

FY 2018-2021 TRANSPORTATION IMPROVEMENT
PROGRAM SURFACE TRANSPORTATION PROGRAM –
SUBALLOCATED FUNDS (STP-S) NEW PROJECT
APPLICATION

PROJECT RECORD NUMBER: 624435
BOEUF CREEK ROAD BRIDGE REPLACEMENT

PRESENTED TO:

EAST-WEST GATEWAY COUNCIL OF GOVERNMENTS
TRANSPORTATION PLANNING DEPT. – STP-S
GATEWAY TOWER
ONE MEMORIAL DR – STE 1600
ST. LOUIS, MO 63102

SPONSORING AGENCY:

FRANKLIN COUNTY, MO
JOHN GRIESHEIMER, PRESIDING COMMISSIONER
400 EAST LOCUST ST – ROOM 206
UNION, MO 63084

PREPARED BY:

BFA, INC.
103 ELM ST
WASHINGTON, MO 63090
800-455-4751

MARCH 2, 2017

FY 2018-2021 TRANSPORTATION IMPROVEMENT
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COMPLETED PROJECT CHECKLIST

PRINTED COPY OF ONLINE APPLICATION
(with appropriate signature pages included)

COST ESTIMATE

APPENDIX A – PROJECT LOCATION MAPS

APPENDIX B – SITE PHOTOS

APPENDIX C – MODOT REPORTS

APPENDIX D – ADOPTED PLANS

APPENDIX E – OPERATIONS AND MAINTENANCE FORM

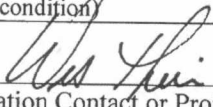
Project Sponsor Checklist – Submit with application. Project applicant must initial or mark n/a and sign bottom of page. Attach to front of application.

All project applications

Initial	
WT	One (1) paper copy of TIP application delivered to East-West Gateway (binder clips only, no staples, no ring binding)
WT	One (1) electronic copy of application delivered to East-West Gateway (adobe acrobat file .pdf) – may be emailed, delivered on CD/DVD, etc.
WT	Online application marked 'final'
WT	Project Location map (8 ½ x 11 preferred)
WT	Estimate of project costs spreadsheet – found on TIP application page
	Letter of permission from owner of facility (required if sponsor does not own roadway)
	Letter of project support from individual, business, local public agency or other third party provide matching funds or be requested to provide matching funds in the future for project (if necessary) N/A
WT	Signature Pages – required for all sponsors Financial certification of matching funds Person(s) of responsible charge Title VI certification Right-of-way Acquisition Statement (Missouri only)
WT	Reasonable Progress (Missouri only)
	Application fee equal to ½% of federal funds requested for the project. Make checks payable to "East-West Gateway Council of Governments"; or "East-West Gateway COG"– required for all sponsors N/A
WT	Operations and Maintenance Form - required for all sponsors (one per sponsor)

STP-S Project Applications

	Typical section (cross-section) showing before and after improvements (required) N/A
	Calculations of PASER rating AND map showing where pavement was inspected (required for road projects) N/A
	Calculations of sidewalk PSR rating (required for sidewalk preservation projects) N/A
WT	Bridge inspection report from state DOT (required for bridge projects)
	Sketch of proposed bridge replacement and realigned road (required for bridge projects that have associated road work beyond the touchdown point – for example vertical or horizontal road realignment) N/A
	Completed Crash Summary Form and/or Crash Safety Form (.xls file) (required to justify safety priority condition for road/intersection projects) N/A
	Level of Service Calculations (required to justify congestion priority condition) N/A
	Congestion Management Study (required only if project would add one or more through lanes on an arterial or expressway for at least 1 mile or for the entire distance between major intersections) - Complete ITS consistency statement if ITS component to project N/A
	Map showing transit route(s) in relationship to project (if applicable) N/A
WT	Pages from adopted plans where project is referenced – Not the entire plan (required for sustainable development priority condition)


3/2/17
 Application Contact or Project Contact Signature and date

Project Record Number 624435

**FY 2018-2021 TRANSPORTATION IMPROVEMENT PROGRAM
SURFACE TRANSPORTATION PROGRAM - SUBALLOCATED FUNDS (STP-S)
NEW PROJECT APPLICATION**

Clear Form and Create New Project

Retrieve Existing Project

Update/Save Project

PROJECT RECORD NUMBER

Clear All Fields

Before starting new applications, select "Clear Form and Create New Project". Applications with no record number cannot be saved. The project number will be needed if you wish to retrieve/edit/print the application at a later time.

