



# BELGRADE to BOZEMAN corridor FRONTAGE ROAD study

April 18, 2017

Public Informational Meeting 3







# Welcome and Introductions

# Title VI Considerations

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*This meeting is held pursuant to Title VI of the 1964 Civil Rights Act which ensures that no person shall be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination on the basis of a protected status during any MDT project.*



# Meeting Format

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## Presentation

- ▣ Overview of corridor study process
- ▣ Areas of Concern
  - *Transportation System*
  - *Environmental Conditions*
- ▣ Needs and Objectives
- ▣ Recommended Improvement Options
- ▣ Next Steps

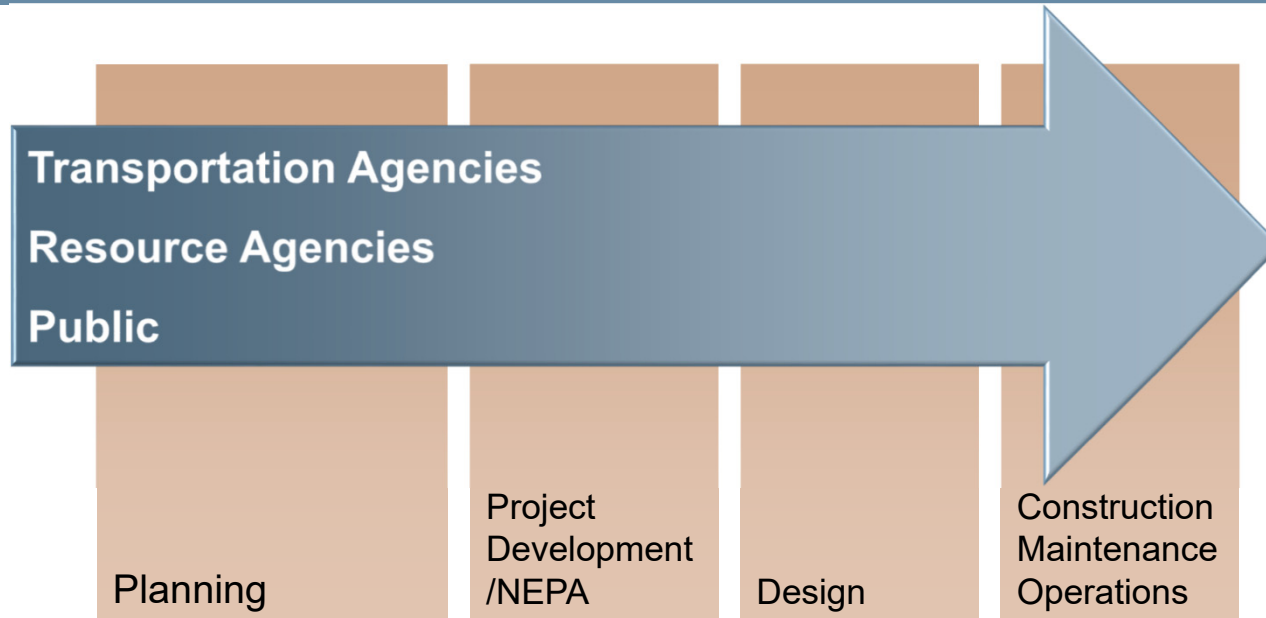
## Discussion Period





# What is a Corridor Study?

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**A corridor study is conducted before design, right-of-way acquisition, environmental compliance, and construction.**

# Corridor Study Overview

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- ▣ Environmental Scan
- ▣ Informational Meeting #1
- ▣ Existing and Projected Conditions
- ▣ Resource Agency Meeting
- ▣ Informational Meeting #2
- ▣ Needs and Objectives
- ▣ Improvement Option Identification
- ▣ Draft Study Report
- ▣ **Informational Meeting #3**
- ▣ Public/Agency Review Period
- ▣ Final Study Report



