Glenda Wiles

From: Allison, Teresa <tallison@mt.gov>
Sent: Thursday, May 31, 2018 9:04 AM
To: lsturm@adlc.us; Cindy Decker; cfenner@bighorncountymt.gov; grealbird3@bighorncountymt.gov; sfitzpatrick@bighorncountymt.gov; swendeln@blainecounty-mt.gov; ckulbeck@blainecounty-mt.gov; dplumage@blainecounty-mt.gov; fdepriest@blainecounty-mt.gov; commissioners@co.broadwater.mt.us; chiefexec@bsb.mt.gov; commissioners@co.carbon.mt.us; cccomms@midrivers.com; commission@cascadecountymt.gov; CLAASSEN, LANA; CORBETT, LINDA; danielsco@nemont.net; buxmaumd@dawsoncountymail.com; kartevoldg@dawsoncountymail.com; zanderd@dawsoncountymontana.com; baldwins@midrivers.com; ranumd@midrivers.com; rostr@midrivers.com; rbutcher@co.fergus.mt.us; cseilstad@co.fergus.mt.us; syoungbauer@co.fergus.mt.us; enelson@flathead.mt.gov; commission@gallatin.mt.gov; gccomm@midrivers.com; ronratdgc@glaciercountymt.org; tmckay@glaciercountymt.org; michael@glaciercountymt.org; deanblomquist@goldenvalleymt.org; johnlewis@goldenvalleymt.org; boblehfeldt@goldenvalleymt.org; commissioner@co.granite.mt.us; mcleand@co.hill.mt.us; petersonm@co.hill.mt.us; wendlandm@co.hill.mt.us; commissioners@jeffersoncounty-mt.gov; KELLY, AMANDA; lakecommissioners@lakemt.gov; ahunthausen@lccountymt.gov; sgeise@lccountymt.gov; jmccormick@lccountymt.gov; Hendrickson, Larry; mpeck@libby.org; madco@madisoncountymt.gov; mcconeco@midrivers.com; rbrewer@meagherco.net; bhurwitz@meagherco.net; htownsend@meagherco.net; mccommissioners@co.mineral.mt.us; bcc@missoulacounty.us; TOMASSI, CHERYL; commissioners@parkcounty.org; Jolene Shaw; Jolene Shaw; Christofferson, Bruce; pococo@3rivers.net; RICHARDS, CAROLE; WALKER, JODY; clerkrecorder@prairiecounty.org; Ravalli County Commissioners Office; dmitchell@richland.org; lyoung@richland.org; sgorder@richland.org; MacDonald, Gary; rcc@rosebudcountymt.gov; lberish@co.sanders.mt.us; bnyby@co.sheridan.mt.us; Dobitz, Lori; sgcommish@itstriangle.com; jimhodgskiss@3rivers.net; jdellwo@3rivers.net; ronostberg@3rivers.net; tccomm@toolecountymt.gov; Ruth Baker; Valley County Commissioners; wccom@mtintouch.net; wibauxcomm@wibauxcounty.net; commission@co.yellowstone.mt.gov
Cc: Brandenberger, Stephanie; Olsen, Jeff
Subject: MDT Off System Bridge Nominations
Attachments: Overview.pdf; Worksheet.xlsx; Instructions.pdf

May 31, 2018

Board of County Commissioners

Subject: MDT Off System Bridge Nominations

MDT is currently seeking nominations for our Off-System Bridge Program for fiscal years 2023 through 2026. Attached in the email are three documents to assist you with your prioritization. The "Overview" document contains information about the funding program and aids with project selection. The "Worksheet" is a Microsoft Excel worksheet that you will use to submit your nominations. The "Instructions" document provides instructions for using the "Worksheet".

The timeline for nominations will be as follows:

- May 30, 2018 – Nomination request and information sent to Counties.
- July 13, 2018 – Deadline for Counties to submit bridges for consideration.
- August 17, 2018 – Initial selection by MDT. MDT will notify Counties of selected bridges.
- August 31, 2018 – Counties respond to confirm selection.

