

Tongue River Road

Corridor Planning Study

Informational Meeting No. 2

October 24th, 2012

Introduction

- Study Partners
 - Custer County
 - Rosebud County
 - MDT
 - FHWA
- Consultant – RPA team



Outline of this Evening's Meeting

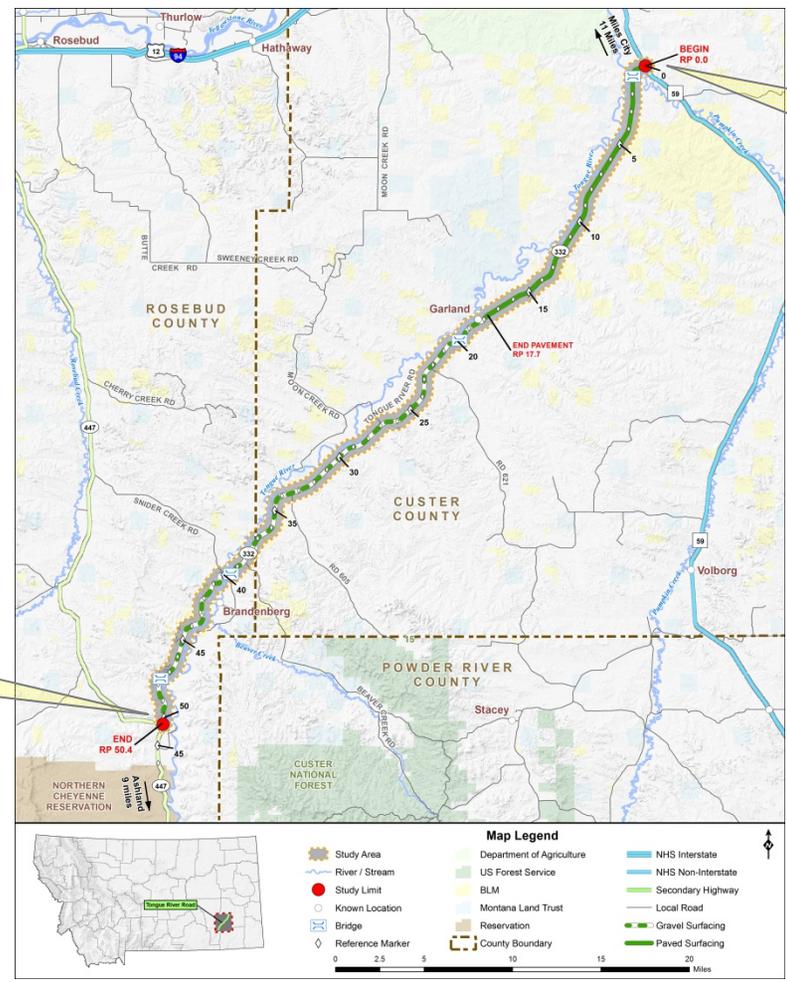
- Study area boundary
- Needs and objectives
- Improvement options considered
- Implementation/next steps

Study Area Boundary

- State Secondary Route 332 (S-332)
- Between MT-59 and S-447
- 50.4 miles in length

END
S-447/S-332
Intersection

BEGIN
MT-59/S-332
Intersection



[Needs & Objectives]

NEED 1: IMPROVE SAFETY AND OPERATION OF S-332

Objectives (To the Extent Practicable):

- Improve geometric elements to meet current MDT design criteria
- Accommodate existing and future capacity demands within the corridor, including potential increases in semi-truck traffic
- Provide adequate clear zones to meet current MDT design criteria

[Needs & Objectives]

NEED 1: *Continued*

Objectives (To the Extent Practicable):

- Provide appropriate drainage facilities throughout the corridor to minimize water on the roadway
- Provide consistent roadway and bridge widths
- Provide appropriate surfacing to allow for “all-weather” travel
- Improve maintenance practices, given limited funding, to address washboards, potholes, and dust issues

[Needs & Objectives]

NEED 2: PRESERVE THE ENVIRONMENTAL, CULTURAL, RECREATIONAL AND AGRICULTURAL NATURE OF THE CORRIDOR

Objectives (To the Extent Practicable):

- Evaluate and incorporate “best practice” mitigation strategies as appropriate to reduce animal-vehicle conflicts
- Respect the agricultural nature of the corridor and allow for farm access as needed

[Needs & Objectives]

NEED 2: *Continued*

Objectives (To the Extent Practicable):

