

Maclay Bridge Planning Study



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Study Description

Missoula County, in partnership with the Montana Department of Transportation (MDT) and Federal Highway Administration (FHWA), is conducting a planning study of the Maclay Bridge over the Bitterroot River west of the City of Missoula to determine the potential needs of the river crossing and connecting roadways within the area.

The purpose of the study is to identify feasible options to address existing and projected safety, geometric and environmental concerns based on input from the community, study partners, resource agencies, and other interested parties.

The Maclay Bridge is a one-lane bridge that crosses the Bitterroot River approximately 2.75 miles west of Reserve Street via North Avenue.

Prior Newsletter Topics Have Included:

- *Existing Transportation Conditions*
- *Environmental Considerations*
- *Needs and Objectives*
- *Options Under Consideration*

This Newsletter Includes:

- *Option Screening*
- *Options Carried Forward*
- *Costs*
- *Recommended Option*

What is a Planning Study?

A *Planning Study* is a broad, multiple topic assessment of the study area that occurs prior to any project-level environmental compliance activities under the National and Montana Environmental Policy Acts (NEPA / MEPA).

Planning studies include early communication with interested parties to help identify needs, constraints, and opportunities for the areas of interest and to help determine if there are viable options given potential needs and available resources.

The *Planning Study* is developed strictly as a planning tool and not a design or construction project. The study is designed to help facilitate a smooth and efficient transition from transportation planning to future environmental reviews should a project be developed.

INFORMATIONAL MEETING #4 of 4 Please Join Us!

THURSDAY
JANUARY 31, 2013
6:00 PM
**GuestHouse Inn, Suites, and
Conference Center**

The public is welcome and encouraged to attend.

We hope to see you there!



Option Screening

Screening is the process used for reviewing a range of conceptual options or strategies and evaluating the ones that best address the study's identified needs and objectives.

Items or considerations used to evaluate options are referred to as screening criteria. Screening may be carried out through one or more iterations (levels) with the screening criteria becoming more specific for the subsequent levels. Two levels of screening were used to help assess options for the Maclay Bridge Planning Study.

The first level screening provided an initial evaluation of 28 potential options or strategies. The results of the first level screening narrowed the set of options or strategies to those with the greatest ability to address basic safety and operational considerations to address needs and objectives.

The second level screening built upon the first level screening by taking the options that were carried forward from the first level and evaluating them against more detailed criteria reflected by the study's needs and objectives. The second level screening evaluated the options based on considerations like safety, cost, and environmental and social impacts to address the needs and objectives.

Options Carried Forward

The first level screening process identified seven options that best met basic safety and operational considerations.

South 1

The South 1 Option provides a new river crossing at the extension of South Avenue and connects with River Pines Road. The bridge crossing would be skewed (i.e. not a perpendicular crossing) and would be approximately 650 feet. The estimated length of roadway needed for this option is 620 feet, with the majority of this being on the east side of the Bitterroot River. On the west side, the bridge approach would tie into River Pines Road with very little additional new road construction.

South 2

The South 2 Option also provides a new skewed river crossing (estimated 500 feet bridge length) at the extension of South Avenue, but ties into Blue Mountain Road. The estimated length of roadway needed with this option is almost twice as much as the South 1 Option (1,430 feet versus 620 feet).

Mount 2

The Mount 2 Option begins near the intersection of Mount Avenue and Humble Road, immediately proceeds in a southwesterly direction across the Bitterroot River and joins River Pines Road at the west end of the existing Maclay Bridge. The bridge at this location would be skewed, with an estimated bridge length of 625 feet. Potential road construction equals 1,250 feet of new roadway. This option does not provide an efficient or direct east-west linkage to the major streets within the area.

North 1

The North 1 Option provides a new bridge parallel to and just upstream from the existing Maclay Bridge. The new skewed bridge crossing would be approximately 400 feet long. The alignment would begin on North Avenue at its intersection with Edward Avenue. The alignment of River Pines Road west of the river would be improved to eliminate the 90-degree curve at the west end of the existing bridge. Estimated new road construction is approximately 1,650 feet.

