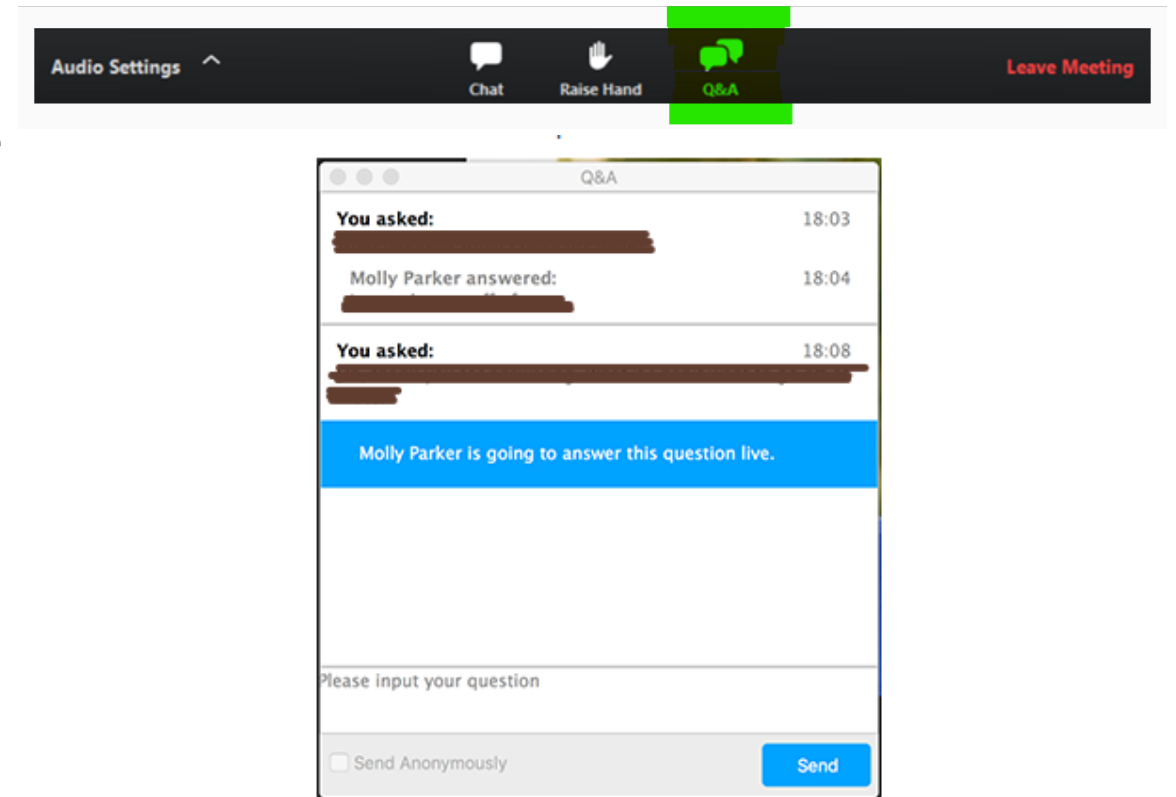


VISION ZERO
zero deaths · zero serious injuries

MONTANA DEPARTMENT
OF TRANSPORTATION

How to Use Zoom's Question/Answer

- Use the Q/A button
- Write your question at any time
- We will respond at the end of the presentation



Project Team



- **Rod Nelson**, MDT District Administrator, Billings District
- **Mike Taylor**, MDT District Preconstruction Engineer
- **Mark Studt**, MDT Consultant Project Engineer
- **Tim Erickson**, HDR, Project Manager
- **Lisa L Gray**, HDR, Public Involvement



VISION ZERO
zero deaths · zero serious injuries

MONTANA DEPARTMENT
OF TRANSPORTATION

Project Purpose



- Reconstruct and reconfigure the Lockwood Interchange over I90
- Accommodate future traffic patterns
- Develop a more efficient interchange
- Addresses ramp functionality, and operational issues on I90
 - Off-ramp vehicle queue does not back up onto I90



VISION ZERO
zero deaths · zero serious injuries

MONTANA DEPARTMENT
OF TRANSPORTATION

Vision Zero

- Eliminate all traffic fatalities and serious injuries
- Increasing safe and healthy mobility for all
- We need EVERYONE to do their part
 - Drive attentive
 - Drive sober
 - Drive to the conditions and do not speed
 - Wear your seatbelt
- Together, we can save lives