- Avoid adverse impacts to the extent practicable, otherwise minimize adverse impacts to historic, cultural, archaeological, and environmental resources that may result from improvement options
- Evaluate fish (aquatic organism) passage issues and incorporate appropriate solutions to improve aquatic connectivity and stream function through structures and culverts
- Provide reasonable access to recreational sites in the corridor

[Needs & Objectives]

NEED 3: MINIMIZE CONFLICTS ALONG THE CORRIDOR

Objectives (To the Extent Practicable):

- Minimize impacts to existing residential and agricultural uses along the corridor
- Minimize impacts to the Amish community, the Northern Cheyenne Indian Reservation and the St. Labre Indian School, all located south of the southern termini of S-332
- Consider all modes of transportation in the corridor

[Needs & Objectives]

OTHER

Objectives (To the Extent Practicable):

- Reduce roadway maintenance costs
- Limit disruptions during construction as much as practicable
- Availability and feasibility of funding



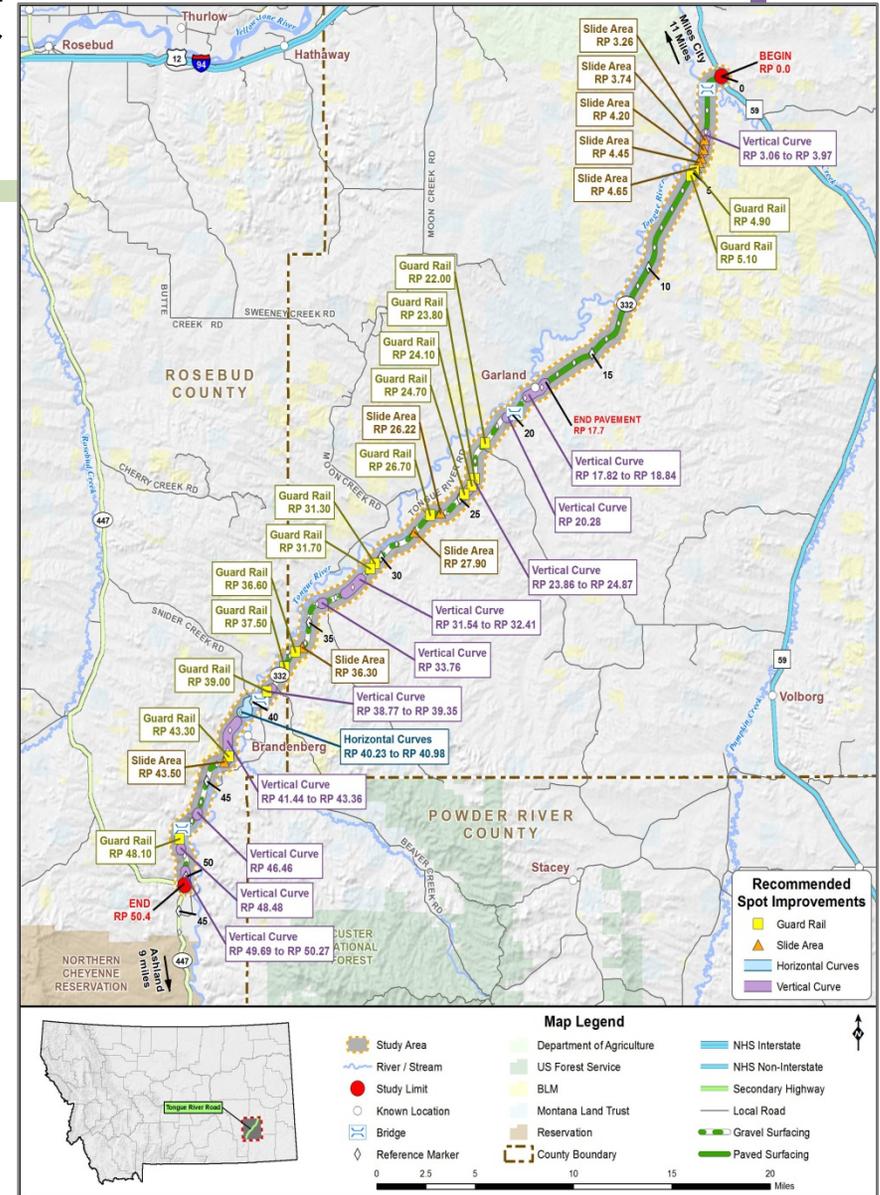
Improvement Options Considered

- **Concept 1** – Spot Improvements
- **Concept 2** – Gravel without Reconstruction (RP 17.7 to RP 50.4)
- **Concept 3** – Reconstruct and Widen Gravel Section (RP 17.7 to RP 50.4)
- **Concept 4** – Rehabilitate with Mill / Fill / Overlay (RP 0.0 to RP 17.7) & Reconstruct and Widen Gravel Section (RP 17.7 to RP 50.4)
- **Concept 5** – Reconstruct with Pavement (RP 0.00 to RP 50.4)