Please nominate up to three bridges for consideration. Note that funding is limited. Bridges will be prioritized and selected by MDT based on the criteria described in the "Overview" and "Instructions" documents. For questions or assistance, please contact:

Stephanie Brandenberger, PE
Bridge Engineer
406-444-6260
stbrandenberger@mt.gov

Jeff Olsen, PE
Bridge Design Engineer - Acting
406-444-6261
jolsen@mt.gov

Stephanie Brandenberger, PE
Bridge Engineer

Off-System Bridge Project Nomination – Overview

Funding Source

The current Federal-aid Highway Program, the Fixing America's Surface Transportation Act (or FAST Act), was signed into law on December 4, 2015. The FAST Act established apportionment levels through the end of FFY 202,0 and these allocation amounts serve as the federal funding framework for the Statewide Transportation Improvement Plan (STIP). The revenue stream to support the STIP includes Montana's Federal-aid funding, MDT's non-federal match, the state-funded program, and other federal allocations and transfers. Most of the non-federal funding match comes from Montana's 31.5-cent-per-gallon fuel tax and GVW fees.

The FAST Act's Surface Transportation Block Grant Program (STP) is a funding category that may be used to preserve or improve conditions and performance on any Federal-aid highway. STP funds are federally apportioned to Montana and allocated by the Montana Transportation Commission to various programs, including the Surface Transportation Program - Bridge (STPB or Bridge Program). STPB funds are primarily used for bridge rehabilitation or reconstruction activities.

The federal and state funds available under this program are used to finance bridge projects for on-system and off-system routes in Montana. These projects are primarily bridge rehabilitation or reconstruction. The FAST Act requires that a minimum amount (equal to 15% of Montana's 2009 federal Bridge Program apportionment) be set aside for off-system bridge projects. Off-system bridges are public bridges that are typically owned by Counties, Cities, or Towns.

Bridge Program Objectives

Overall, the Bridge Program objectives are: Safety; Bridge Preservation; and Growth and Commerce. These objectives are promoted for choosing all bridge projects. For off-system bridge projects the primary emphasis is on the Safety Objective. Bridge preservation and maintenance is typically considered the responsibility of the bridge owner, and projects of this nature are not promoted as off-system bridge project candidates. Potential projects can range from extensive rehabilitation to complete bridge replacement.

Off-System Bridge Program funding applies to the bridge work, but a limited amount of those funds may be used for road work needed for connections to the existing road or to return the grade line to an attainable touchdown point in accordance with good design practice. The costs of long approach fills, causeways, connecting roadways, interchanges, ramps, and other extensive earth structures, when constructed beyond the attainable touchdown point, are generally not eligible for Off-System Bridge Program funding. Some prospective Off-System Bridge Program projects may require identification of other funding sources for road work prior to committing the Off-System Bridge Program funding. The bridges are often located on roads that aren't eligible for normal Federal Aid funding.