VISION ZERO ★

zero deaths · zero serious injuries

**MONTANA DEPARTMENT
OF TRANSPORTATION**



Project Location

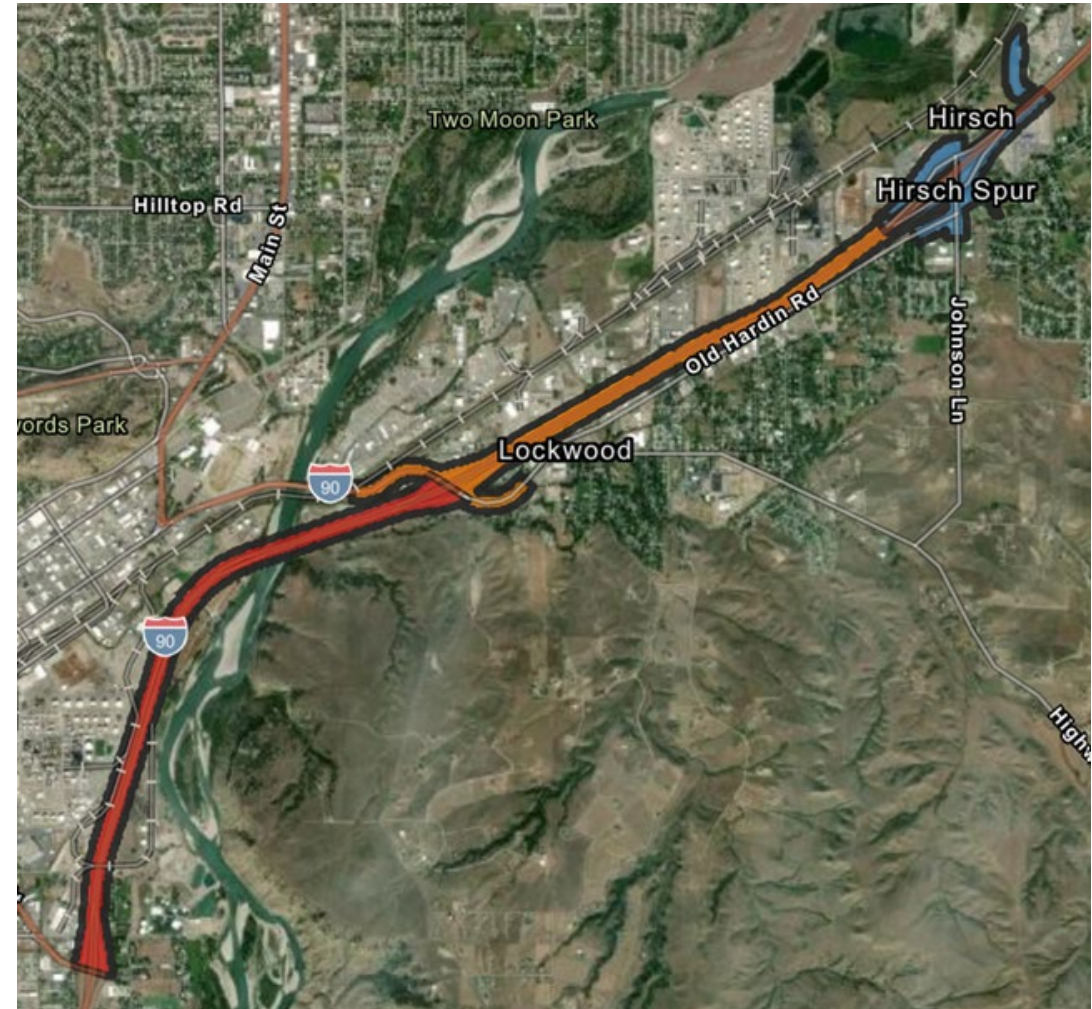
- I90 from the Lockwood Interchange to the Johnson Lane Interchange
- Includes Lockwood Interchange and US 87 north and south of the interchange
- Completes infrastructure improvements between two adjacent projects





Adjacent Projects

- I90 Yellowstone River Bridges (red line)
- Johnson Lane Interchange (blue line)



Existing Physical Characteristics

- Lockwood Interchange – Diamond configuration with single lane ramps
- US 87 – two travel lanes in each direction
- I90 – two travel lanes in each direction
- Existing sidewalk along east side of US 87 to the north of the interchange
 - No pedestrian facilities exist south of the interchange