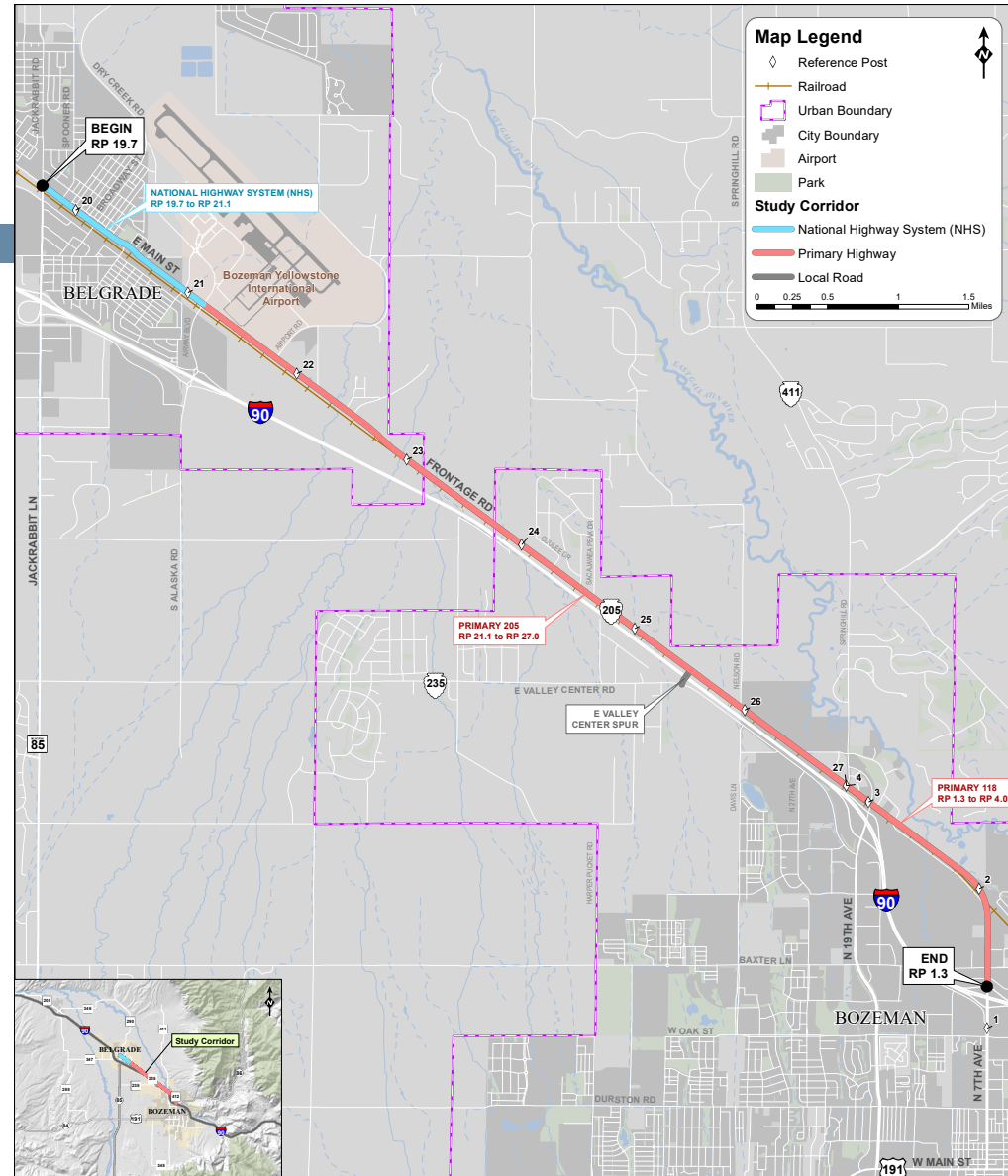


# Study Area

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## Frontage Road (9 Miles)

- **BEGIN:** Jackrabbit Lane
- **END:** Interstate 90 (Exit 306) Westbound Ramps
- Includes Valley Center Spur Road







# Areas of Concern



# Physical Characteristics

## Various functional classifications

- ▣ **Principal Arterial** (National Highway System): Jackrabbit Lane to Airway Boulevard
- ▣ **Minor Arterial** (Primary Highway System): Airway Boulevard to Springhill Road
- ▣ **Minor Arterial** (Primary Highway System): Springhill Road to I-90 Exit 306 Ramps

## Existing constraints

- ▣ Existing buildings (Downtown Belgrade)
- ▣ Rail infrastructure (south of roadway)
- ▣ Majority of the corridor is within railroad right-of-way
- ▣ Future private development (north of roadway)

## Two travel lanes

- ▣ 24' to 27' pavement width (in rural portion)
- ▣ Steep side slopes
- ▣ Generally no shoulders; some exceptions in recently constructed areas
- ▣ Generally “poor” overall pavement index (OPI)

## 25 to 50 mph speed limit

# Physical Characteristics

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## Passing Lanes

- ▣ 8 of 14 passing lanes are less than 1,000 feet in length

## Sidewalk Network

- ▣ Several gaps exist in the sidewalk network within the urban portions of the corridor

