

Exhibit 1 – Bridge Definition and Application Process

Definition

To be eligible for bridge funds, the structure must meet the definition of a bridge, defined as a structure with a total clear span of more than 20 feet, measured along the centerline of the roadway over a stream, watercourse, or opening. For a span bridge, this means the clear opening span, measured face to face at the inside of the abutments, is greater than 20 feet. A multi-unit culvert is considered a bridge if the total length, as measured along the centerline of the roadway, is greater than 20 feet and the distance between the culvert units is less than half the diameter of the smallest unit. This description is referenced in item number 112 of the Michigan Structure Inventory and Appraisal Coding Guide. There are many multi-unit culverts under local agency jurisdiction that qualify as bridges and thus, are required to be on the structure inventory and regularly inspected. Please check multi-unit culverts in your area to see if they qualify under the definition of a “bridge.”

Work Type

An application must list the specific work being applied for in the preventative maintenance and/or rehabilitation categories.

Participation Level

The preventive maintenance, structure rehabilitation and replacement, and approach construction costs may be eligible for a maximum of 95 percent participation from federal and/or state funds. The right-of-way, design engineering, and construction engineering costs are not eligible for Local Bridge Program funds.

Cost Estimates

The current Local Agency Program (LAP)–Bridge Cost Estimate Worksheet, dated 1/26/2018, which indicates per unit cost estimates of various rehabilitation and preventive maintenance options (Exhibit 4). This information will be helpful in determining estimated construction costs for different types of repairs. All estimates for projects to be constructed in 2021 should incorporate an annual inflationary factor of three percent (3%). If the structure is over a railroad, include the railroad’s flagging and construction fees.

Data Formula Points

The data found on the Structure Inventory and Appraisal (SI&A) form is used in many of the formula rating point calculations and is one item looked at by your Region Bridge Council when considering discretionary rating points. It is very important that this data be current and correct before submitting the application; incorrect data may significantly affect the rating points. When completing an application, the data stated in the supporting documents must match the data found in the SI&A form.

Site Review for Bridge Applications

MDOT bridge personnel will review submitted applications for completeness and determine the preliminary (computer generated) rating points. The LAP bridge staff will perform site visits, verify appropriate scopes of work, and create written site reports. The applications, preliminary rating points, and the site visit reports will then be forwarded to the respective Region Bridge Council for their review and the addition of the discretionary rating points.

Project Estimate vs. Application Estimate

The Local Bridge Advisory Board has set a policy for projects coming in over application estimate. If, at the grade inspection stage, the project estimate exceeds the application estimate, the Region Bridge Council may review the project. The council can decide to accept the project at the increased estimate, cap the project at a percentage above the application estimate, or request an application for additional funds be submitted in the next call for projects. Due diligence must be taken in getting the most reasonable application estimates.

Bridge Application Package and Submission

Please be sure your Structure Number is correct and have your signed resolution, SI&A, Bridge Inspection Report, cost estimate, location and detour maps, project narrative, letters of support, and photos ready to include as attachments. See Exhibit 3 for further details.

Applications can be submitted electronically using the [Local Agency Bridge Program Website](#), or directly at [FY 2021 Local Bridge Program - Call for Applications Submission Sheet](#)

Exhibit 2 – Bridge Scoping and Work Type Definitions

Bridge Scoping

To assist in the bridge scoping and fix selection process, refer to [MDOT's Scoping Manual](#), specifically pages 30 through 48 of Chapter 5, *Signs of Pavement & Bridge Distress and Fix Selection Guidelines*.

Bridge Asset Management Plan

To assist with managing bridge inventory and developing an optimum bridge preservation strategy, a valuable resource is the [Asset Management Guide for Local Bridges](#) in Michigan.

All local agencies are encouraged to submit asset management plans for the bridge applications being submitted. A summary of the local agency's bridge network asset management plan may also be submitted for review.

Replacement

Replacement projects involve replacing the entire substructure, superstructure, deck and necessary approach work. If a multi-use path or sidewalk is planned but does not currently exist, the estimate needs to clearly indicate the costs of these items. If the project is selected for funding, a master plan showing the path or sidewalk must be provided for them to be considered participating in the Local Bridge Program.