Major Rehabilitation (Includes Approaches)

Major rehabilitation could be done to extend the life of the bridge to something similar to that of a new bridge. Major rehabilitation work could allow the bridge to handle full legal loads so that there would be no need for a limited load posting. This option requires a long-term commitment to the existing bridge due to the increase in life span. Even with major rehabilitation of the structure, the fundamental geometric deficiency (i.e. narrow bridge deck) would still remain.

New One-Lane Bridge at a New Location & Retain Existing Bridge for One-Way Travel

This option assumes that the existing single-lane bridge would remain in place and a new single-lane bridge would be built at a South Avenue location. This has commonly been referred to as a one-way couplet in the study. Two one-way bridges may serve to distribute traffic impacts throughout the neighborhood, and also improve response times for emergency service providers. A series of one-way roads may present undesirable issues related to traffic flow and non-motorized uses. Typically, speeds are faster on one-way roads even if posted the same as a two-way facility, which can make it more difficult for pedestrians and bicyclists to cross the roadway.

Minor Rehabilitation (Includes Approaches)

Minor rehabilitation could extend the life of the bridge via minor upgrades and repairing deterioration and damage. Missoula County would continue to perform routine maintenance activities to keep the structure in service under its load limitation for use by local residents, school buses and emergency service vehicles. This option would not address the fundamental geometric deficiency (i.e. narrow bridge deck) associated with the bridge.

Planning Level and Potential R/W Acquisition Cost

Planning level cost estimates were prepared for each of the seven options carried forward from first level screening. The planning level costs include the addition of preliminary engineering (PE) costs and incidental and indirect costs (IDIC). They do not include inflationary costs, which could equate to 3 percent per year.

Potential right-of-way acquisition costs are also important to consider. Right-of-way acquisition is estimated to cost approximately \$1,500 to \$10, 000 per acre, depending on the lands' proximity to the Bitterroot River.

Option ID	Planning Level Cost	Potential R/W Acquisition Cost	Eligible for Off-System Bridge Program Funds?
South 1 Alignment	\$6,300,000	\$2,250 to \$15,000	YES
South 2 Alignment	\$6,400,000	\$3,450 to \$23,000	YES
Mount 2 Alignment	\$7,700,000	\$3,750 to \$24,000	YES
North 1 Alignment	\$4,400,000	\$600 to \$4,000	YES
Major Rehabilitation (Includes Approaches) ^(b)	\$1,100,000 to \$3,200,000	\$600 to \$4,000	YES ^(a)
New One-Lane Bridge at a New Location & Retain Existing Bridge for One-Way Travel ^(b)	\$3,900,000	\$1,650 to \$11,000	YES ^(a)
Minor Rehabilitation (includes Approaches) ^(b)	\$810,000 to \$1,100,000	\$600 to \$4,000	YES ^(a)

^(a) Although these options are eligible for the "Off-System Bridge Program", it is unlikely that this funding source would be approved as the options do not correct the underlying sub-standard deficiencies of the existing bridge deck width.

^(b) Option may also require the acquisition of a private residence, resulting in a potential additional cost of \$200,000.

South 1 Option (Recommended)

The study identified seven options that would address the operational characteristics, safety and physical needs of the existing facility. However, only one option ensures that the facility meets applicable MDT and local design standards and provides the desired improvements in safety and operations for the traveling public over the foreseeable future. The South 1 Option offers a transportation facility that meets current and future demands, addresses safety on the bridge and the sub-standard roadway approaches to the bridge, and provides connectivity to neighborhood residents and regional users accessing recreational lands to the west of Bitterroot River. The South 1 Option ranked the best of the seven options carried forward from the first level screening process.

