

Toston Missouri River Crossing Corridor Planning Study

Corridor Setting Document

Working Draft



Prepared For:

Montana Department of Transportation



Prepared By:

Camp Dresser & McKee Inc.

Helena, Montana



February 26, 2010

Table of Contents

1.0 Overview of Corridor Setting Document

Overview of Corridor Setting Document 1

2.0 Description of Corridor

2.1 Roadway Aspects 1

2.2 Environmental Setting 5

3.0 Conclusion

Conclusion 8

4.0 References

References 8

Figures

Figure 1-1 Project Study Area 2

DRAFT

1.0 Overview of Corridor Setting Document

The US 287 corridor provides a vital link between I-90 and Helena, Montana and surrounding communities. The segment near Toston, Montana from Reference Post (RP) 86.3 to RP 89.1 will be addressed in the Toston Missouri River Crossing Corridor Planning Study. Safety issues and potential geometric deficiencies on the two bridges, one over the Missouri River and one over BNSF Railway, are of primary concern in the corridor. Improvement options are desired to enhance safety and mobility. The Corridor Planning Study will look at improvement options, in terms of both short-range and long-range improvements, that will address the needs, while at the same time considering cost, feasibility and environmental impacts within the corridor. A figure showing the corridor study area is included herein as Figure 1-1.

This corridor setting document describes the existing corridor in preparation for future detailed research into technical conditions and environmental resources. This document is intended to be the “blueprint” for further investigation that will be made via the Existing and Projected Conditions Report. The Existing and Projected Conditions Report will provide for greater detail for all the items listed in this Corridor Setting Document.

2.0 Description of Corridor

The description of the corridor as contained in this section focuses on the existing roadway aspects of the corridor study area. The study area is defined as 2.8 miles of US Highway 287 near Toston, Montana and spans a width of 4,000 feet east and west of the highway.

2.1 Roadway Aspects

- **Functional Classification**

US 287 is part of the National Highway System (NHS). US 287 is classified as (NHS) Rural Principal Arterial – Non-Interstate System. A rural principal arterial network provides a high level of mobility at high speeds offering a link between interstate and highways. US 287 is a major north/south highway providing a vital link between I-90 and Helena, Montana and surrounding communities.

- **Right-of-Way and Jurisdictions**

The US 287 corridor is located primarily along private property. The State of Montana maintains existing right-of-way on each side of the highway. Two small sections of State of Montana Land are within the study area boundary as well. Montana Rail Link MRL) runs through the corridor and is maintained/leased by Burlington Northern Santa Fe Railway (BNSF).

Z:\GIS\Public\WDO\Toston\MXD\StudyArea\8x11_20100201.mxd



- Toston Missouri River Crossing Corridor
 - Study Area Boundary
 - Land Outside of Study Area
 - Mile Post Reference Marker
 - Fishing Access Site
 - S-285
 - US-287
 - Off System Route
 - Railroad
- Land Ownership within Study Area
- Private Land
 - State of Montana
 - Original Toston Townsite
 - Missouri River

Sources: Base map information from the Natural Resource Information System (<http://nris.mt.gov/>). NAIP color aerial photography from 2005. Cadastral (land ownership) data from 11/8/2009. On system and off system routes and mile reference markers provided by the Montana Department of Transportation.