The approach costs should be estimated using a minimum of \$35,000 per station, with a minimum approach cost of \$150,000. The estimate needs to account for public utilities such as water mains and sewers, which will need to be altered during construction. Also, if the structure is within a substandard horizontal or vertical alignment, the estimate must account for any possible increase in approach distance.

Replacement projects need to meet current American Association of State Highway and Transportation Officials (AASHTO) guidelines and the Load Factor Resistance Design criteria.

Rehabilitation

Rehabilitation is defined as major work required to restore the structural integrity of a bridge, as well as work necessary to correct major safety defects. These projects are required to meet AASHTO guidelines. If a rehabilitation project is over water, a scour analysis will be required during the design phase and the existing foundations will need to be shown to be stable under a scour event. A structure that is not found to be stable during a scour event may not be allowed to proceed to contract. If making the structure stable results in a change in scope, it may be necessary to re-apply during a future call for applications.

Estimated repair costs for bridge rehabilitation projects will vary by the type of work. Include publicly owned utility relocation costs. Examples of rehabilitation work eligible for funding under the program include:

- Full deck replacement (with or without painting of steel beams)
- Superstructure replacement
- Structure widening
- Removal of existing bridge without replacement

Preventive Maintenance

Preventative Maintenance applications can be a single bridge or multiple bridges submitted for similar preventive maintenance work into one application. This can include multiple agencies working together to submit one application. A multiple bridge application will count as one of the five applications any one agency can submit per year. The Region Bridge Councils will review a multiple structure application as one package and will not rate each structure independently. Preventive Maintenance activities are eligible under the Local Bridge Program.

When applying for a multiple bridge preventative maintenance project, submit each structure individually. For electronic submission, select “PM-Multiple Structure” as the type of work on each form. For paper submission, identify on the cover sheet that each bridge is part of a “PM-Multiple Structure” application. Examples of Preventive Maintenance include:

- Hot mix asphalt (HMA) overlay with waterproofing membrane
- Epoxy deck overlay (Concrete)
- Shallow deck overlay (removing and replacing concrete surface above the top mat of steel reinforcement)
- Deep deck overlay (removing and replacing the concrete surface below the top mat of steel reinforcement)
- Painting only (full, zone, or spot painting)
- Pin and hanger replacement
- Slope paving repair
- Joint replacement and repair
- Drainage system repair (bridge deck drains and bridge approach downspouts)
- Scour countermeasures
- Concrete crack sealing
- Concrete patching and repair
- Approach pavement relief joint installation
- Temporary supports
- Expansion or construction joint repair
- Guard rail beam retrofit or installation
- Substructure repairs

Exhibit 3 – Application Requirements

1. Submit a narrative which includes the following:
 - a. The responsible local agency contacts person's name, title, mailing address, e-mail and telephone number.
 - b. **Clearly indicate whether the application is for rehabilitation, replacement, and preventive maintenance. For rehabilitation and preventive maintenance, clearly specify work requested for funding.**
 - c. A statement explaining the economic importance of the structure.
 - d. In a short paragraph, if there is currently a detour for the structure, explain "Existing detour currently affects"
 - e. In a short paragraph, if the structure is or would be closed, explain "If the structure is closed, the detour would affect...."
 - f. If the structure is closed, what year the structure was closed.
 - g. A statement of any maintenance done on the structure either past or present.

2. Include the most recent Structure Inventory and Appraisal (SI&A) form and Bridge Inspection Report form (BIR). These forms must have been updated within the 24-month period, prior to May 1, 2018. It is very important that this data be current and correct before submitting the application; incorrect data may significantly affect the rating points. The SI&A and BIR forms must be updated electronically on MiBridge prior to the May 1, 2018 deadline. Do not send in any marked-up forms as we cannot update the data for you.

3. Submit a legible map (8 ½" X 11") showing:
 - a. Emergency facilities such as fire stations, hospitals or police stations.
 - b. Schools and other significant traffic generating facilities.
 - c. The alternate routes or detours which must be used because of load limits or closures.

4. For all applications, include a minimum of two photographs of the following:
 - a. One showing the structure's alignment.
 - b. One showing the structure's profile view.
 - c. If the bridge is posted, include one photograph of the bridge clearly showing the current posting sign.