South 1 Option (Future Traffic Impacts)

The Missoula MPO Travel Demand Model (TDM) predicts future traffic growth out to the year 2040. The TDM estimates potential traffic volume changes if a new bridge crossing was placed at a South Avenue extension. For study purposes, year 2040 projected traffic volumes with the South 1 Option were compared to the "No Action" conditions. The No Action condition is if no changes were made to the transportation network out to the year 2040, other than periodic maintenance activities at the existing Maclay Bridge and surrounding roadways. The reason for this comparison was to document potential traffic volume changes on area roadways over and above what would normally be expected.

Street	Location	No Action Projected 2040 Volume (vpd)	South 1 Projected 2040 Volume (vpd)	Volume Change ^(c) (vpd)
Big Flat Rd	100 ft W of O'Brien Ck Rd	6,550	6,850	300
Blue Mountain Rd	500 ft N of Hwy 93	5,450	5,050	-400
Blue Mountain Rd	S of South Side Rd	4,400	4,050	-350
Brooks St	Bitterroot River Bridge	46,000	45,350	-650
Clements Rd	300 ft N of North Av	5,900	5,700	-200
Clements Rd	300 ft S of North Av	3,850	5,950	2,100
Clements Rd	500 ft S of S 3rd W	4,500	4,400	-100
Kona Ranch Rd ^(a)	Kona Ranch Bridge	6,450	6,750	300
Mullan Rd	E of Snowdrift Ln	9,100	9,350	250
North Av	300 ft W of Clements Rd	4,750	1,250	-3,500
Reserve St	Btwn Dearborn & South Av	46,750	47,000	250
Reserve St	Btwn Olofson Dr & S 3rd W	50,150	50,000	-150
Reserve St	Btwn South Av & Central Av	47,250	47,350	100
Reserve St	S of Larkenwood Dr	50,650	50,400	-250
River Pines Rd	300 ft W of Maclay Bridge	5,650	0	-5,650
S 3rd W	W of Reserve	13,200	13,150	-50
S 7th W	150 ft W of Reserve	3,250	3,300	50
S 7th W	300 ft E of Clements Rd	700	700	0
South Av	Between 31st and 33rd	8,350	9,150	800
South Av	Btwn Humble & Pleasant	2,900	5,150	2,250
South Av	Between Reserve & 26th	16,350	16,850	500
South Av	E of Clements Rd	5,400	6,350	950
South Av ^(b)	New Bridge	-	7,200	-
South Av	W of Clements Rd	6,550	9,250	2,700
Spurgin Rd	250 ft W of Reserve	2,550	2,550	0
Spurgin Rd	300 ft E of Clements Rd	1,200	1,200	0

^(a) TDM volume used as no actual "on-the-ground" counts are available to adjust.

^(b) New bridge link - TDM volume used as no actual "on-the-ground" counts are available to adjust.

^(c) vpd = vehicles per day

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Next Steps

The draft *Planning Study* will be made available for review and comment on **January 30, 2013**. Copies can be accessed via the study website at: www.mdt.mt.gov/pubinvolve/maclay. The deadline for receiving comments is **February 22, 2013**.

After the public comment period closes, comments will be reviewed and considered by the Planning Team, and the *Planning Study* will be finalized. The study will be made available to the Missoula County Commissioners for consideration.

Comments may be submitted in writing at the Informational Meeting, online via the study website, or by mail to **Sheila Ludlow**, MDT Statewide and Urban Planning, Project Manager, P.O. Box 201001, Helena, MT. 59620-1001. Please indicate comments are for the Maclay Bridge Planning Study. Missoula County and MDT will collect and consider all comments to better understand the community's view of potential issues and concerns within the study area.

Missoula County and MDT attempt to provide accommodations for any known disability that may interfere with a person participating in any service, program, or activity associated with this study. Alternative accessible formats of this information will be provided upon request. For further information, call (406) 447-5000 or TTY (800) 335-7592, or call Montana Relay at 711. Accommodation requests must be made at least 48 hours prior to the scheduled activity and / or meeting.

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