Project Description



- Widening I90 to three lanes in each direction between the Lockwood and Johnson Lane Interchanges
- Reconstruction of Lockwood Interchange to improve traffic operations
- Improve bike/ped facilities and connectivity

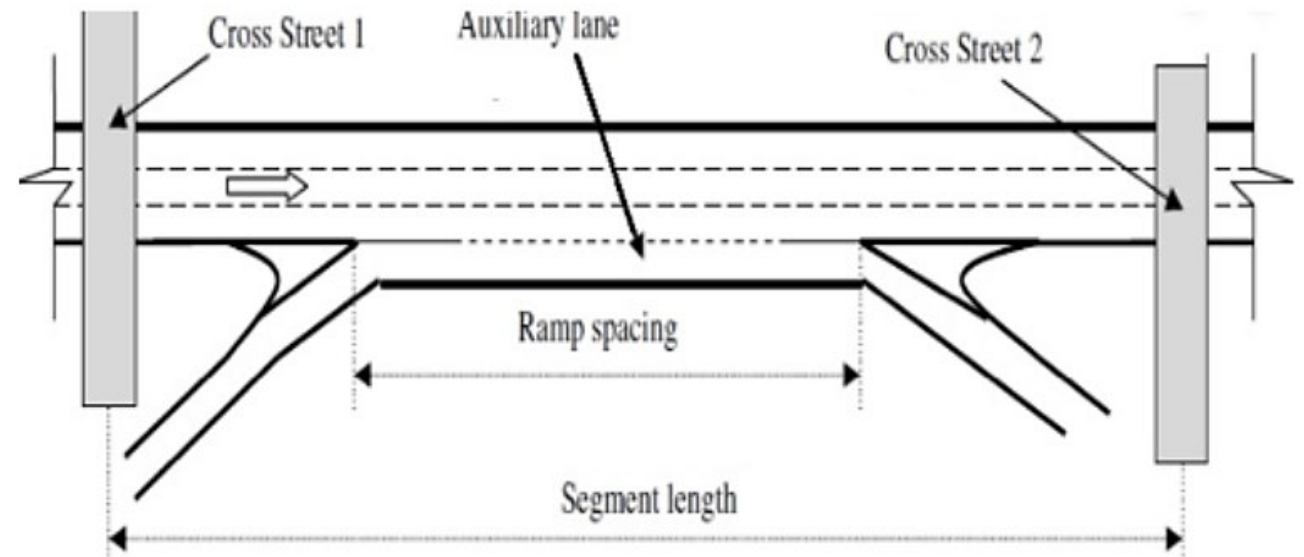


VISION ZERO
zero deaths · zero serious injuries

MONTANA DEPARTMENT
OF TRANSPORTATION

I90 Roadway Details

- Auxiliary lane between interchanges
- Widening to the inside towards the median
- Concrete barrier in the median
- Avoid impacts to irrigation and drainage crossings



Interchange Alternative Analysis



- Improvements to serve future traffic demand
- Several interchange alternatives
 - Diamond Interchange
 - Diverging Diamond Interchange (DDI)
 - Single Point Urban Interchange
 - Roundabout Interchange



VISION ZERO
zero deaths · zero serious injuries

MONTANA DEPARTMENT
OF TRANSPORTATION

Interchange Alternative Analysis Results

- Diverging Diamond Interchange (DDI)
 - Provides most improvements of traffic operations and capacity
 - Improves safety by removing left-turn movement conflicts
 - Minimal environmental impacts
 - Improved pedestrian facilities



VISION ZERO
zero deaths · zero serious injuries

MONTANA DEPARTMENT
OF TRANSPORTATION

Diverging Diamond Interchange (DDI)



- A DDI is based on a standard diamond interchange
- US 87 traffic will crossover at intersections, intuitively channelizing vehicles to the left side of the roadway
- Allows left-turning movements to occur with no conflicts
- Reduces delay, and increases interchange capacity



VISION ZERO
zero deaths · zero serious injuries

MONTANA DEPARTMENT
OF TRANSPORTATION

Diverging Diamond Interchange (DDI)



- New signing will be used to guide traffic through the revised interchange
- Traffic signals at the ramp termini will be replaced
- Dual left-turn lanes for EB off-ramp
- Dual right-turn lanes for WB off-ramp
- Eliminates traffic queuing on I90