Select one:

- Application withdrawn
 Preliminary complete (ready for comments)- Due January 26, 2017 - Optional
 Final complete - Due March 2, 2017
Signatures, Supplemental Information, and Application Fee - Due March 2, 2017

A. SPONSOR INFORMATION

Sponsoring Agency:

Chief Elected Official:

Address:

City: State: Zip:

E-Mail:

Project Contact: Title:

Address:

City: State: Zip:

Phone: Fax:

E-mail:

Application Contact:

E-Mail: Phone:

B. PROJECT INFORMATION

Project Title:

Project Limits (i.e., Taylor Ave to Moss St or over Moss Creek - include map):

Replace bridge and approaches at branch of Boeuf Creek on Boeuf Creek Road - location is approximately 1.25 miles west of the intersection of Boeuf Creek Road and Highway 185.

Is this project a continuation of, or is it otherwise related to, another project that previously was programmed in the TIP? If so, explain this relationship.

None known.

Has your agency previously competed for funds for this specific project? If so, when?

No.

Does your agency own and maintain this facility? Yes If no, a letter of support is required from the facility owner.

Project Priority Area:

Type of Improvement:

Type of project:

Project Length (Miles):

Estimated date of completion (MO/YEAR):

Usage (Average Daily Traffic, Ridership, etc.):		Currently	Proposed
	ADT	<input type="text" value="100.00"/>	<input type="text"/>
	Year	<input type="text" value="2013.00"/>	<input type="text"/>

Vehicle Occupancy Rate (Regional Average=1.25): Currently Proposed

Federal Functional Roadway Classification (per East-West Gateway):

BRIDGE PROJECTS ONLY - Complete next four questions

Bridge Identification Number (Per state inventory):

Bridge Sufficiency Rating (Per state inventory):

Is bridge listed on state inventory as deficient? Yes

Will there be any realignment of the connecting roadway (vertical or horizontal) as part of the bridge replacement? No If yes, include sketch of proposed bridge replacement and realigned road.

Number of through traffic lanes: Currently Proposed

Number of turn lanes: Currently Proposed

Are two-way left turn lanes proposed as part of this project? If yes, give details below:

Is the terrain flat or rolling?

If the terrain is rolling, describe what measures have been taken to maximize the sight distance where the two-way left turn lanes are proposed:

Speed limit: Currently Proposed

Lane width: Currently Proposed

Shoulder width: Currently Proposed

Bridge width (gutterline to gutterline): Currently Proposed

Curb & gutter?: Currently Proposed

Sidewalks?: Currently Proposed

Sidewalk Width: Currently Proposed

Parking allowed: Currently Proposed

Will additional right of way, TSCL or easement be acquired?

If yes,

- Estimated additional right of way (in acres) needed:

- Estimated permanent easements (in acres) needed:

- Estimated temporary easements (in acres) needed:

- Any residential or commercial displacements anticipated? If yes, give details on how many and if they are residential and/or commercial.

Small temporary construction easements are possible, but not expected.

Right of way acquisition by:

Right of way condemnation by:

Please attach the following items, if available.

→ Traffic Flow diagram for more than 2 lane improvement

→ Scope of engineering services

UTILITY COORDINATION

Will coordination with utilities be required? If yes, check the appropriate box to select the type of utility. Then give the names of the utility companies. Utilities must be notified of proposed improvements early in the design process.

Electric	<input checked="" type="checkbox"/>	<input type="text" value="Ameren"/>
Phone	<input checked="" type="checkbox"/>	<input type="text" value="Fidelity"/>
Gas	<input type="checkbox"/>	<input type="text"/>
Water	<input type="checkbox"/>	<input type="text"/>
Cable TV	<input type="checkbox"/>	<input type="text"/>
Storm Sewer	<input type="checkbox"/>	<input type="text"/>
Sanitary Sewer	<input type="checkbox"/>	<input type="text"/>
Other	<input type="checkbox"/>	<input type="text"/>

Please give detail concerning potential utility conflicts / problems / issues:

One guy wire on a utility pole on the north end of the bridge may need to be adjusted or moved. There are no visible utilities or conduits on the bridge structure.