5. For **rehabilitation** and **preventive maintenance** applications, also include photographs of the following:
 - a. The deck showing the areas of delamination and patches.
 - b. The substructure units showing areas of delaminations/spalls.
 - c. The beams showing areas of cracks and delamination for concrete and local areas of corrosion and/or local failure for steel.

6. Submit a breakdown of the estimated replacement, rehabilitation, and preventive maintenance as follows:

A.	Approach Construction	(A) \$	_____
B.	Structure Construction	(B) \$	_____
	Total (A & B)	Total \$	_____

Note: Use the attached Cost Estimate Worksheets to calculate the approach and structure costs.

7. Submit a "**Priority List**" listing all the structures that you want rated.
8. **For each application**, submit a current resolution, signed and dated, from the governing board supporting the project. Resolutions from previous applications will not be accepted. Any application not containing a signed resolution for all applications will be considered incomplete, and will be rejected and returned to the owner. Letters of local support are recommended but are not mandatory.
9. If submitting a hard copy, do not staple the application together or put in a booklet or binder, as it needs to be reproduced on a scanner/copier.
10. Any application that is not complete will be rejected and returned to the local agency. Common examples of incomplete applications are those that are missing updated SI&A forms, photos of postings, load ratings, missing resolutions, and priority lists. All completed applications must be postmarked by the May 1, 2018, deadline.
11. All local agencies are encouraged to submit asset management plans for the applications being submitted. A summary of the local agencies bridge network asset management plan may also be submitted for review. Refer to the Asset Management Guide for Local Agency Bridges in Michigan, located on MDOT's Local Agency Bridge Program's website.
12. Previous years' applications have been discarded. The Region Bridge Councils and the Local Bridge Advisory Board will only review applications submitted during the current call for applications. After the applications have been reviewed and projects have been selected for funding, all non-funded bridge applications will be discarded.

Submit Applications:

By E-mail: Fill out form at the link below and attach application (One application per sheet).

Application conversion to pdf is preferred over scanned applications due to file size.

[FY 2021 Local Bridge Program - Call for Applications Submission Sheet](#)

By Mail:
Send applications to:

Rita Levine, P.E.
Local Agency Programs-Development Services Division, MDOT
425 West Ottawa Street
P.O. Box 30050
Lansing, Michigan 48909
Phone: (517) 373-0041

Exhibit 4 - Cost Estimating Worksheets

2017

**LAP - BRIDGE COST ESTIMATE WORKSHEET
- CPM, REHAB, REPLACE -**

REV. 1/26/2018

REGION: _____ FISCAL YEAR: _____ STRUCTURE ID: (3-5 digits)
 ENGINEER: _____ DATE: _____ BRIDGE ID: XXX-XXXX
 LOCATION: _____ DECK AREA: _____ SFT STR. TYPE: _____
 PRIMARY WORK ACTIVITY: _____ DECK DIM: _____