## Miscellaneous Features

- ▣ Natural gas and crude oil pipelines parallel to and crossing the corridor
- ▣ Many areas, particularly in Belgrade, with poor drainage due to flat slopes and topography
- ▣ Bridge crossing Hyalite Creek is in “poor” condition, bridge over the railroad is in “good” condition



# Traffic Operations

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## Jackrabbit Lane



### Traffic Signal Controlled

- ▣ Railroad pre-emption
- ▣ Skewed intersection
- ▣ NB/SB right turn slip lanes

### Existing LOS

- ▣ AM – C
- ▣ PM – C

### Projected LOS

- ▣ AM – C
- ▣ PM – C

# Traffic Operations

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## Broadway Street



### All-way Stop Controlled

- ▣ Railroad nearby

### Existing LOS

- ▣ AM – A
- ▣ PM – C

### Projected LOS

- ▣ AM – B
- ▣ PM – F

# Traffic Operations

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## Oregon Street



### Stop Controlled

- ▣ Stop control is only on Oregon Street
- ▣ Railroad nearby
- ▣ Crosswalk nearby
- ▣ Gas station to the north

### Existing LOS

- ▣ AM – C
- ▣ PM – D

### Projected LOS

- ▣ AM – C
- ▣ PM – F

# Traffic Operations

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## Airway Boulevard



### Traffic Signal Controlled

- ▣ Recently re-constructed

### Existing LOS

- ▣ AM – C
- ▣ PM – C

### Projected LOS

- ▣ AM – C
- ▣ PM – C



# Traffic Operations

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## Airport Road



### Stop Controlled

- ▣ Stop control is only on Airport Road
- ▣ Recently re-configured
- ▣ Three-legged

### Existing LOS

- ▣ AM – C
- ▣ PM – C

### Projected LOS

- ▣ AM – C
- ▣ PM – C

# Traffic Operations

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## East Valley Center Spur Road



### Stop Controlled

- ▣ Stop control only on Spur Road
- ▣ Overhead flashers at intersection
- ▣ Railroad nearby
- ▣ North approach is private and gated
- ▣ Planned to be signalized

### Existing LOS

- ▣ AM – C
- ▣ PM – C

### Projected LOS\*

- ▣ AM – B
- ▣ PM – B

*\*Signal Controlled*

# Traffic Operations

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## Nelson Road



### Stop Controlled

- ▣ Stop control only on Nelson Road
- ▣ Overhead flashers at intersection
- ▣ Does not meet signal warrants according to December, 2016 traffic study

### Existing LOS

- ▣ AM – B
- ▣ PM – B

### Projected LOS

- ▣ AM – C
- ▣ PM – C

# Traffic Operations

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## Springhill Road



### Traffic Signal Controlled

- ▣ Skewed intersection

### Existing LOS

- ▣ AM – B
- ▣ PM – B

### Projected LOS

- ▣ AM – B
- ▣ PM – B



# Traffic Operations

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## Griffin Drive



### Traffic Signal Controlled

- ❑ Does not have protected left-turn phasing
- ❑ Planned for 2019 reconstruction