Utility coordination completed by:

Designed by:

Inspection by:

RAILROAD COORDINATION

Is there a railroad crossing within or near (i.e. 500', RR Signal) project limits?

If yes, please answer the following questions:

Name of railroad crossed:

Number of crossings impacted?

Are crossings active?

What is the crossing type?

Timber

Rubberized

Asphalt

Concrete

Other (describe)

What is the width of the crossing?

Are there pedestrian or bicycle facilities impacted (within limits or within 500 feet of project limits)?

What will be done to improve pedestrian or bicycle facilities at the crossing?

AMERICANS WITH DISABILITIES ACT TRANSITION PLAN

All applicants are required to comply with the Americans With Disabilities Act (ADA) of 1990. The ADA requires any public agency with more than 50 employees to make a transition plan setting forth the steps necessary to make its facilities accessible to persons with disabilities. 28 CFR §35.150(d).

More information can be found here: http://www.fhwa.dot.gov/civilrights/programs/ada_sect504qa.cfm#q10

Does your local public agency have more than 50 employees? Yes

If yes, please answer the following questions:

Does your agency have an adopted ADA transition plan?¹ Yes

If no plan adopted, when is one expected to be adopted?

¹ Include the following in the project application submittal (if applicable): Attach pages of ADA transition plan only if it relates to proposed project. Do NOT attach entire plan.

C. PROJECT JUSTIFICATION/DESCRIPTION (Application will not be reviewed if Section C is not complete)

Please describe 1.) the proposed improvement, 2.) the transportation problem the improvement will address, 3.) the effect the improvement will have on the problem, and 4.) any Transportation System Management or Transportation Demand Management strategies (as described in Appendix B included in the workbook).

If the project is proposing to add capacity for single-occupant vehicles by adding lanes or by constructing a new facility, a Congestion Management Study (CMS) report may be required. The CMS requirements are described in Appendix A included in the workbook. If you are unsure if a CMS is needed, please contact Jason Lange at MO: (314) 421-4220 or IL: (618) 274-1750.

Projects must be based upon the ten principles/strategies of Connected 2040, the St. Louis region's Long Range Transportation Plan. **See page 7-9 of the STP-S workbook for more information.**

Be as specific as possible. Attach additional sheets as needed.

The project proposes to replace a structurally deficient bridge (supporting MoDOT documentation provided) with a new structure.

- 1) The proposed improvement consists of demolition and removal of the existing, structurally deficient, single-lane bridge with a new 2-lane structure.
- 2) The improvement addresses the transportation problem of preserving existing infrastructure and improves safety.
- 3) The improvement will preserve infrastructure by maintaining and improving a usable, existing transportation route in the area and improves safety by replacing an unsafe single lane bridge with new structure.
- 4) TSM and TDM are not applicable at this location.

The structure is on MoDOT's bridge inventory, listed as structurally deficient with a sufficiency rating of 37.8%. The existing structure is a one-lane structure carrying 2-way traffic. The site has a curve to the right when crossing the bridge, traveling North.

The proposed project will provide for 2-lane traffic and improved wider lanes at the bridge.

BICYCLE AND PEDESTRIAN FACILITIES

In March 2010 the US DOT issued its Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations. The policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems. Because of the numerous individual and community benefits that walking and bicycling provide — including health, safety, environmental, transportation, and quality of life — transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes.

Bicycle and pedestrian legislation in 23 USC 217(g) states:

Bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities, except where bicycle and pedestrian use are not permitted...Transportation plans and projects shall provide due consideration for safety and contiguous routes for bicyclists and pedestrians.

Does the project include bicycle and/or pedestrian facilities?

If bicycle and/or pedestrian facilities are not included, WHY NOT? Failure to include bicycle and/ or pedestrian facilities may result in the project not being funded.

Currently, there are no bike lanes or trails/sidwalks in the vicinity and no future planning to include bicycle and pedestrian traffic in this area. The population density is low - the project focus is to replace a structurally deficient bridge structure.

If bicycle pedestrian facilities currently exist along the project limits, please answer the following questions:

EXISTING BICYCLE FACILITY

Does the current bicycle facility meet the guidelines set forth by the *American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities* (2012, 4th Edition) and/or the *National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide* (2014, 2nd Edition)?

Does the project scope include upgrading the bicycle facility to meet current guidelines?

