



## Section 3 – Project Selection and Programming

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### **PROHIBITING THE USE OF DATA AS EVIDENCE**

The Federal-Aid Highway Act of 1987 provides that reports, surveys, schedules, lists or data compiled for the purpose of developing highway safety improvements shall not be admitted into evidence in federal or state courts.

Projects that are being contemplated on MoDOT right-of-way must be reviewed and approved by the appropriate MoDOT District prior to project selection and programming.

### **HIGHWAY BRIDGE PROGRAM (HBP)**

#### **Project Selection**

Project selection is the prerogative of the local agency. MoDOT personnel will be available to advise and assist in project estimating and selection, if desired. Local agencies that are part of a local planning agency are required to submit their project selection to the MPO for review and approval. The following listing includes the type of eligible bridge projects that may be selected by the local agency:

1. Replacement or full rehabilitation of eligible structures from MoDOT's eligible bridge list.
2. Seismic retrofitting of deficient as well as non-deficient bridges is eligible for funding. The design of seismic improvements or retrofits shall follow applicable AASHTO and current FHWA publication guidelines. The reasonable costs of associated structural repairs, which are considered necessary or economically prudent for properly accomplishing the seismic retrofit, are also considered to be participating.
3. Projects involving the application of paint overcoat systems, or the complete blast cleaning and repainting of the structural steel are considered to be eligible for structures on MoDOT's eligible bridge list. The reasonable costs of structural repairs considered necessary or economically prudent to properly accomplish the repainting or overcoat project are considered to be participating.
4. Installation of scour countermeasures to protect an existing bridge is eligible for funding.
5. Preventative maintenance activities may be eligible for funding if the local agency has in place a systematic process such as a Bridge Management System, which demonstrates the cost effectiveness of extending the service life of their bridges. This systematic process must previously have been reviewed and approved by FHWA. Preventative maintenance activities include those that preserve bridge components and extend the useful service life of the bridge. These activities would typically be performed on a bridge in good condition in order to keep it in good condition. Increasing the capacity of a structure is not considered a preventative maintenance activity. Although not all inclusive, below are the two basic types

of preventative maintenance and examples of acceptable activities:

- a. **Systematic Servicing Bridges on a Scheduled Basis:** Generally includes cleaning decks; beam seats, beam caps, and salt splash zones; cleaning drainage systems; cleaning expansion joints; cleaning and lubricating expansion bearing assemblies; sealing concrete decks or substructure elements.
  - b. **As Needed Preventative Maintenance:** Generally includes resealing expansion joints; spot painting of steel members; minor structural repairs, removing debris from channel; replace wearing surface; extending or enlarging deck drains.
6. Projects involving the application of calcium magnesium acetate, sodium acetate/formate, or other environmentally acceptable, minimally corrosive anti-icing and de-icing compositions to a bridge are considered to be eligible for structures on MoDOT's eligible bridge list.

The bridge to be replaced or rehabilitated must be on MoDOT's eligible list for funding. The MoDOT eligible list is compiled from the most recent submittal of Missouri's National Bridge Inventory data to FHWA. MoDOT's eligible list will indicate whether the bridge is considered eligible for replacement (full funding) or only rehabilitation (partial funding), based on the existing inventory and inspection data. The proposed rehabilitation work should eliminate the items that caused the bridge to be identified as deficient unless the proposed deficient item may remain based on MoDOT's approval (see Section 1 and Section 8 of this manual for process and requirements). Ratings for bridges within the local agency will be furnished by the state indicating whether the bridge is eligible for replacement or rehabilitation.

Under certain conditions, it may be possible to eliminate a deficient bridge and to provide the desired service by constructing a roadway instead of a new bridge. Such projects will generally be eligible. A definite determination can be obtained if the local agency submits a schematic sketch showing the factors involved.

The local agency may also use their allocation of HBP funds to replace existing low water crossings at locations that are not included on the bridge inventory. The low water crossing must be replaced with a new bridge meeting the guidelines and requirements provided in Section 1, Section 8 and Section 9 of this manual. Section 123(d) of the 1987 Surface Transportation and Uniform Relocation Assistance Act (STURAA) allows for the use of HBP funds to construct a new bridge to replace low water crossings that are not classified as bridges and are therefore not eligible to be added to the National Bridge inventory. The interpretation is that the replacement structure should not only meet the traditional definition of a bridge (20 foot length, etc.) but should also improve the overtopping frequency of the facility, thus improving safety.