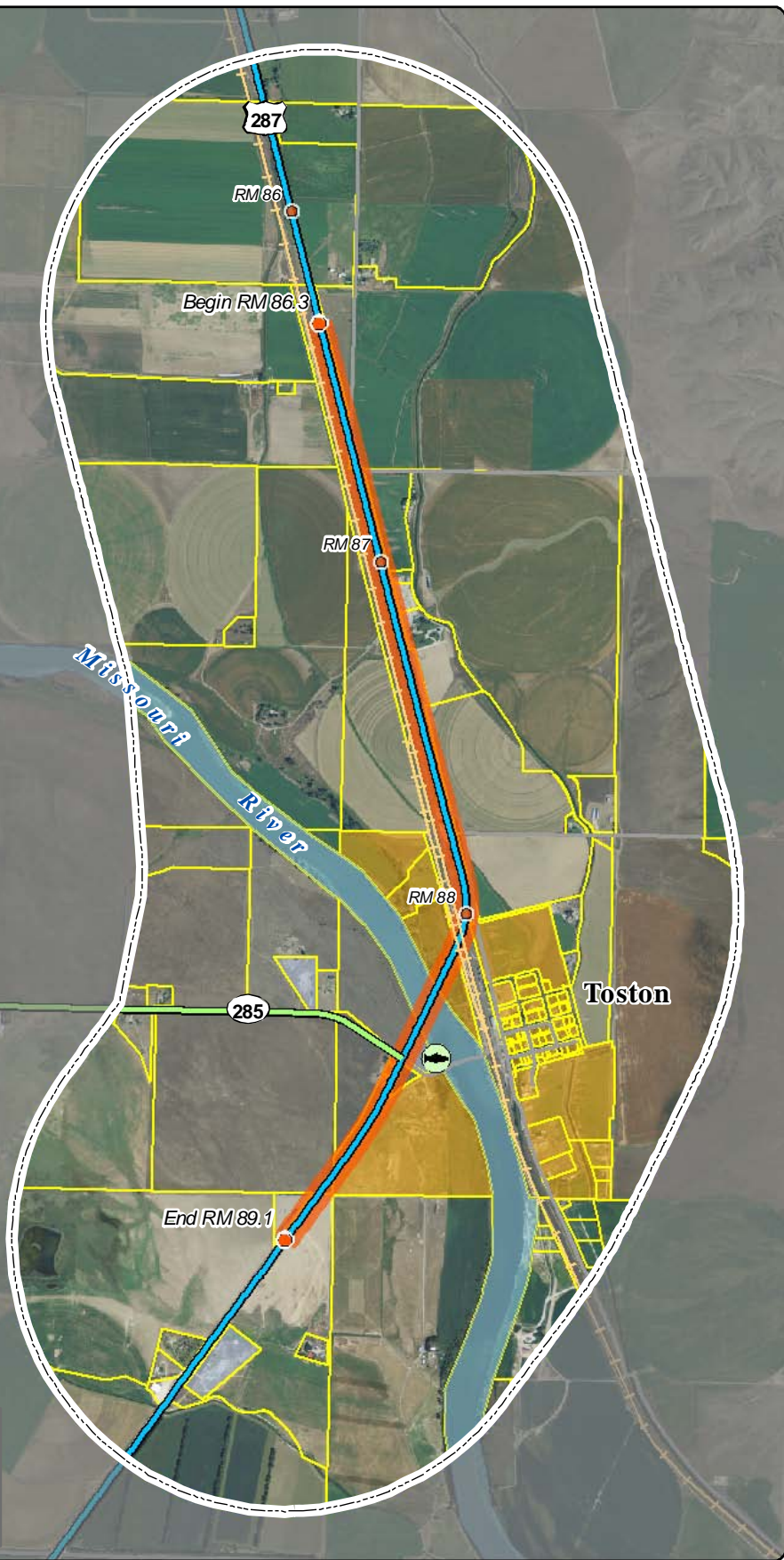


Figure 1-1
Project Study Area
Toston Missouri River Crossing Corridor



N

February 1, 2010
DRAFT

**Toston Missouri River
Corridor Planning Study**

- **Geometrics**

The Existing and Projected Conditions Report will investigate as-built drawings and identify specifications on lane width, passing percentage, and guardrail sites and identify whether the current conditions meet MDT design criteria. The bridge structures along US 287 spans both the Missouri River and BNSF Railway. Whether or not the structures meet the specific design criteria for spanning a major river and railroad transportation system will be further identified in the Existing and Projected Conditions Report.

- **Traffic Data**

The following table shows traffic data for US 287 through the study area corridor. As shown in the following table, there has been a steady increase in traffic volumes through the corridor in the past 10 years.