If no, explain why the project will not meet AASHTO and/or NACTO guidelines

N/A - there is no bicycle facility existing or proposed.

BICYCLE AND PEDESTRIAN FACILITIES

Describe the bicycle facilities that currently exist along the project limits. Include widths and length for each type. (for example: shared use path, 10 feet wide, 2 miles long):

There are no bicycle-specific facilities located in the vicinity. This project is along a rural roadway.

If pedestrian facilities currently exist along the project limits, please answer the following questions:

EXISTING PEDESTRIAN FACILITY

Are the pedestrian facilities along the project limits currently ADA compliant?

Describe the pedestrian facilities that currently exist along the project limits. Include the width and length of the existing sidewalk (for example: Sidewalk on north side of road, 5 feet wide, 0.5 miles long. Crosswalks at 3 signalized intersections with no pushbuttons.):

There are no pedestrian-specific facilities in the vicinity. This project is along a rural roadway.

What is the Present Serviceability Rating (PSR)?²

² Include the following in the project application submittal (if applicable): PSR score, map showing evaluation locations, calculations, and pictures at each evaluation location.

BICYCLE AND PEDESTRIAN FACILITIES

If bicycle and/or pedestrian facilities are included in the project scope, please answer the remaining questions in the bicycle and pedestrian facilities section:

PROPOSED BICYCLE AND/OR PEDESTRIAN FACILITIES

Does the proposed project provide a connection that reduces a barrier to use and functionality (i.e., natural or man-made barriers, including interstates, railroads, rivers, etc.)?

Unknown

If yes, identify the barrier(s):

Wider bridge will provide for safer use of pedestrians or cyclist that happen to cross the structure, but that is not a specific project intention.

Identify the connectivity of the bicycle/pedestrian facility resulting from the project³:
(check all that apply)

- Project fills in a gap between existing bicycle/pedestrian facilities
- Project extends an existing bicycle/pedestrian facility
- Project intersects an existing bicycle/pedestrian facility
- Project is adjacent to an existing bicycle/pedestrian facility
- Project is a new isolated bicycle/pedestrian segment

Does the project incorporate any of the following traffic calming and/or design improvements? (check all that apply)

- Pedestrian safety
- Speed control
- Volume control
- None

³ Include the following in the project application submittal (if applicable): Facility map showing existing bicycle and/or pedestrian facilities and their connections to the proposed project.

BICYCLE AND PEDESTRIAN FACILITIES

If the project incorporates any traffic calming or design improvements, describe the improvements (i.e., bulb-outs, median barriers, center islands, roadway markings, improved signage and signals). Also, explain how this improvement will reinforce a safe environment for bicyclists and/or pedestrians:

Wider lane widths on the bridge will provide some degree of improved safety for bicyclists and pedestrians that happen to cross the structure.

PROPOSED BICYCLE FACILITY

Does the proposed project incorporate any of the following bicycle-related improvements?
(check all that apply)

- Separated bike lane/cycle track/protected bike lane
- Shared-use path/trail
- Arterial sidepath
- Bike lane with no buffer
- Shared-lane markings (“sharrow”)
- Wide outside lane
- Paved shoulder
- Share the Road signage
- Bikes May Use Full Lane signage
- Wayfinding/bicycle racks or parking/or other end of trip facilities
- Other
- None

Describe other bicycle-related improvements:

None - items checked above are not improvements specifically to facilitate bicycle use, they are coincidental benefits of the project.

BICYCLE AND PEDESTRIAN FACILITIES

Proposed bicycle facility length:

Width of proposed bicycle facility:

Proposed bicycle facility surface (i.e. asphalt, concrete, crushed limestone, dirt, etc):

If there is an intersection along the project limits, describe any bicycle treatments at that intersection:

How many residential/commercial driveways are along the proposed bicycle segment?

How many streets/alleys does the proposed bicycle facility cross?

PROPOSED PEDESTRIAN FACILITY

Does the proposed project incorporate any of the following pedestrian-related improvements? (*check all that apply*)

- Sidewalks
- Sidewalk/roadway separation
- Curb ramps
- Pedestrian signal heads and push buttons
- Marked crosswalks
- Midblock crossings
- Wayfinding/furniture/or other end of trip facilities
- Pedestrian-scale lighting
- Other
- None

Describe other pedestrian-related improvements:

Proposed pedestrian facility length:

BICYCLE AND PEDESTRIAN FACILITIES

Width of proposed pedestrian facility:

Proposed pedestrian facility surface (i.e. concrete, asphalt):

If there is an intersection along the project limits, describe any pedestrian treatments at that intersection:

How many residential/commercial driveways are along the proposed pedestrian facility?