### Existing LOS

- ❑ AM – C
- ❑ PM – D

### Projected LOS

- ❑ AM – D
- ❑ PM – F

# Safety

## Crash Period

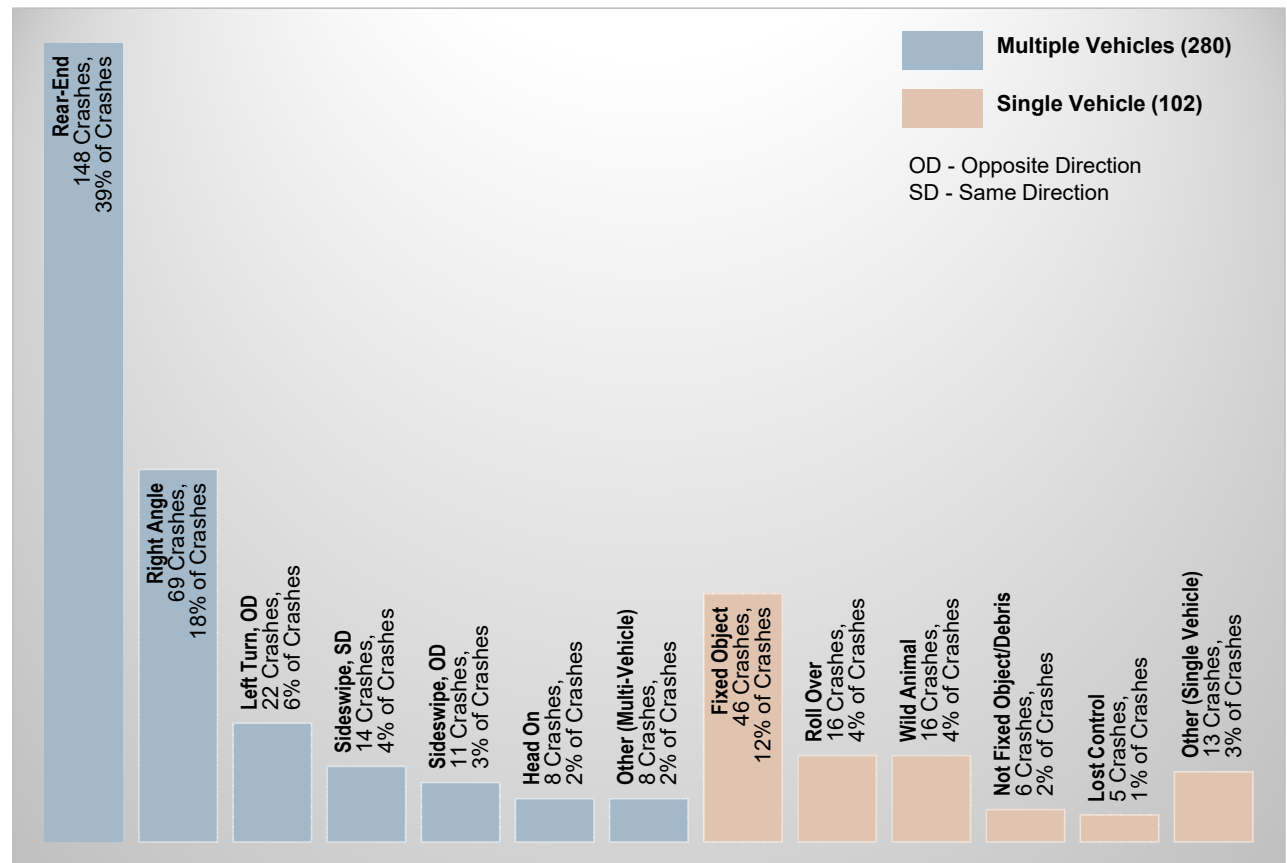
- Jan. 2010 to Dec. 2015

## 382 Total Crashes

- 280 Multi-vehicle
- 102 Single vehicle

## Crash Severity

- 3 Fatal Crashes
- 8 Incapacitating Injury Crashes



# Environmental Resources

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## Physical Environment

- ▣ Soil Resources and Prime Farmland
- ▣ Geologic Resources
- ▣ **Water Resources**
- ▣ Air Quality
- ▣ Hazardous Substances

## Biological Environment

- ▣ Vegetation
- ▣ General Wildlife
- ▣ Threatened and Endangered Species
- ▣ Species of Concern

## Social and Cultural Environment

- ▣ Population Demographics and Economics
- ▣ **Land Ownership**
- ▣ **Recreational Resources**
- ▣ Cultural Resources
- ▣ Noise
- ▣ Visual Resources







**Needs and  
Objectives**

# Needs and Objectives

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## **Need 1: Improve the safety of the corridor for all users**

### **Objectives (to the extent practicable)**

- ▣ Reduce the frequency and severity of all crashes
- ▣ Improve roadway elements to meet the current standards
- ▣ Reduce conflicts for all modes

# Needs and Objectives

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## **Need 2: Improve the operations of the roadway**

### **Objectives (to the extent practicable)**

- ▣ Reduce corridor and intersection congestion for existing and future demands
- ▣ Improve operations to meet acceptable LOS guidelines
- ▣ Accommodate alternative transportation modes



# Needs and Objectives

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## Other Considerations

- ▣ Local and regional planning consistency
- ▣ Funding availability
- ▣ Construction feasibility and physical constraints
- ▣ Truck movements
- ▣ Maintenance costs and responsibility
- ▣ Railroad coordination
- ▣ Impacts to aquatic resources
- ▣ Impacts to environmental resources