Average Annual Daily Traffic											
Location	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
US 287, RP 86, 2.5 mi N of S-285	2630	2600	3060	2830	3370	3720	3140	3710	4254	3940	3280
US 287, RP 89, .5 mi S of S-285	2560	2390	2690	2690	3160	3500	2960	3530	3520	3570	3110
Average	2595	2495	2875	2760	3265	3610	3050	3620	3887	3755	3195

Source: [MDT Traffic Data and Collection Analysis](#)

- **Safety**

Safety issues are an area of concern throughout the corridor. On September 8, 2009, the MDT Traffic and Safety Bureau conducted a crash analysis along US 287 from mileposts 86.1 to 89.1, which covers the corridor study area boundary. The 10 years of crash data was analyzed from January 1, 1999 to December 31, 2008. The analysis compared the study area with the average crash rates on Non-Interstate National Highway System (NINHS) routes statewide.

- **Roadway Considerations**

The existing physical and geometric design criteria for US 287 will be evaluated for the study area boundary to identify areas that do not meet the MDT design criteria.

- **Horizontal Alignment**

The horizontal alignment of US 287 will have a major influence on traffic flow and safety.

- **Vertical Alignment**

The vertical alignment is a measure of elevation change of a roadway. The length and steepness of grades directly affects the operational characteristics of the roadway. The MDT Road Design Manual lists recommendations for maximum grades on principal arterials according to the type of terrain in the area.

- **Roadside Safety (Clear Zone)**

Clear zone considerations will be evaluated.

- **Pavement Width**

The existing pavement width and typical section will be evaluated.

- **Geotechnical**

Based on the existing geotechnical information, soil resource report, and well logs, the project area has no substantial geotechnical issues.

- **Drainage**

With the corridor having predominate farm and agriculture use, drainage is a key factor to consider in development of improvement options. Several irrigation ditches and canals exist throughout the corridor and will be addressed as improvement options develop.

- **Bridge Structures**

Throughout the corridor there are three bridges. These are located as follows:

RP 87.2, Structure No. P00008087+02291 (Six Mile Creek)

RP 88.0, Structure No. P00008088+00551 (Bridge over Montana Rail Link)

RP 88.3, Structure No. P00008088+02901 (Missouri River Bridge)

- **Railroad**

The presence of Montana Rail Link within the corridor is a key factor in developing improvement options. Guidelines have been established in accordance with construction and development near railroad facilities. These will be evaluated as improvement options are evaluated.

- **Utilities**

Utilities existing throughout the corridor will be addressed in developing improvement options.

2.2 Environmental Setting

The study area environmental setting is an important aspect of this pre-NEPA/MEPA Corridor Study. The following items represent a preliminary list of potential environmental resources that will be further evaluated in the Existing and Projected Conditions Report.

- **Land Use and Ownership**

The corridor study area boundary has a predominant land use of crop and pasture land. The State of Montana owns the right-of-way along US Highway 287 while MRL maintains the right-of-way along the rail line. Several private parcel ownerships are located throughout the corridor study area.

- **Development**

Future development is important to the corridor and improvement options that may be proposed. The Montana Business Assistance Connection (MBAC) and Gateway Economic Development District (GEDD), along with Broadwater County, own property that adjoins US Highway 287 south of the Toston Fire Station. Plans for the 21-acre parcel of land are to subdivide 7 commercial lots to be used for small business growth in the area.

- **Surface Waters**

The Missouri River is the major waterbody crossed by US Highway 287 within the project study area. Several tributaries to the Missouri River confluence exist in proximity to the study area: Dry Creek joins the Missouri River north of the study area; Sixmile Creek from the east; Sixteenmile from the southeast; Warm Springs Creek from the southwest; and multiple unnamed drainages from various locations adjacent to the study area.

- **Recreation**

An abundance of recreational activities exist within the study area, predominantly due to the presence of the Missouri River. The Toston Fishing Access point is located just southeast of the Missouri River bridge, becoming a common access point for fishing and rafting expeditions.

- **Tribal Concerns**

There are no tribal concerns and/or coordination issues known within the study area. Archeological sites might be present along the Missouri River.

- **General Vegetation**

The study area occurs within intermountain valley grasslands and meadows, much of which has been converted to agriculture (pasture, crop and hay land).

- **Wildlife**

Wildlife species inhabiting or traversing the study area are typical of those that occur in intermountain valley grasslands, cultivated lands, and riparian areas of central Montana. Of the 108 mammal species known to occur in the state, 63 are known or suspected to occur in Broadwater County.