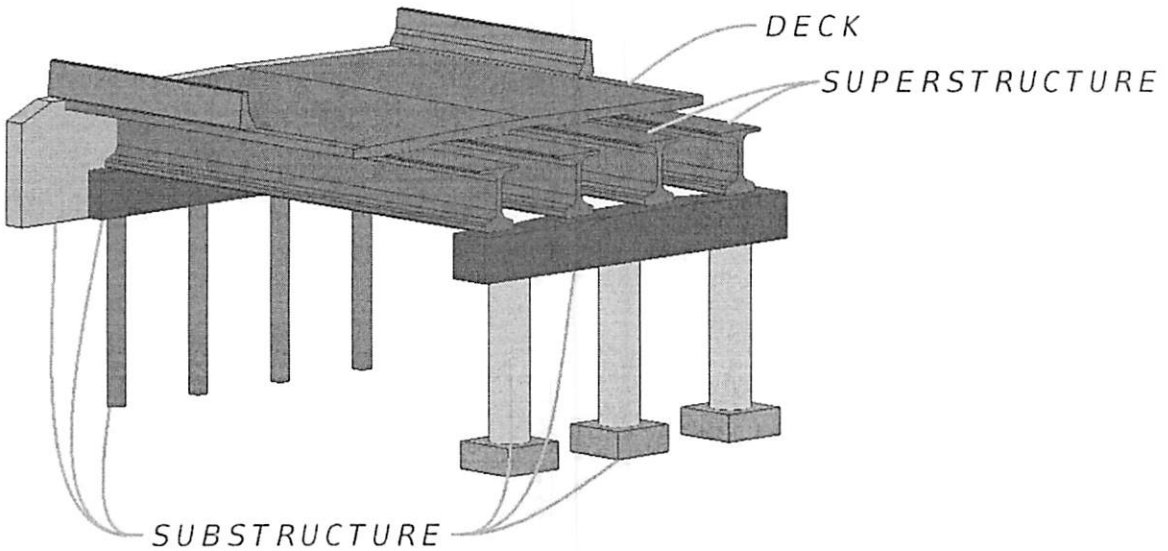
Bridge Condition Ratings

MDT inspects the status and condition of Montana bridges at regularly scheduled intervals and reports to FHWA annually. This reporting includes inventory and inspection data for bridges and culverts that are 20 or more feet in length and located on public roads.

MDT performs full National Bridge Inventory (NBI) and National Bridge Element (NBE) inspections on most bridges every two years, with some bridges on differing cycles depending on condition and bridge type. MDT maintenance personnel also conduct routine maintenance inspections every six months to identify emerging issues.

Figure 1 below shows the major bridge components that are individually inspected and rated. These components include: the deck, including the surface vehicles drive on; the superstructure supporting the deck; and, the substructure that transfers the load of the bridge to the ground.

FIGURE 1 MAJOR COMPONENTS OF BRIDGE INSPECTION



Bridge condition ratings are used to classify a bridge as being in Good, Fair, or Poor condition. The lowest of the three ratings for deck, superstructure, and substructure determines the overall rating for the bridge. If this value is 7 or greater, the bridge is classified as being in Good condition. If it is 5 or 6, the bridge is classified as being in Fair condition. If it is 4 or less, the bridge is classified as being in Poor condition.

If any major component is classified as being in Poor condition the bridge is considered Structurally Deficient (SD). An SD designation does not indicate that a bridge is unsafe. Rather, it indicates deficiencies exist that require rehabilitation work or replacement of the structure.

For culverts, a single rating of 0 to 9 is assigned for the entire structure. The numerical values for Good, Fair, and Poor culverts correspond to those utilized for bridges as shown in Figure 3-4.

The inspection cycles are completed by certified bridge inspection Team Leaders and are consistent with the requirements of the NBI program. MDT maintenance personnel also conduct

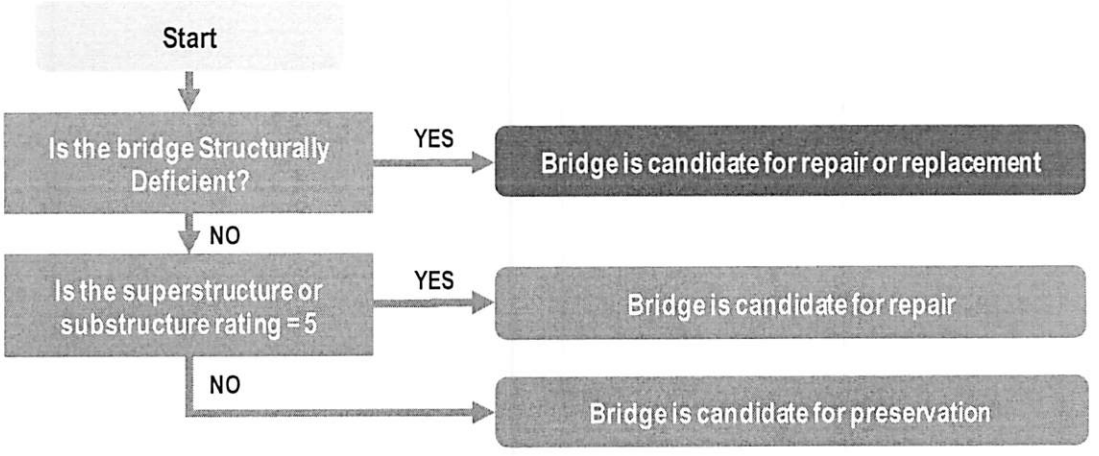
routine maintenance inspections in between the standard Federal inspection cycle to identify emerging issues. All data collected during the inspection process is documented and maintained in the MDT Structure Management System. The results of each bridge inspection are documented in a formal Bridge Inspection Report that is electronically signed and stored in the Structure Management System.