**Recommended  
Improvement  
Options**



# Intersection Improvements

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## 1. Broadway Street

### Recommendation

- Install a traffic signal or single-lane roundabout at the intersection

### Limitations/Constraints

- Installation of a traffic signal requires a warrant analysis
- Close proximity to railroad
- Signal preemption for railroad would be required
- Right-of-way constraints
- Impacts to on-street parking



# Intersection Improvements

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## 2. Oregon Street

### Recommendation

- Install a traffic signal or single-lane roundabout at the intersection

### Limitations/Constraints

- Installation of a traffic signal requires a warrant analysis
- Close proximity to railroad
- Signal preemption for railroad would be required
- Existing gas station to the north





# Intersection Improvements

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## 3. Nelson Road

### Recommendation

- Install a traffic signal

### Limitations/Constraints

- Installation of a traffic signal requires a warrant analysis
- Traffic signal warrants are not currently met
- Continue to monitor over time



# Spot Improvements

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## 4. Evaluate School Traffic in Belgrade

### Recommendation

- Perform detailed study of school related traffic and possible mitigation options

### Limitations/Constraints

- Operational issues are constrained to a short period of time during school days



# Spot Improvements

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## 5. Complete Sidewalk Network along Main Street in Belgrade

### Recommendation

- Construct sidewalks within Belgrade to provide for pedestrian travel

### Limitations/Constraints

- There are potential impacts to adjacent business access and parking





# Spot Improvements

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## 6. Complete Sidewalk Network along 7<sup>th</sup> Avenue in Bozeman

### Recommendation

- Construct sidewalks within Bozeman to provide for pedestrian travel

### Limitations/Constraints

- There are potential impacts to adjacent business access





# Corridor Improvements

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## 7. Passing Zone Modifications

### Recommendation

- Evaluate and modify passing zones to ensure they meet existing standards

### Limitations/Constraints

- May result in increased driver frustration due to decreased passing opportunities



# Corridor Improvements

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## 8. Install Centerline Rumble Strips

### Recommendation

- Install centerline rumble strips between Airport Road and Railroad Overpass

### Limitations/Constraints

- The corridor has generally poor pavement condition



# Corridor Improvements

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## 9. Develop Separated Share-use Path

### Recommendation

- Construct a separated shared-use path along the corridor

### Limitations/Constraints

- Additional right-of-way is needed
- Coordination with the railroad will be needed during project development
- There are physical constraints due to the railroad and existing development



# Roadway Reconstruction

## 10. Roadway Reconstruction

### Recommendation

- Reconstruct the corridor to include:
  - ▣ One travel lane in each direction,
  - ▣ Center left-turn lane (where appropriate), and
  - ▣ Eight foot shoulders.
  
- Five Segments
  - ▣ Segment 1 – North Quaw Boulevard to Gallatin Field Road
  - ▣ Segment 2 – Airport Road to RP 23.0
  - ▣ Segment 3 – RP 24.6 to Springhill Road
  - ▣ Segment 4 – Springhill Road to Railroad Overpass
  - ▣ Segment 5 – Railroad Overpass to Interstate 90



# Funding Mechanisms

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## Federal / State

- ▣ National Highway Performance Program
  - National Highway System (NHS)
- ▣ Surface Transportation Block Grant Program
  - Urban Highway System (STPU)
  - Bridge Program (STP)
  - Transportation Alternatives (TA)
- ▣ Highway Safety Improvement Program (HSIP)
- ▣ Montana Air and Congestion Initiative (MACI)

## Local

- ▣ Special Revenue Funds
- ▣ Special Improvement District Revolving Funds

## Private Funding

- ▣ Cost Sharing
- ▣ Private Donation
- ▣ Private Ownership



**Conclusion and  
Next Steps**

# Next Steps

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- Receive and consider comments on draft corridor study report from:
  - Public
  - Stakeholders
  - Resource agencies
- Review with study planning team
- Prepare final corridor study report
- Post to study website, distribute, and conclude process

Comment Period runs  
from April 14, 2017 to  
May 14, 2017

# Implementation

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- Depends on availability of funds.
- Required steps:
  - ▣ Identify and secure a funding source(s)
  - ▣ Follow MDT guidelines for project nomination and development
  - or**
  - ▣ Coordinate with MDT via the System Impact Action Process (SIAP)



# Submit Comments

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## Comment Sheets

## Study Website

- ▣ [www.mdt.mt.gov/belgradetobozeaman](http://www.mdt.mt.gov/belgradetobozeaman)

## Study Contacts

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## Info on Newsletter