<u>WORK ACTIVITY</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT COST</u>	<u>TOTAL</u>
NEW BRIDGE				
Concrete (add demo & road approach & MOT)		SFT	\$305.00/SFT	
Steel (as above)		SFT	\$320.00/SFT	
Precast 3-sided or 4-sided Culvert (add removal, roadway over, MOT)		SFT	\$400.00/SFT	
Other				
NEW SUPERSTRUCTURE				
Concrete (incl. remove exist super, new railing; add MOT & approach)		SFT	\$140.00/SFT	
Steel (as above)		SFT	\$190.00/SFT	
Over Water (add to new superstructure cost)		SFT	\$40.00/SFT	
Other				
WIDENING				
Added portion only. _____ ft of width (add road approach transition)		SFT	\$270.00/SFT	
Other				
NEW DECK				
Includes remove exist deck & new railing (add traffic control & approach)		SFT	\$70.00/SFT	
Other				
DEMOLITION				
Entire bridge, grade separation		SFT	\$32.00/SFT	
Entire bridge, over water		SFT	\$42.00/SFT	
Other				
SUPERSTRUCTURE REPAIR				
Concrete Deck Patch (includes hand chipping)		SFT	\$35.00/SFT	
Full Depth Patch		SFT	\$100.00/SFT	
HMA Cap (no membrane, add bridge rail if req'd)		SFT	\$1.50/SFT	
HMA Overlay with WP membrane (add bridge rail if req'd)		SFT	\$5.50/SFT	
Removal of Concrete Wearing Course (latex), Epoxy Ovly, or HMA Ovly		SFT	\$2.00/SFT	
Healer Sealer		SYD	\$22.00/SYD	
Epoxy Overlay		SYD	\$32.00/SYD	
Shallow Overlay (incl. joint repl & hydro; add bridge rail)		SFT	\$35.00/SFT	
Deep Overlay (incl. joint repl & hydro; add bridge rail)		SFT	\$37.00/SFT	
High Load Hit Repair (PCI Beam)		SFT	\$250.00/SFT	
PCI Beam End Repair		EA	\$4,600.00 EA	
Repair Structural Steel (\$4900 bolted, \$7000 welded)		EA	\$6,000.00 EA	
Paint Structural Steel (incl. clean & coat)		SFT	\$20.00/SFT	
Partial Painting (incl. clean & coat)		SFT	\$40.00/SFT	
Pin & Hanger replacement (incl. temporary supports)		EA	\$7,000.00 EA	
Other				
SUBSTRUCTURE REPAIR				
Pier repair (measured x 2) Replace if repair area > 30%		CFT	\$265.00/CFT	
Pier repair over water (measured x 2)		CFT	\$300.00/CFT	
Pier replacement		CFT	\$80.00/CFT	
Abutment repair (measured x 2)		CFT	\$265.00/CFT	
Temporary Supports for Substructure Repair		EA	\$1,800.00 EA	
Slope Protection repairs		SYD	\$140.00/SYD	
Other				
MISCELLANEOUS				
Expansion or Construction Joints (includes removal)		FT	\$550.00/FT	
Bridge Railing, remove and replace (\$250 Type 4, \$305 Aesthetic Parapet)		FT	\$280.00/FT	
Thrie Beam Railing retrofit		FT	\$40.00/FT	
Articulating Concrete Block System (ACB)		SYD	\$120.00/SYD	
Scour Countermeasures		LSUM	LSUM	
Other				

STRUCTURE CONSTRUCTION BUDGET \$0

<u>ROAD WORK</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT COST</u>	<u>TOTAL</u>
ROAD WORK				
Approach Pavement, 12" RC (add C & G, GR, Slope, Shldr.) 40' ea. end		SFT	\$16.00/SFT	
Approach Curb & Gutter (18' ea. quad.)		FT	\$50.00/FT	
Guardrail Anchorage to Bridge (<40')		quads	\$1,600.00/quad	
Guardrail, Type B or T (beyond GR anchorage to bridge, <200')		FT	\$22.00/FT	
Guardrail Ending (end section)		EA	\$1,750.00/EA	
Roadway Approach work (beyond approach pavement)		LSUM	LSUM	
Utilities		LSUM	LSUM	
Other				
TRAFFIC CONTROL <i>Unit Cost to be determined by Region or TSC Traffic & Safety</i>				
Part Width Construction		LSUM	LSUM	
Crossovers		EA	\$300,000.00 EA	
Temporary Traffic Signals		set	\$25,000.00/set	
RR Flagging		LSUM	LSUM	
Detour		LSUM	LSUM	
Other				

RELATED ROAD/TRAFFIC CONSTRUCTION BUDGET \$0

CONTINGENCY (10% - 20%) (use higher contingency for small projects)		%	\$0.00	\$0
MOBILIZATION (estimate at 10%)	10	%	\$0.00	\$0
INFLATION (assume 3% per year, beginning in 2018)		%	\$0.00	\$0

(DOES NOT INCLUDE PE & CE)

TOTAL CONSTRUCTION BUDGET \$0

2017

**- CAPITAL SCHEDULED MAINTENANCE -
LAP - BRIDGE CSM COST ESTIMATE WORKSHEET**

REV. 1/26/2018

REGION: FISCAL YEAR: STRUCTURE NUMBER: (3-5 digit)
 ENGINEER: DATE: BRIDGE ID: XXX-XXXXX
 LOCATION: DECK AREA: SFT STR. TYPE:
 PRIMARY WORK ACTIVITY: DECK DIM:

DECK	WORK ITEM	QUANTITY	UNIT	UNIT COST	TOTAL
	Patching Concrete, C-L (deck or barrier rail patching)		CYD	\$700.00 /CYD	
	Penetrating Healer/Sealer, Bridge Deck		SYD	\$22.00 /SYD	
	Crack Sealer		FT	\$5.00 /FT	
	Water Repellant Treatment, Penetrating (deck surface)		SYD	\$20.00 /SYD	
	Concrete Surface Coating (concrete barrier rail, deck slab fascia)		*SYD	\$16.00 /SYD	
	Resealing Bridge Construction Joints (hot poured rubber)		FT	\$18.00 /FT	
	End Header Replacement		FT	\$65.00 /FT	
	Concrete, Grade D		CYD	\$700.00 /CYD	
	Reinforcement, Steel, Epoxy Coated		LBS	\$1.40 /LB	
	Adhesive Anchoring of Horiz. Bars ___ "		EA	\$25.00 /EA	
	Drain Casting, Type 1		EA	\$500.00 /EA	
	Drain Casting Assembly		EA	\$1,000.00 /EA	
	Deck Drain , Extension		EA	\$500.00 /EA	
	Downspout Replacement		EA	\$2,000.00 /EA	
	Embedded Galvanic Anode		EA	\$12.00 /EA	
	Other				

SUPERSTRUCTURE	WORK ITEM	QUANTITY	UNIT	UNIT COST	TOTAL
	Spot Painting (80% clean, 20% coat)		*SFT	\$30.00 /SFT	
	Patching Concrete, C-L (concrete beam patching)		CYD	\$700.00 /CYD	
	Water Repellant Treatment, Penetrating (concrete fascia beams)		SYD	\$20.00 /SYD	
	Concrete Surface Coating (concrete fascia beams)		*SYD	\$16.00 /SYD	
	Other				

SUBSTRUCTURE	WORK ITEM	QUANTITY	UNIT	UNIT COST	TOTAL
	Patching Concrete, C-L (substructure patching)		CYD	\$700.00 /CYD	
	Patch Forming (vertical & overhead surfaces)		SFT	\$30.00 /SFT	
	Concrete Surface Coating (vertical surfaces)		*SYD	\$16.00 /SYD	
	Substructure Horizontal Surface Sealer (horizontal surfaces)		*SYD	\$40.00 /SYD	
	Water Repellant Treatment, Penetrating		SYD	\$20.00 /SYD	
	Other				

DEMOLITION	WORK ITEM	QUANTITY	UNIT	UNIT COST	TOTAL
	Hand Chipping, Shallow (~3" deep)		SYD	\$110.00 /SYD	
	Hand Chipping, Deep (~6" deep min)		SYD	\$210.00 /SYD	
	Hand Chipping, Other Than Deck (vertical & overhead surfaces)		CFT	\$80.00 /CFT	
	Structures, Rehabilitation, Rem Portions (slope protection removal)		*CYD	\$250.00 /CYD	
	Structures, Rehabilitation, Rem Portions (drain casting removal)		*EA	\$500.00 /EA	
	False Decking		SFT	\$1.00 /SFT	
	Other				

MISCELLANEOUS	WORK ITEM	QUANTITY	UNIT	UNIT COST	TOTAL
	Joint, Expansion, Erg (pavement joint)		FT	\$16.00 /FT	
	Joint, Pressure Relief, 4 inch		FT	\$65.00 /FT	
	Backfill, Structure, CIP		CYD	\$22.00 /CYD	
	Slope Paving, Header		FT	\$50.00 /FT	
	Slope Paving, Concrete		SYD	\$70.00 /SYD	
	Slope Paving, Precast Concrete		SYD	\$70.00 /SYD	
	Articulating Concrete Block System (ACB)		SYD	\$120.00 /SYD	
	Other				

BRIDGE TOTAL \$0

TRAFFIC CONTROL	WORK ITEM	QUANTITY	UNIT	UNIT COST	TOTAL
	Maintaining Traffic (from TSC or Region T&S)		LS		
	Other				

MOBILIZATION	QUANTITY	UNIT	UNIT COST	TOTAL
	10 %		\$0	\$0

ROAD TOTAL \$0

(DOES NOT INCLUDE PE & CE)

* Estimated as unit shown, Paid for as LUMP SUM

CONSTRUCTION TOTAL \$0