How many streets/alleys does the proposed pedestrian facility cross?

PLANNING

Is the proposed project identified in an approved or adopted plan, policy, or ordinance?⁴

Name of adopted plan, policy, or ordinance:

Adoption date of plan, policy, or ordinance:

Is the proposed project located in St. Charles County, St. Louis County or the City of St. Louis and will it construct a bicycle facility?

If yes, please answer the following questions:

Does the project provide a connection to or located on the Great Rivers Greenway River Ring?

Is the project on the Gateway Bike Plan network? – www.stlbikeplan.org

Is the proposed project located in Madison or St. Clair County and will it construct a bicycle facility?

If yes, please answer the following question:

Does the project provide a connection to projects in the Metro East Parks and Recreation District Long Range plan? - <http://bit.ly/MEPRDPLAN>

⁴ Include the following in the project application submittal (if applicable): Documentation from approved or adopted plan, policy, or ordinance – do not include entire plan documents, only include the necessary pages.

BICYCLE AND PEDESTRIAN FACILITIES

SCHOOLS/COMMUNITY RESOURCES

Does the project provide direct access to a school?⁵

If yes, please identify the school(s) and explain how the project will serve and enhance access to the school(s).

N/A

Does the project provide direct access to a community resource?⁵

If yes, please identify the community resource(s) and explain how the project will serve and enhance access to the community resource(s). Community resources include: hospitals, community centers, YMCAs, gyms, parks.

Project is located along a rural roadway.

⁵ Include the following in the project application submittal (if applicable): Add schools within 1/2 mile of project, and community resources along the project limits to the bicycle/pedestrian facility connections map(see page 10).

GREAT STREETS (This section is intended to be completed only for projects that are utilizing concepts from the Great Streets Initiative)

Road construction does not just apply to moving cars and trucks faster. It's really about accommodating people, which can include such things as: traffic calming, bicycle/pedestrian accommodations, compliance with the Americans with Disabilities Act, landscaping, access management, architectural design standards, and zoning changes to encourage specified land uses and promote economic development. East-West Gateway's Great Streets Initiative helps local sponsors create a complete street. A toolbox has been created that guides sponsors to use the Great Streets template that applies to their place. Place types include: downtown main street, mixed-use district, small town downtown, residential neighborhood, office employment area, civic/educational corridor, neighborhood shops, and commercial/service corridor.

Detailed information can be found at: <http://www.ewgateway.org/greatstreets/greatstreets.htm>. If you have any questions about Great Streets, contact Paul Hubbman at: MO: (314) 421-4220 or IL: (618) 274-2750.

A Great Streets project is required to address these eight characteristics:

1. Great Streets are great places
2. Great Streets integrate land use and transportation planning
3. Great Streets are economically vibrant
4. Great Streets accommodate all users and all modes
5. Great Streets are environmentally responsible
6. Great Streets rely on current thinking
7. Great Streets are measurable
8. Great Streets develop collaboratively

Please describe below how this project incorporates each of the seven criteria. Attach additional sheets as needed.

N/A

D. PROJECT COMPOSITION

Please indicate the approximate percentage of the project that covers each of the elements below:

MODAL ELEMENTS	Total Cost	
Roadway elements	<input type="text" value="100.00"/>	%
Transit elements	<input type="text"/>	%
Bicycle and Pedestrian elements	<input type="text"/>	%
Port and Freight Facility elements	<input type="text"/>	%
TOTAL (100%)	<input type="text" value="100.00"/>	%

ACTIVITY TYPE	Total Cost	
Replace/Rehabilitation of existing facilities	<input type="text" value="100.00"/>	%
Expansion/Enhancement - new or expanded facilities and assets (not replacement)	<input type="text"/>	%
Planning Studies - such as general program evaluation, corridor studies, MTIA or environmental analysis (not preliminary or construction engineering)	<input type="text"/>	%
TOTAL (100%)	<input type="text" value="100.00"/>	%

PROJECT FUNCTIONS	Total Cost	
Preservation elements	<input type="text" value="75.00"/>	%
Safety elements	<input type="text" value="25.00"/>	%
Congestion elements	<input type="text"/>	%
Access to Opportunity elements	<input type="text"/>	%
Sustainable Development elements	<input type="text"/>	%
Goods Movement elements	<input type="text"/>	%
TOTAL (100%)	<input type="text" value="100.00"/>	%

E. IMPROVEMENT EVALUATION CRITERIA (Application will not be reviewed if Section E is not complete)

Select a priority condition that is based on the primary focus area of the project. The priority condition should be the same for each focus area on pages 9-14 of this application. Pages 7-10 of the STP-S workbook details what is required supporting information for each condition.