Concept 1 – Spot Improvements

- **Vertical Curve Improvements** – Modifications to existing vertical crest and sag curves (*Estimated Cost: \$1,380,000*)
- **Slide Area Improvements** – Reconstruct numerous slide areas from 2011 flood events (*Estimated Cost: \$2,761,000*)
- **Guardrail Installation** – Fix steep side slopes and high embankments (*Estimated Cost: \$1,290,000*)
- **Horizontal Curve Improvements** – Modify horizontal curves between RP 40.23 and 40.98 (*Estimated Cost: \$689,000*)

Concept 1 - Spot Improvements



Concept 2 – Gravel without Reconstruction

Concept 2.A – Gravel Placement (Estimated Cost: \$2,741,000)

- New four-inch gravel surface layer on the roadway to improve the roadway surface
- Does not include widening the roadway surface or improvement of other areas of concern

Concept 2.B – Double Shot / Bitumen Treatment (Estimated Cost: \$2,183,000)

- Double-shot / bitumen surfacing treatment on reconditioned gravel surface
- Seals surfacing course to improve roadway surface

Concept 3 – Reconstruct and Widen Gravel Section

- Reconstructs existing gravel portion to a 32-foot wide gravel top surface width
- On top of a roadway base that could accommodate a 36-foot wide surface width in the future
- Three new replacement bridges or culverts would be required to meet width requirements
 - Foster Creek [RP 19.87]
 - Tongue River [RP 39.61]
 - Roe and Cooper Creek [RP 47.80]
- Includes extending improvements along S-447

Concept 3 – Reconstruct and Widen Gravel Section

Estimated Cost:

- \$25,341,000 (Without Bridge Reconstruction)
- \$1,878,000 (Bridge Reconstruction Only)
- \$2,092,000 (Extension on S-447)

Concept 4 – Rehabilitate With Mill / Fill / Overlay and Reconstruct and Widen Gravel Section

- Mill, fill and overlay of the existing pavement section (no improvements to the surface width)
- Extends surfacing life without a total reconstruct (~ rehabilitation effort)
- No modifications to existing surface widths, no bridge or hydraulic structures.
- Also included are the improvements described under Concept 3

Concept 4 – Rehabilitate With Mill / Fill / Overlay and Reconstruct and Widen Gravel Section

Estimated Cost:

- \$10,690,000 (Pavement RP 0.0 – RP 17.7)
- \$25,341,000 (Gravel RP 17.7 – RP 50.4, without Bridge Reconstruction)
- \$1,878,000 (Bridge Reconstruction Only RP 17.7 – RP 50.4)
- \$2,092,000 (Extension on S-447)

Concept 5 - Reconstruct with Pavement (RP 0.00 To RP 50.4)

- Asphalt pavement throughout the entire S-332 corridor
 - AADT between 0-299 24' width
 - AADT between 300-999 28' width
 - AADT between 1,000-1,999 32' width
 - AADT between 2,000-3,000 36' width
 - AADT greater than 3,000 40' width
- Ultimately, the required width of the roadway would be determined based on future AADT values

Concept 5 - Reconstruct with Pavement (RP 0.00 To RP 50.4)

- Four new replacement bridges or culverts would be necessary to meet width requirements
 - Pumpkin Creek [RP 1.02]
 - Foster Creek [RP 19.87]
 - Tongue River [RP 39.61]
 - Roe and Cooper Creek [RP 47.80]
- Includes extension of the reconstruct with pavement along S-447

Concept 5 - Reconstruct with Pavement (RP 0.00 To RP 50.4)

Estimated Cost:

- \$54,614,000 (24' Width without Bridge Reconstruction)
- \$63,716,000 (28' Width without Bridge Reconstruction)
- \$72,819,000 (32' Width without Bridge Reconstruction)
- \$81,921,000 (36' Width without Bridge Reconstruction)
- \$91,023,000 (40' Width without Bridge Reconstruction)
- \$2,790,000 (Bridge Reconstruction Only)
- \$4,389,000 (Extension on S-447)