Project Selection Criteria

Off-system bridge projects are selected through a partnership between the bridge owners and MDT. Bridges are recommended for work by the owners and the recommendations are screened by MDT. The screening primarily emphasizes the Safety Objective with a lesser emphasis on the Growth and Commerce Objective.

MDT applies a series of decision trees when selecting bridge preservation, repair, and rehabilitation treatments. MDT determines the candidate treatments for superstructure and substructure condition using the bridge improvement decision process illustrated in Figure 2. This information may be helpful to owners in selecting and prioritizing potential off-system bridge projects.

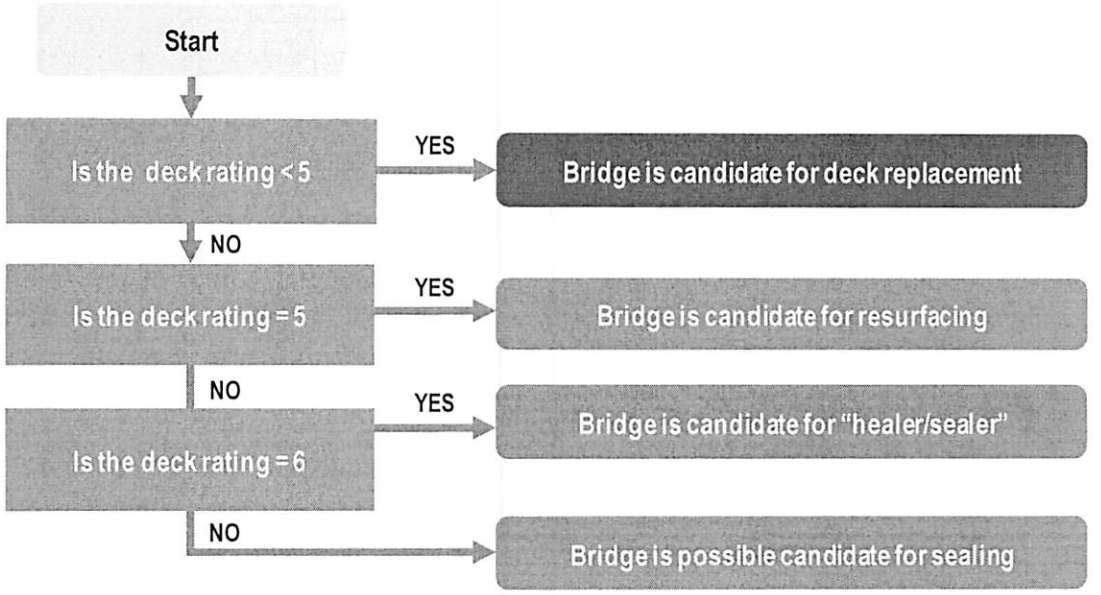
FIGURE 2 BRIDGE IMPROVEMENT TYPE DECISION TREE



MDT considers preservation activities for bridges in Good or Fair condition based on the potential for these activities to reduce life cycle costs and delay the need for more substantial and expensive bridge improvements. For off-system bridges, preservation and maintenance work is generally performed by the owner.

Bridge decks often deteriorate at a faster rate than other key bridge elements. MDT uses a bridge deck preservation decision process illustrated in Figure 3 to select appropriate deck work. Once MDT selects a bridge for deck work, the condition of other bridge elements is reviewed, and other structural work may be included if appropriate. This process may help bridge owners identify potential off-system projects that involve major rehabilitation aspects, such as bridge re-decking.

FIGURE 3 BRIDGE DECK PRESERVATION DECISION TREE



Project Nomination Process

A list of bridges and the most recent bridge condition ratings from MDT's Structure Management System have been compiled into a spreadsheet to assist owners in their evaluation and project nomination process. Directions for using the spreadsheet, evaluating the data for each bridge, and submitting potential projects to MDT for review are in the attached document "Off-System Bridge Nomination Process."

Funding Projects

MDT will collectively review and rank the off-system bridge project nominations submitted by the bridge owners. The highest-ranking projects will be recommended for funding. Project development time and anticipated funding levels will influence deliverability of individual projects. Actual funding availability is unknown. MDT will use projected funding levels for this process.