PRESERVATION

Preservation of the existing infrastructure will be achieved by managing and maintaining current roadway, bridge, transit and intermodal assets. Check the one priority condition box, using the measures described below, that best represents the project being considered. Attach relevant documentation, calculations, photos or additional information. Points will be assigned only if project will improve deficient condition and documentation of condition is provided with project application.

Priority Condition

System Condition (describe condition and measure used)

Bridge Sufficiency Rating
 Current Bridge Rating is 37.8 and project will remove and replace said structure.
 Additionally, the existing structure is a one-lane bridge on a route carrying two-way traffic.

PRESERVATION MEASURES	High Priority Condition	Medium Priority Condition	Lower Priority Condition
Road	Pavement Condition 2.0-5.6 on PASER Scale AND project will improve deficient condition.	Pavement Condition less than 2.0 or 5.7-7.5 on PASER Scale AND project will improve deficient condition.	Pavement Condition greater than 7.5 on PASER Scale AND project will improve deficient condition.
Bridge	Bridge Sufficiency Rating less than 40 on Scale of 100 AND project will improve deficient condition.	Bridge Sufficiency Rating of 40-79.9 on Scale of 100 AND project will improve deficient condition.	Bridge Sufficiency Rating greater than 80 on Scale of 100 AND project will improve deficient condition.
Signal	Project will replace equipment older than 20 years, and equipment is outdated, not repairable	Project will replace equipment 10 to 20 years old and not compatible with coordinated systems	Project will replace equipment in good condition, as per industry standard
Transit	Project will replace equipment at normal replacement cycle age in FTA Circular 9030	Project will replace equipment that is non-operational /unreliable/beyond normal replacement cycle age in FTA Circular 9030	Project will replace equipment earlier than normal replacement cycle age in FTA Circular 9030
Port/Freight	Poor condition as per standard AND project will improve deficient condition.	Very poor or fair condition as per standard AND project will improve deficient condition.	Good condition as per standard AND project will improve deficient condition.
Bike/Ped	Average PSR rating of sidewalk 0-1 (see App F or workbook for how to rate) AND project located within ½ mile of PUI grid 3-5	Average PSR rating of sidewalk 1-2 (see App F or workbook for how to rate) AND project located within ½ mile of PUI grid 3-5	Average PSR rating of sidewalk 0-3 (see App F or workbook for how to rate) AND project located in any area

***NOTE:** Only projects that propose to replace, rehabilitate, or repair a facility or equipment can receive points in this category. Projects that propose to construct an entirely new facility receive 0 points (N/A). Systematic preventive maintenance activities (i.e., activities that are part of a planned strategy or program) intended to extend the life of the facility are eligible for funding, provided the DOT has approved the systematic strategy or program.

PRESERVATION

ROAD/BRIDGE

Is this a road/bridge preservation project?

If yes, what is the PASER rating or bridge sufficiency rating?⁶

Timely application of a pavement treatment can increase the life of the roadway. An effective pavement management system is a systematic process that provides information for use in implementing cost-effective pavement reconstruction, rehabilitation, and preventative maintenance programs. The pavement management plan (PMP) involves the evaluation of pavements on a regular basis which allows jurisdictions to accommodate current and forecasted traffic in a safe, durable, and cost-effective manner.

Is this roadway part of the local public agency's PMP?⁶

If yes, please answer the following questions:

When was the last surface preservation treatment completed on this facility?

What type of treatment?

According to the PMP, when is the next scheduled treatment proposed and the type of improvement needed?⁶

⁶ Include the following in the project application submittal (if applicable): PASER calculation score (including map showing locations of pavement evaluations and, photos at each location), bridge sufficiency rating sheet (from DOT), and/or supplementation documentation from PMP showing past and future maintenance plans of proposed road.