Concept Summary

- Five (5) concepts developed
- Various levels of improvements
- Various levels of costs
- Dependent on traffic volumes

Concept Title	Description	Estimated Cost
CONCEPT 1 – SPOT IMPROVEMENTS		
<i>1.A - Vertical Curves</i>	<ul style="list-style-type: none"> • Modify existing vertical curves to increase the driver's sight distance. • Identified in both paved and graveled sections. • 46 total curves identified. 	\$1,380,000
<i>1.B - Slide Areas</i>	<ul style="list-style-type: none"> • Identified in both paved and graveled sections. • Nine (9) areas identified. 	\$2,761,000
<i>1.C - Guardrail</i>	<ul style="list-style-type: none"> • Protect drivers from potential safety hazards due to the steep slopes. • Guardrail warrants to be evaluated prior to installation. • Re-work of slopes may not be feasible. 	\$1,290,000
<i>1.D - Horizontal Curves (RP 40.23 – RP 40.98)</i>	<ul style="list-style-type: none"> • Improve three (3) horizontal curves that do not meet current standards. • Limited to area just west of the Tongue River Bridge. 	\$689,000
CONCEPT 2 – GRAVEL WITHOUT RECONSTRUCTION (RP 17.7 to RP 50.4)		
<i>2.A - Gravel Placement</i>	<ul style="list-style-type: none"> • Place new 4" gravel surface on the roadway. • No widening of the roadway. • No reconstruction to address identified areas of concern. 	\$2,741,000
<i>2.B - Double Shot / Bitumen Treatment</i>	<ul style="list-style-type: none"> • Double chip seal coat on top of existing gravel road. • No widening of the roadway. • No reconstruction to address identified areas of concern. 	\$2,183,000
CONCEPT 3 – RECONSTRUCT AND WIDEN GRAVEL SECTION (RP 17.7 to RP 50.4) *		
<i>Reconstruct and Widen Gravel Section</i>	<ul style="list-style-type: none"> • Reconstruct gravel portion to a base width of 36' with a 32' top surface. • May require additional right-of-way (not included in cost estimate). 	\$25,341,000
<i>Bridge Replacement</i>	<ul style="list-style-type: none"> • Replace three (3) bridges. 	\$1,878,000
CONCEPT 4 – REHABILITATE WITH MILL / FILL / OVERLAY (RP 0.0 to RP 17.7) AND RECONSTRUCT AND WIDEN GRAVEL SECTION (RP 17.7 to RP 50.4) *		
<i>Rehabilitate with Mill / Fill / Overlay (RP 0.0 to RP 17.7)</i>	<ul style="list-style-type: none"> • Mill the existing asphalt pavement, fill areas for better drainage (as needed), and place a new asphalt overlay. • No modifications to existing road widths. • No modifications to existing bridge or hydraulic structures. 	\$10,690,000
<i>Reconstruct & Widen Gravel Section (RP 17.7 to RP 50.4)</i>	<ul style="list-style-type: none"> • Reconstruct gravel portion to a base width of 36' with a 32' top surface. • May require additional right-of-way (not included in cost estimate). 	\$25,341,000
<i>Bridge Replacement</i>	<ul style="list-style-type: none"> • Replace three (3) bridges along gravel section. 	\$1,878,000
CONCEPT 5 – RECONSTRUCT WITH PAVEMENT (RP 0.00 to RP 50.4) *		
<i>Reconstruct with Pavement (RP 0.0 to RP 50.4)</i>	<ul style="list-style-type: none"> • Reconstruct both the paved and gravel section of the roadway to a paved section. • Width dependent on AADT • May require additional right-of-way (not included in cost estimate). 	\$54,614,000 (24') \$63,716,000 (28') \$72,819,000 (32') \$81,921,000 (36') \$91,023,000 (40')
<i>Bridge Replacement</i>	<ul style="list-style-type: none"> • Replace one (1) bridge along paved section. • Replace three (3) bridges along gravel section. 	\$2,790,000

Implementation

- Identify the improvement option(s) that meet the needs in the area;
- Identify and secure a funding source or sources; and
- Follow MDT guidelines for project nomination and development, including a public involvement process and environmental documentation

Next Steps

- Draft Corridor Study Report posted October 19th, 2012
- Written comments due by **November 13th, 2012**
- Comments considered and final report by end of November, 2012
- Send comments to:
 - Study website: <http://www.mdt.gov/pubinvolve/tongueriver>
 - study contact:

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