MDT Contact Information

For questions about MDT's Off-System Bridge Program, contact:

Stephanie Brandenberger, PE
Bridge Engineer
406-444-6260
stbrandenberger@mt.gov

Wayne Noem
Secondary Roads Engineer
406-444-6109
wnoem@mt.gov

Bridge ID						
County					Owner	
Bridge Crosses					Type	
Bridge Location					Year Built	
ADT =	Estimated ADT =				Year Reconstructed	
Bridge Length =	Ft.					
Bridge Width =	Ft.					
App Road Width =	Ft.					
NBI Ratings	Deck	Super	Sub	Culvert	Scour	Status

Is there Public Support for a project?
Can the bridge be closed for construction?
Is the Roadway Alignment adequate?
Is there any other funding available for Road Work?
Is Bridge Rehabilitation (Instead of Replacement) Reasonable?
Is the route used by School Busses or Mail Delivery?
Describe the Residential & Commercial use of the Bridge.
Usage?
Describe the Alternate Routes that would be used if the Bridge were suddenly closed.
Sudden Closure?
Describe the Desired End Result.
Desired Result?

New Width =	24 Ft.	MDT Rating Area	
Replacement Length =	150% Of Existing Bridge	Bridge Condition (NBI)	0
Assumed Cost / Ft.^{2} = $	125 / Ft.^{2}	Level of Use	0
1st Estimate Bridge Cost =		Impact of Closure	0
Add for Road Work =	25% Of Bridge Cost	Effective use of HBP Funds	0
1st Estimate Total Cost =		Percent	0%
Contact for Questions.			
Name		Phone	Phone
		E-Mail	email

Bridge ID	0

County	Owner

Additional Bridge Information. (Optional further information.)

Additional information may be provided to better support the project or to better define the needs that the project will address.

Off-System Bridge Nomination Process

MDT has produced a spreadsheet to aid in the Off-System Bridge Nomination Process. The spreadsheet is intended to aid Counties in selecting and providing basic information on bridges that they want included in the Off-System Bridge program. This document is intended to help explain the use of the spreadsheet and interaction with MDT during the process.

The spreadsheet has several individual sheet tabs.

- Bridge List – Overall listing of Off-System bridges. The list may be "Sorted" or "Filtered" by any of the column headings.
- Bridge 1 - Sheets for nominating an individual bridge and for providing preliminary information about the need. Additional sheets named Bridge 2, and Bridge 3 are also available for nominating other bridges. The highest priority should be on Bridge 1.
- County Counts – Informational count of bridges by County.

Use of these sheets is described below.

Bridge List Worksheet Tab

The primary use of the Bridge List is identifying which individual bridges are located in your county, and their "Bridge ID". The Bridge ID is used on the nomination sheets such as Bridge 1. Other information about the bridge is included such as material type, dimension data, condition ratings, and a google maps link.

Filtering & Selecting Bridges

The sheet has a statewide bridge list of 1968 bridges. All of the columns have "Filters" that allow sorting and displaying the data how you would like to see it.

The last column has a "Google Maps Link" to show the bridge location. This can be used to help correctly identify bridges. There is a possibility that some of these map locations are incorrect. If there are questions, please let us know so that we may improve our data.

The sheet may have already been filtered to your County. If not, simply click on the pull down arrow on the "County" column heading, remove the "check" from "(select all)" and "check" the County to display. The "Structural Status" column has a filter that is used similarly to further limit the display.

The "Structural Status" column indicates whether or not the bridge is considered Structurally Deficient. A bridge is considered Structurally Deficient if any of the condition ratings (Deck, Superstructure, Substructure, or Culvert) fall below a 5. A structurally deficient bridge does not mean that it is unsafe. It means that deficiencies have been identified that require maintenance, rehabilitation or replacement.

Additional inspection information for each bridge can be found by accessing our Structure Management System (SMS). More information on accessing SMS is located at the end of this document.

Traffic usage is one important element that isn't routinely updated for off-system bridges. MDT generally assumes the traffic count is low (ADT=100) when other information isn't available. Higher ADT may result in a higher selection score for a bridge. This is an area where Owner input is important.

Overall, the County should use the Bridge List tab to begin selecting bridges to nominate. Selected bridges will be further described under the nomination tabs (Bridge 1, ...). MDT is committed to working with the Owners to assist in their selection process.