SAFETY

Safety and Security in Travel will be achieved by decreasing the risk of personal injury and property damage on, in, and around transportation facilities. Check the one priority condition box, using the measures described below, that best represents the project being considered. To gain points the Crash Summary form must be included in the final application. Points only gained if countermeasure is consistent with the project scope. The Crash Summary form is found on the TIP application web page.

Total number of crashes from 2012-2014:

Number of crashes by type: Fatal Serious Injury Property Damage Only Minor Injury

Crash Rate for the proposed project location (*use formula below*):

To compute crashes per million vehicle miles use the formula:

$$\frac{\text{Average Number of Crashes per year 2012-2014} \times 1,000,000}{\text{Average Daily Traffic} \times 365 \times \text{length of project in miles}} = \text{Crash Rate}$$

Priority Condition

System Condition / Problem Addressed

Bridge Sufficiency Rating of 37.8%
Project will remove a one-lane bridge structure on a route carrying two-way traffic and replace it with a two-lane bridge.

SAFETY MEASURES	High Priority Condition	Medium Priority Condition	Lower Priority Condition
Road/ Intersection	Crash rate per million vehicle miles is 6.0 or higher AND project addresses specific safety issues(s) related to crashes on Crash Summary form OR improves problems identified in road safety audit OR addresses fatal/serious injury crash(es)	Crash rate per million vehicle miles is 3.0 to 5.9 AND project addresses specific safety issues(s) related to crashes documented on Crash Summary form.	Accident rate per million vehicle miles is less than 3.0 AND project addresses specific safety issue(s) related to crashes documented on Crash Summary form.
Bridge	Bridge sufficiency rating less than 20 on scale of 100 AND project will improve deficient condition.	Bridge sufficiency rating 20-49.9 on scale of 100 AND project will improve deficient condition.	Bridge sufficiency rating greater than 50 on scale of 100 AND project will improve deficient condition.
Transit/Other	Poor condition as per standard AND project addresses specific safety or security issues (e.g., improves security for facility users, addresses bicycle or pedestrian safety concerns, etc.)	Fair condition as per standard AND project addresses specific safety or security issues (e.g., improves security for facility users, addresses bicycle or pedestrian safety concerns, etc.)	Good condition as per standard AND project addresses specific safety or security issues (e.g., improves security for facility users, addresses bicycle or pedestrian safety concerns, etc.)
Bike/Ped	New bike/ped facility: Sidewalks on both side of road (at least 5' wide) or dedicated multi-use path (at least 10' wide)	New bike/ped facility: Sidewalk on one side of road (at least 5' wide) or on-road bike lane OR new bike/ped facility: Sidewalks on both side of road (4' to 5' wide) or dedicated multi-use path (8'-10' wide)	Improvements to existing facility or shared lane traffic markers

SAFETY

EXISTING CONDITION

Describe the existing non-pavement safety components along the project limits (i.e. guardrail, signage, etc):

Bridge structure sufficiency rating of 37.8%
There was no crash information provided for this application submittal.

CRASH RATE

Please complete the following crash rate questions. The **Crash Calculation Form**⁷ must be used to calculate the crash rate. The **Crash Summary Form**⁷ must be used to log a summary of individual crashes.

What are the total number of crashes from 2010-2014?

Total number of crashes by crash type:

Fatal (K on KABCO scale)⁷

Serious injury (A on KABCO scale)⁷

Minor injury (B and C on KABCO scale)

Property damage only (O on KABCO scale)

Complete the crash rate for the type of project (road segment or intersection):

2010-2014 Crash Rate – Road Segment

What is the total crash rate?

What is the fatal and serious injury crash rate?

OR

2010-2014 Crash Rate – Intersection

What is the total crash rate?

What is the fatal and serious injury crash rate?

⁷ Include the following in the project application submittal: **Crash Calculation Form** and **Crash Summary Form** (insert within application and attach excel files with electronic submittal). If applicable include fatal and serious injury crash reports (entire report – other vehicle crash reports optional).

SAFETY

COUNTERMEASURES

What safety countermeasures are being used for the proposed project and what is its Crash Modification Factor (CMF)?⁸ - List the countermeasure that best fits the project. For example: Conversion of intersection into low-speed roundabout – CMF 1.099

Increase lane width to 12' - CMF 0.95
CMF of .95 represents a 5% reduction in crashes.