For bridge rehabilitation and replacement projects, the bridge site will not be eligible for selection to use HBP funding if the structure was replaced or had a major rehabilitation within 10 years of the planned new construction date. The FHWA 10-year rule applies regardless of the source of funds (local, state, federal, etc.) that were used to replace or reconstruct the bridge.

## **HIGHWAY BRIDGE PROGRAM (HBP)**

### **Bro Force Account**

If the local agency is considering constructing the entire project with local forces, please reference this section for the requirements. Please refer to Section 9, when local forces will construct only a portion of the project.

23 CFR 635.205(a):

It may be found cost effective for a State transportation department or county to undertake a federally financed highway construction project by force account when a situation exists in which the rights or responsibilities of the community at large are so affected as to require some special course of action, including situations where there is a lack of bids or the bids received are unreasonable.

In order to meet the intent and spirit of 23 CFR 635.205(a), the following criteria are to supplement the existing guidance in MoDOT's LPA manual. The premise of these criteria is that the remote location and/or small project size for some county bridge replacement projects would likely result in no bids or bids with large mobilization costs and significantly higher than average unit construction costs if the project were to be competitively bid, thereby placing an undue financial burden on the community at large. The intent is to allow counties to use federal-aid funds on appropriate small bridge replacement projects that are at a remote location, while ensuring that larger and/or urban-area type county federal-aid bridge replacement projects continue to be competitively bid.

- A project is competitively bid but there is lack of bids or the bids received are considered unreasonable. (see chart)
- The difference between the engineer's estimate for competitive bidding contracting and the force account estimate must be 20% or greater.
- The proposed new bridge shall be a maximum of two (2) lanes with a total length not to exceed 80'.
- Any work not done by force account must be competitively bid according to current LPA procedures. Any work that will be competitively bid must be identified at the construction authorization.
- The LPA shall submit to MoDOT a line item billing statement before reimbursement will be processed.
- The LPA shall have demonstrated experience and ability in constructing the proposed type and length of bridge in recent years with its own forces.
- The LPA shall not staff-up to take on new federal-aid work. They shall be adequately staffed and suitably equipped to undertake and satisfactorily complete the proposed work.
- As a means of periodically verifying the LPA estimates for competitive bidding, the LPAs that use the BRO Force Account option shall take at least one similar bridge to letting for every 3rd qualifying BRO Force Account bridge or every 2 years, whichever

comes first. If the low bid comes in at less than 20% above the estimate for Force Account, the LPA would not have the option of using Force Account and would be expected to award the contract. If the low bid was 20% or more above the Force Account estimate the LPA could reject the bid and go with the Force Account option. LPAs could also use appropriate bidding information for similar bridges from adjacent counties that was not more than 6 months old to meet this periodic competitive bidding verification requirement.

- Final Acceptance of Force Account project shall be in accordance with Section 9 (Final Acceptance) of MoDOT’s Local Public Agency Manual.

The LPA shall request approval from MoDOT for the use of force account along with a description of the project and the work to be performed, the estimated costs\* (Contract and Force Account Estimates), estimated federal funds to be provided, and the reason(s) that force account for such project is considered cost effective. Once MoDOT Central Office approves the LPA request, the request shall be submitted to FHWA for federal approval. MoDOT and the LPA are required to retain project records and allow access to records for quality check and audit purposes in accordance with 49 CFR 18.42. Upon completion of each project, a review will be performed by MoDOT to compare final cost with engineer’s estimate.

\* Estimated cost shall include:

- (1) Staff time (hours) per different phases of the work and based on individual employees or classifications of employees.
- (2) Wage rate per employee or class including any payroll additives (FICA, benefits, etc)
- (3) Equipment type, usage (hours) and costs (cost or rental rate per hour or per miles).
- (4) Materials and supplies to be incorporated in the project and their costs including sources and suppliers.
- (5) Line item engineer’s cost estimate of work, had it been contracted by competitive bidding.