- **Sensitive Species**

Species of Special Concern

A search of the Montana Natural Heritage Program species of special concern database revealed one mammal species (gray wolf), two bird species including two occurrences of the bald eagle and one bobolink occurrence, one amphibian (plains spadefoot), and one vascular plant (Annual Indian paintbrush) with occupied ranges within or overlapping the study area.

Threatened and Endangered Species

The federal list of endangered and threatened species is maintained by the USFWS. According to the USFWS, only one threatened and endangered species is listed as occurring in Broadwater County (Ute Ladies Tress).

- **Aquatic Resources**

Fish species abundantly/commonly occurring in the Missouri River and within the study area are the brown trout, common carp, longnose dace, longnose sucker, mottled sculpin, rainbow trout, and white sucker. Species occurring rarely within this river stretch are the mountain whitefish, walleye, burbot, largemouth bass, mountain sucker, northern pike, and redbreast shiner.

- **Wetlands**

The study area crosses the Missouri River, and is in proximity to several other drainages and irrigation ditches that serve as tributaries to the river. Hydric and partially hydric soils are mapped just west of the project study area boundary.

- **Air Quality**

The study area is outside any non-attainment air quality zones.

- **Historic Properties**

Historic properties are properties included in the National Register of Historic Places (NRHP). The old Toston Bridge is the only registered historic place within the corridor. In addition, there are four places that are eligible for historic registration.

- **Noise**

Based on the rural environment of the corridor, noise contours would be evaluated on a case-by-case basis.

- **Farmlands**

Due to the large capacity of prime farmland within the corridor, there is potential for farmlands to be impacted as improvement options further develop.

- **Irrigation**

Based on the 1955 Water Resource Survey Report for Broadwater County, the corridor contains a high level of water use, commonly private irrigation or water users association. Two major ditches exist within the corridor.

- **Section 4(f) and 6 (f)**

There are six potential Section 4(f) sites. It should be noted there may be additional Section 4(f) sites located within the study area after a cultural resource survey has been completed. According to Montana Department of Fish, Wildlife, and Parks Land and Water Conservation Fund list, Section 6(f) properties do not exist within the study area.

- **Floodplain**

Based on a review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for Broadwater County, a delineated 100-year floodplain (Zone A) is located along the Missouri River throughout the corridor.

- **Hazardous Waste**

The NRIS database has layers for tank sites and leaking tank sites which probably would be the most likely issue to come up regarding contamination within the study area.

- **Geology and Soils**

According to NRIS, the soil conditions within the study area boundary are consistent with the primary land use of crop and pasture lands.

- **Noxious Weeds**

The MDT and Broadwater County have mapped the following noxious weed species as occurring within the right-of-way along US 287 between RP 80 and RP 90, which encompasses the study area: Canada thistle; whitetop; leafy spurge; and dalmation toadflax.

3.0 Conclusion

Preliminary review of the existing conditions and corridor settings lead to a number of factors and issues that will be further identified and addressed in the Existing and Projected Conditions Report. The highway geometrics will be analyzed and confirmed whether MDT design standards are met or if standards need to be updated with future improvement options. Safety issues and concerns will be addressed in future improvement options in order to increase traffic safety. Environmental concerns and issues will be explained in greater detail in the Existing and Projected Conditions Report in order to minimize environmental impacts with projected improvement options.

4.0 References

Montana Department of Transportation. United States Department of Transportation Federal Highway Administration. Finding of No Significant Impact (FONSI) and Summary of Final Coordination for Townsend-South Revised Environmental Assessment and "Nationwide" Section 4(f) Evaluations. Montana, 2007.

Montana Department of Transportation. United States Department of Transportation Federal Highway Administration. Revised Townsend-South Environmental Assessment and "Nationwide" Section 4(f) Evaluations. Montana, 2006.

Montana Natural Resource Information System. 2009. <http://nris.state.mt.us/gis/>

Montana Natural Heritage Program. 2009. <http://mtnhp.org/>

Montana Historical Society. 2009. <http://www.his.state.mt.us/>

FEMA Map Service Center. 2009. <http://www.msc.fema.gov/>