Are the proposed countermeasures listed in the State or County Strategic Highway Safety Plan?

If yes, list the plan(s):⁸

Was a safety study completed for this project?⁸

BICYCLE/PEDESTRIAN

Are there crashes involving bicylists, and/or pedestrians along the project limits?

If yes, please answer the following questions:

What is the total number of crashes involving bicylists?⁹

What is the total number of crashes involving pedestrians?⁹

What is the proposed countermeasure and how would the crashes be addressed?

N/A

⁸ Include the following in the project application submittal (if applicable): CMF sheet(s) (screen capture) from the CMF Clearinghouse website www.cmfclearinghouse.org, copy of pages from relevant state and/or local safety plan that shows project type, and attach safety study.

⁹ Include the following in the project application submittal (if applicable): Crash reports that include bicyclists, pedestrians, and other non-drivers.

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Is there an undocumented safety issue?

If yes, please answer the following questions:

What is the undocumented safety issue?

Unknown

What is the proposed countermeasure and how would the undocumented safety issue be addressed?

N/A

BENEFIT/COST

Is the Project Priority Area (on page 2 of application) listed as safety?

If yes, and there is a documented crash problem, what is the benefit/cost ratio?*¹⁰

Safety Appendix - Crash Rate Formulas:

Road Segment – Total crash rate:

$$\frac{\text{(Number of total crashes)} \times 100,000,000 \text{ vehicle miles traveled}}{\text{(Project Length)} \times \text{(Project Average Daily Traffic)} \times \text{(Number of Crash Years)} \times 365}$$

Road Segment – Fatal and serious injury crash rate:

$$\frac{\text{(Number of fatal and serious injury crashes)} \times 100,000,000 \text{ vehicle miles traveled}}{\text{(Project Length)} \times \text{(Project Average Daily Traffic)} \times \text{(Number of Crash Years)} \times 365}$$

Intersection – Total crash rate:

$$\frac{\text{(Number of Accidents)} \times 100,000,000 \text{ million entering vehicles}}{\text{(Number of crash years)} \times \text{(Entering AADT)} \times 365 \text{ days/year}}$$

Intersection – Fatal and serious injury crash rate:

$$\frac{\text{(Number of fatal and serious injury crashes)} \times 100,000,000 \text{ million entering vehicles}}{\text{(Number of crash years)} \times \text{(Entering AADT)} \times 365 \text{ days/year}}$$

¹⁰ Include the following in the project application submittal (if applicable): Benefit/cost ratio calculation form.

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Benefit/Cost ratio:

Benefit/Cost Ratio= Present Value of Benefits (**PVB**)/Present Value of Costs (**PVC**)

$$\mathbf{PVB} = \text{Annual Benefit} \times [(1 + i)^n - 1/i(1 + i)^n]$$

Annual Benefit = [(Total Number of Fatal Crashes X The Cost of a Fatal Crash*) + (Total Number of Serious Injury Crashes X The Cost of a Serious Injury Crash*) + (Total Number of Minor Injury Crashes X The Cost of a Minor Injury Crash*) + (Total Number of Property Damage Only Crashes X The Cost of a Property Damage Only Crash*)] X(Crash Modification Factor*)]

$$[(1 + i)^n - 1]/i(1 + i)^n$$

$i = 3\%$

$n =$ Lifespan of countermeasure in years *

To find the PVC use the formulas below.

$$\mathbf{PVC} = \{ \text{Total Cost of Project} \times [(1 + i)^n - 1]/i(1 + i)^n \} + \{ \text{Maintenance Cost} \times \text{Lifespan of Countermeasure} \times [(1 + i)^n - 1]/i(1 + i)^n \}$$

Total Cost of Project = this includes all phases of the project (PE, ROW, and construction).

$$[(1 + i)^n - 1]/i(1 + i)^n$$

$i = 3\%$

$n =$ Amount of years from the current year until the construction phase.

i.e., Current year is 2017 and project will have construction in fiscal year 2021. n would equal 5

Maintenance cost = the maintenance cost of the countermeasure

Lifespan of countermeasure= can be found in Appendix F of IDOT's Benefit-Cost Tool User Guide

$$[(1 + i)^n - 1]/i(1 + i)^n$$

$i = 3\%$

$n =$ Lifespan of countermeasures in years