Unreasonable Bids

Number of Bids	Low Bid exceeds Engineer’s Estimate
3 to 5	>30%
2	>25%
1	>20%

## HIGHWAY BRIDGE PROGRAM (HBP)

### Programming

Once a bridge has been selected for programming, the local agency should contact the MoDOT Representative to initiate project programming by completing a Programming Data Form ([Figure 3-1-1](#)). Local agencies that are in the St. Louis MPO may submit their TIP application in place of

the Programming Data Form. This form, with a letter signed by the local agency's officials requesting the project to be programmed, will initiate a series of checks by MoDOT to review eligibility. The programming data form requires an estimate of costs for which federal participation is desired. The estimated cost of the project should include a breakdown into categories of preliminary engineering, right-of-way, utility adjustments, roadway, bridges, or inspection. Average daily traffic for both the current year and design year must be included. The number and width of existing and proposed traffic lanes must be indicated along with present and proposed parking conditions. A scope of engineering services (if available) and for projects involving more than 2 lanes, a traffic flow diagram should be submitted along with the Programming Data Form. Local agencies that are in a MPO must include the TIP Number.

To be eligible for federal funding, proposed design improvements listed on the Programming Data form must be in accordance with the guidelines and requirements of Sections 1 and 8 of this manual.

After the project has been reviewed for eligibility, the local agency will be notified when they can begin preliminary engineering. MoDOT will also provide the local agency with a project number.

The local agency should determine at this stage who will, if needed, perform the various functions of work in developing the project. The consultant contract should be initiated at this time. The MoDOT representative will also initiate the program agreement between the local agency and the Missouri Highway and Transportation Commission at this stage.

If the project appears to have no significant environmental impact, a programming data form will be used to evaluate the environmental determination for the project. If the project does not qualify for a categorical exclusion additional environmental documentation will be required (see Section 4).

If any work is to be performed by a consultant, it will also be necessary to obtain approval of the contract between the local agency and the consultant before work is eligible for federal reimbursement (See [Section 6](#)). Any work performed before the federal authorization date will not be eligible for reimbursement. MoDOT will notify the local agency when preliminary engineering authorization has been approved. If the local agency will be performing their own preliminary engineering and would like to receive federal reimbursement, they must submit a cost estimate to MoDOT for review and approval.

All local agencies have prioritized their respective programmed projects, and their priorities have been placed into the Statewide Transportation Improvement Program (STIP). If a local agency elects to alter their priorities, they must submit a letter to MoDOT stating their revised priorities and the letter must be signed by all county commissioners or city officials. This is to protect changes in political climate from altering the priorities of the local agency, and to provide for an efficient program. For those local agencies within the jurisdiction of an MPO, the agency must notify the MPO of any change in project priorities or schedules.

## STP-URBAN

### Project Selection

For projects involving roadway improvements to be eligible for selection under the STP-Urban program, the route must be functionally classified as an urban collector, rural major collector, arterial, or expressway. Bridges meeting the eligibility requirements discussed below are not restricted to these routes and may be located on any public road. However, if the bridge is located on a route not on the federal-aid system, federal funding for roadway improvements will be limited to the attainable touchdown point as discussed for HBP funding in [Section 1](#).

Projects for improvements that utilize STP-Urban Funds are to be selected by the appropriate local agency officials with the concurrence of MoDOT. Local agencies that are part of a local planning agency are required to submit their project selection to the MPO. STP-Urban funding should be programmed for projects that will benefit the area within the urban cluster boundary.

Prior to submitting the projects to MoDOT for programming, the local agency should submit a location sketch of the proposed project and ensure that the route has the proper functional classification. For cities that are part of a MPO, the project must be on the TIP.

Types of projects may include new construction, reconstruction and upgrading. Projects classified as maintenance are not permitted. Resurfacing of existing streets is generally permissible, both to restore a smooth riding surface or to increase the load carrying capabilities of the street. The design of pavement rehabilitation projects shall provide a performance period of at least five years. Patching, minor pavement repairs, underselling, etc., are permitted only as a necessary part of restoration for resurfacing. Funds may be used to change from mercury vapor luminaries to high-pressure sodium vapor luminaries as an energy conserving measure.

The following listing indicates the categories of bridge improvement projects considered eligible to be selected for STP-Urban funding:

1. Replacement, rehabilitation addressing all bridge deficiencies, or partial rehabilitation for deficient bridges from MoDOT's eligible list for HBP funding.
2. Seismic Retrofitting as described in the HBP portion of this section. Painting structures as described in the HBP portion of this section.
3. Complete upgrading of traffic safety railing features for a bridge as determined appropriate by the engineer of record and local agency based on the guidelines provided in [Section 8](#) of this manual. Project must address safety of both bridge railing and related approach roadway guardrail features.