Bridge 1 Tab

The Bridge 1 tab, and similar tabs, are used to nominate bridges for work and to present preliminary information on the project. It is intended that this data is fairly easy to assemble and will be reasonably easy to present. MDT will be happy to answer questions and provide input as the form is filled out.

All input areas are highlighted in a light yellow background. Only these areas can be changed. Many of the inputs use a drop-down box with a pre-selected list of answers. Only answers on the list or blanks are allowed.

The first input is the Bridge ID. This is a drop-down selection list of all bridges. They are in the same order as on the Bridge List sheet but all bridges are shown. Most Bridge ID's start with L## where ## is a County number.

Select the Bridge ID. The information from the Bridge List will be added to the form automatically. The "Google Maps Link" will also point to this bridge.

The next questions use drop down answer lists. The questions, allowed answers, and descriptions are given below.

Question	Allowed Answers	Description
Estimated ADT =	0 - 100 101 - 200 201 - 400 401 - 1000 1001 - 2000 > 2000	These are the ranges used in eligibility determinations and in evaluating nominated bridges. Select the appropriate range. An informal traffic count may be requested.
Is there Public Support for a project?	Yes No Probably Controversial	Public support is needed. "Probably" or "Controversial" projects may be considered for a planning study.

Off-System Bridge Nomination Process

Can the bridge be closed for construction?	1 Week 2 Weeks 1 Month 2 Months 3 Months Build New Alignment Detour Needed	Used to evaluate costs and the possibility of "Rapid Construction".
Is the Roadway Alignment adequate?	Yes Probably No No, Erosion No, Flooding No, Curves	Do road alignment problems need correcting? Either road elevation (Flooding), alignment (Erosion, Curves), or other issues. Used to evaluate costs and the effective use of Bridge Funding.
Is there any other funding available for Road Work?	Yes No Probably	Used in considering the effective use of Bridge Funding.
Is Bridge Rehabilitation (Instead of Replacement) Reasonable?	Yes No Probably	Some bridges can be repaired and rehabilitated cost effectively. Do you consider this bridge a candidate?
Is the route used by School Busses or Mail Delivery?	No Bus or Mail Use School Bus Mail Route School Bus & Mail	Used in evaluating need, usage, and scheduling.

Next are 3 short answer questions to help define the usage, need, and scope of the proposed project.

Question	Description
Describe the Residential & Commercial use of the Bridge.	Used in evaluating the level of use of the bridge and the economic need for the bridge. Give the approximate number of households and businesses that use the bridge regularly.
Describe the Alternate Routes that would be used if the Bridge were suddenly closed.	Used to evaluate the Impact of Closure. A bridge may have low use but a large Impact of Closure. Provide information on the availability, length, and quality of a detour route.
Describe the Desired End Result.	Describe what road and bridge improvements are desired. For example, "Allow wide farm equipment to cross the bridge." Used in evaluating the cost of the project.

Off-System Bridge Nomination Process

The next section is used to develop a rough planning level cost estimate. The questions use pull down answer lists. The questions, Allowed Answers, and descriptions are given below.

Question	Allowed Answers		Description
New Width =	16 24 28	32 36	Ft. A single lane, 16 Ft. bridge would be a special case. 24 Ft. is a minimum 2 Lane Bridge. Special width needs should be included in the "Additional Bridge Information" area.
Replacement Length =	10% 25% 50% 75% 100% 125%	150% 175% 200% 250% 300%	Of Existing Bridge. Percentage of existing bridge length assumed for replacement length. Often bridges get longer because of changes in configuration, flood analysis, and environmental concerns. 150% is a common planning value.
Assumed Cost / Ft.^{2} =	$75 $100 $125 $150	$175 $200 $250	/ Ft.^{2} Typical bridges are in the $100 and $150/Ft.^{2} range. Specialty bridges like trusses could be in the $250/ Ft.^{2} range.
1st Estimate Bridge Cost =	(Calculated)		Automatically calculated from input.
Add for Road Work =	0% 10% 25% 50% 75% 100%	125% 150% 175% 200% 250% 300%	Of Bridge Cost. Projects generally have some road costs. A typical bridge replacement with no roadway changes will probably be about 25%. Scour remediation or bridge rehabilitation may be 0% or 10%. High percentages indicate less effective use of Bridge funds. That can be offset by use of other funds for the road work.
1st Estimate Total Cost =	(Calculated)		Automatically calculated from input.