VISION ZERO
zero deaths · zero serious injuries

MONTANA DEPARTMENT
OF TRANSPORTATION

Lockwood Interchange Details



- Reconstruction of US 87 from south of Coburn Rd through the N. Frontage Rd
- Reconfiguration of interchange to a DDI configuration
- Reconstruct existing bridge over I90
- Improve and extend pedestrian facilities through the Lockwood Interchange

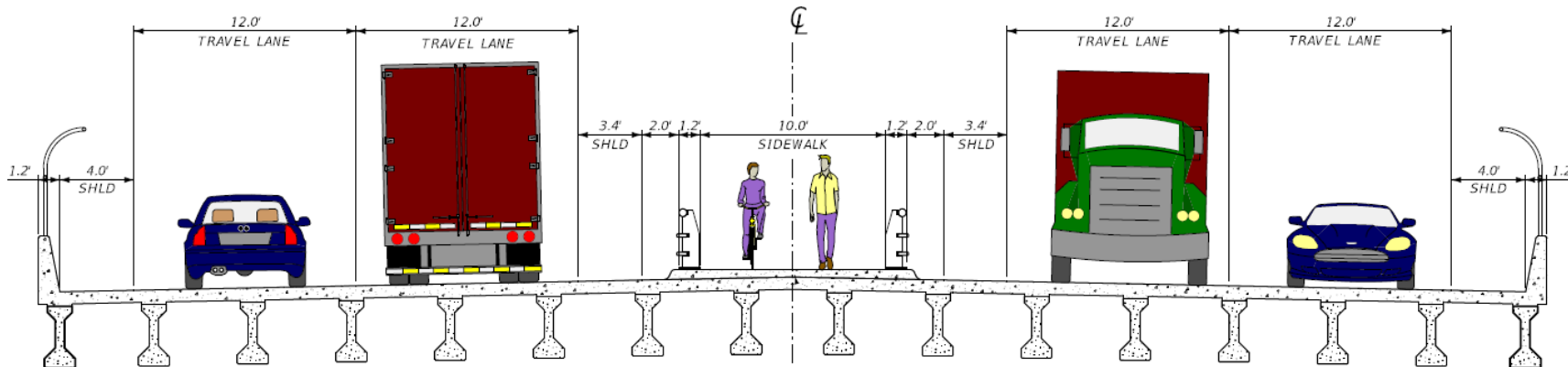


VISION ZERO
zero deaths · zero serious injuries

**MONTANA DEPARTMENT
OF TRANSPORTATION**

Pedestrian/Bicycle Accommodations

- 10' shared use pedestrian facilities through the interchange
 - Accommodated through the center of the interchange
 - Reduces conflicts between pedestrians and free flow turning movements
- 10' shared use pedestrian facilities extended to Coburn Rd and N. Frontage Rd
 - Opportunity to connect a future path to MetraPark and future bike/ped connections in Lockwood



VISION ZERO
zero deaths · zero serious injuries

MONTANA DEPARTMENT
OF TRANSPORTATION

Other Proposed Modifications



- N Frontage Rd
 - Dedicated left-turn lane
 - Extend right-turn lane
- Coburn Rd
 - Improve safety of the intersection
 - Converted to a $\frac{3}{4}$ access



VISION ZERO
zero deaths · zero serious injuries

MONTANA DEPARTMENT
OF TRANSPORTATION

Right of Way (ROW)



- Interchange ramp modifications will require ROW
- Improvements along US 87 may require additional ROW
- Retaining walls could reduce the amount of ROW required
- Proposed right-of-way will be refined as design progresses



VISION ZERO
zero deaths · zero serious injuries

**MONTANA DEPARTMENT
OF TRANSPORTATION**

Project Schedule and Next Steps

Alternative analysis and preliminary design completed	December 2020
Public meeting	March 25, 2021
Complete risk analysis and project feasibility	April 2021
Anticipated design completion	2023/2024
Funding for construction not currently programmed	Construction could begin as early as 2024/2025



How to Contact Us and Stay Involved

Website: <http://www.mdt.mt.gov/pubinvolve/i90lockwood/>

Email: lisa.gray@hdrinc.com

To check out MDT Active Projects go to:
www.mdt.mt.gov/publications/map-gallery.shtml



VISION ZERO
zero deaths · zero serious injuries

MONTANA DEPARTMENT
OF TRANSPORTATION