4. Projects to correct identified operational and/or condition problems with any existing bridge are generally eligible.
5. Replacement of existing cross-roadway drainage features not on the bridge inventory with an appropriate replacement structure or bridge (available for routes on the federal-aid system).
6. New bridge construction required for construction of new approved corridors of federal-aid system routes.
7. Widening of any bridge to accommodate the widening and upgrading of routes on the federal-aid system.

STP-Urban funds may be used for the construction of preferential bus lanes, turnouts and loading facilities for buses and fringe and corridor transportation parking facilities. The construction of parking facilities to replace on-street parking is eligible in areas where the improvement of the street would not be possible without removing on-street parking and where insufficient off-street parking exists. Funds may be used to acquire vans for vanpool demonstration projects. However, this is permitted on a loan basis only and the funds must be repaid through user revenues.

The construction of bicycle trails and pedestrian walkways on the highway right-of-way is eligible for federal participation, either as an integral part of a construction project or as an independent project. For further information, refer to the *MoDOT General Pedestrian and Bicycle Guide* on MoDOT's web site at

[http://www.modot.mo.gov/othertransportation/bike\\_ped/documents/modotcurrentbppolicy.pdf](http://www.modot.mo.gov/othertransportation/bike_ped/documents/modotcurrentbppolicy.pdf).

## **STP-URBAN**

### **Project Programming**

Prior to charging any survey, design or other work against any federal-aid project, the project must first be programmed and approved. Programming of all projects will be initiated by the local agency by submitting the location (with sketch), Programming Data Form ([Figure 3-1-1](#)), and a scope of engineering services (if available) to MoDOT. For projects involving more than 2 lanes, a traffic flow diagram should be submitted along with the Programming Data Form. Local agencies that are in the St. Louis MPO may submit their TIP application in place of the Programming Data Form. (Notes regarding completion of the Programming Data Form are provided in [Figure 3-1-2](#)).

The programming data form requires an estimate of costs for which federal participation is desired. The estimated cost of the project should include a breakdown into categories of preliminary engineering, right-of-way, utility adjustments, roadway, bridges, or inspection. Average daily traffic for both the current year and design year must be included. The number

and width of existing and proposed traffic lanes must be indicated along with present and proposed parking conditions.

Warrants for traffic signals, if applicable, shall be checked by the local agency at the time program information is submitted. Signal installation should not be programmed if current traffic conditions do not warrant as required by the Manual on Uniform Traffic Control Devices (MUTCD).

MoDOT will obtain the necessary input from both the Regional Planning Commission and the State Clearinghouse under the Missouri State and Local Review Process. For any project located within the urbanized limits of one of the metropolitan planning organizations (St. Louis, Kansas City, Columbia, Jefferson City, Joplin, St. Joseph or Springfield), the local agency shall ensure that the project is included in the Transportation Improvement Program.

When the programming data form or TIP applications are submitted to MoDOT, it will be evaluated for a categorical exclusion. If the project does not qualify for a categorical exclusion, a CE-2 form will be required (see section 4).

After the project has been reviewed for eligibility, the local agency will be notified when they can begin preliminary engineering. MoDOT will also provide the local agency with a project number.

If any work is to be performed by a consultant, it will also be necessary to obtain approval of the contract between the local agency and the consultant before work is eligible for federal reimbursement. **Any work performed before the federal authorization date will not be eligible for reimbursement.** MoDOT will notify the local agency when preliminary engineering authorization has been approved. If the local agency will be performing their own preliminary engineering and would like to receive federal reimbursement, they must submit a cost estimate to MoDOT for review and approval.

Preliminary engineering authorization will enable the local agency to receive reimbursement for charges incurred for preliminary engineering and miscellaneous right-of-way charges, such as title search and preliminary right-of-way estimates necessary to determine a proper location and design. Work performed by a consulting engineer requires prior approval of the consultant contract by MoDOT (See [Section 6](#)). Approvals for right-of-way acquisition must be acquired separately. Right-of-way acquisition should be in accordance with the LPA Land Acquisition Manual.