The cost estimate may be adjusted by MDT based on evaluation of the information provided and discussions and clarification with the County contact person.

Please provide a contact for questions about the bridge and the desired project in the area below the cost estimate.

The second page of the form provides an "Additional Bridge Information" area. This area may be used to provide additional information to support the project or to better define the needs that the project will address.

The Additional Bridge Information area is also the place to provide explanations and information related to earlier questions. For example, additional funding, needs for pedestrian or bike accommodation, or other items may be discussed.

Please feel free to ask MDT questions while filling out this form. A separate "Bridge" tab should be used for each bridge the County wishes to nominate.

Bridge Nomination Evaluation

Bridge nominations will be evaluated by MDT based on the information provided on the nomination form and based on discussions and clarification with the County contact person. The following four items will be considered.

- Bridge Condition (NBI evaluation of urgency)
  This item is intended to give some priority to bridges that are in the worst condition. The primary consideration is the overall structural deterioration.
- Level of Use (Residential, Commercial, Economic Growth)
  Level of use considers both the amount of use and the type of use. Amount of use is demonstrated through ADT. Type of use considers full time residents, business use, recreational use and potential for economic development.
- Impact of Closure
  Impact of closure considers the quality and availability of alternate routes available if the bridge were suddenly closed and the type of need for those routes. Full time residential or business use ranks higher than recreational use for the same level of alternate route. Amount of use is not considered in this item.
- Effective use of HBP Funds (Road Cost, Bridge Cost, Size of Project, Other Funding)
  Effective use of HBP funds considers the effectiveness of the funding in solving bridge issues. Projects with limited road and right of way costs suitable for rapid construction, large bridges with limited road costs, projects with other funding committed to road or partial bridge costs, and rehabilitation or scour remediation projects will score well. As the amount of HBP funding needed off the bridge increases, the score will decrease.

As bridges are evaluated, the contact person listed will be used to provide clarifications and information as needed.

Funding Projects

After evaluating the bridge nominations, the higher ranking bridges will be moved forward for funding. Bridges will be selected based on anticipated project development time and anticipated funding levels.

At this time, future funding is undefined. MDT will use projected funding for this process, however, actual funding may alter the deliverability of individual projects.

MDT Contacts

The following people are the primary contacts for questions.

1. Stephanie Brandenberger, PE
   Bridge Engineer
   (406)444-6260
   stbrandenberger@mt.gov

2. Jeff Olsen, PE
   Bridge Design Engineer
   (406)444-6261
   jolsen@mt.gov

3. Wayne Noem
   Secondary Roads Engineer
   (406)444-6109
   wnoem@mt.gov

Stephanie Brandenberger is the primary point of contact. Normally, questions should go through her. Completed nominations should be emailed to Stephanie.

Accessing MDT's Structure Management System

All MDT bridge inspection data, bridge inspection reports, repair items, photos, and documents can be found at: https://app.mdt.mt.gov/sms/applications/SMS/
*Internet explorer 11 and Microsoft Silverlight are both currently required to access this online database.

Once you create an account and log into SMS. The easiest wat to find individual bridge or culvert is to type the NBI ID # into the "quick search" filter box in the top right of the webpage. Then, select the correct number from the options that drop down from the "quick search" box. Then, on the tab on the left of the screen (near the bottom), select Inventory – then Assets. Click Yes on the prompt to display mixed content. At that point you have access to all the information for that asset by clicking the boxes that appear in a row across the middle of the screen. To find the inspection report just click the Inspection box then, select an inspection, and then click View Final Report.

If you have any questions, or require any help in finding inspection reports or other information please do not hesitate to contact your MDT bridge inspection district coordinator (listed below), or Andy Cullison at (406) 444-6264

Bridge Inspection District Coordinators:
Missoula – – – - James Shaw (406) 523-5825
Butte – – – – – John Jackson (406) 570-1019
Great Falls – – – –Bill Lay (406) 455-8323
Billings – – – – Kim Mathiason (406) 255-0126
Glendive – – – –Vacant, call HQ (406) 444-6264 (Andy Cullison) or (406) 444 -9219 Amanda Jackson