## **STP-TRANSPORTATION ENHANCEMENT PROGRAM**

For information on the selection and programming of a Transportation Enhancement project please see A Guide to Transportation Enhancements at <http://www.modot.mo.gov/business/manuals/documents/localpublicagency.htm>. Click on your area of the map to access the appropriate guide.

Renovation work utilizing STP Transportation Enhancement funds for bridges on a public road that will be open to vehicular traffic upon project completion are expected to follow the submittal processes for bridge rehabilitations.

## **CONGESTION MITIGATION AND AIR QUALITY (CMAQ)**

### **Project Selection**

Projects eligible for selection using CMAQ funds must indicate that the project will have a demonstrated effect on reducing emissions.

Projects for improvements that utilize CMAQ Funds are to be selected by the appropriate local agency officials and submitted to the MPO for selection and to be added to the TIP.

### **CMAQ**

#### **Project Programming**

##### **Roadway Type Projects**

Prior to charging any survey, design or other work against any federal-aid project, the project must first be programmed and approved. Programming of all projects will be initiated by the local agency by submitting the location (with sketch), Programming Data Form ([Figure 3-1](#)), and a scope of engineering services (if available) to MoDOT. For projects involving more than 2 lanes, a traffic flow diagram should be submitted along with the Programming Data Form. Local agencies that are in the St. Louis MPO may submit their TIP application in place of the Programming Data Form.

The programming data form requires an estimate of costs for which federal participation is desired. The estimated cost of the project should include a breakdown into categories of preliminary engineering, right-of-way, utility adjustments, roadway, bridges, or inspection. Average daily traffic for both the current year and design year must be included. The number and width of existing and proposed traffic lanes must be indicated along with present and proposed parking conditions.

Warrants for traffic signals, if applicable, shall be checked by the local agency at the time program information is submitted. Signal installation should not be programmed if current traffic conditions do not warrant as required by the Manual on Uniform Traffic Control Devices (MUTCD).

MoDOT will obtain the necessary input from the State Clearinghouse under the Missouri State and Local Review Process. The local agency shall ensure that the project is included in the Transportation Improvement Program.

A programming data form will be used at the time of programming to determine if any further environmental documentation will be required. If the project does not qualify for a categorical exclusion additional environmental documentation will be required (see [Section 4](#)).

After the project has been reviewed for eligibility, the local agency will be notified when they can begin preliminary engineering. MoDOT will also provide the local agency with a project number.

If any work is to be performed by a consultant, it will also be necessary to obtain approval of the contract between the local agency and the consultant before work is eligible for federal reimbursement. Any work performed before the federal authorization date will not be eligible for reimbursement. MoDOT will notify the local agency when preliminary engineering authorization has been approved. If the local agency will be performing their own preliminary engineering and would like to receive federal reimbursement, they must submit a cost estimate to MoDOT for review and approval.

Preliminary engineering authorization will enable the local agency to receive reimbursement for charges incurred for preliminary engineering and miscellaneous right-of-way charges, such as title search and preliminary right-of-way estimates necessary to determine a proper location and design. Work performed by a consulting engineer requires prior approval of the consultant contract by MoDOT (See [Section 6](#)). Approvals for right-of-way acquisition must be acquired separately. Right-of-way acquisition should be in accordance with the LPA Land Acquisition Manual.

### ***Non-Roadway Type Projects***

Prior to the purchase of any item or the charging any work against any federal-aid project, the project must first be programmed and approved. Programming of all projects will be initiated by the local agency by submitting a copy of the TIP application to MoDOT.

MoDOT will obtain the necessary input from the State Clearinghouse under the Missouri State and Local Review Process. The local agency shall ensure that the project is included in the Transportation Improvement Program.

MoDOT will notify the local agency when project authorization has been obtained. Any work performed before the federal authorization date will not be eligible for reimbursement. If any work is to be performed by a consultant, it will also be necessary to obtain approval of the contract between the local agency and consultant before this work is eligible.

### **SAFE ROUTES TO SCHOOL**

For information on the selection of an SRTS project, please see Administrative Guidelines for Safe Routes to School at <http://www.modot.mo.gov/Safety/SafeRoutestoSchool.htm>. or contact the SRTS Coordinator at (573) 751-7643.