



U.S. Department
of Transportation
**Federal Highway
Administration**
Missouri Division

Memorandum

Subject: **ACTION:** Missouri Programmatic Work Plan for
Utilizing Alternative Technical Concepts for Design-
Bid-Build Construction Projects (SEP-14)

Date: August 26, 2019

From: Jeffrey Blanton, Assistant Division Administrator for
Kevin W. Ward, Division Administrator
Jefferson City, Missouri

In Reply Refer To:
Missouri Division

To: Gerald Yakowenko
Contract Administration Program Lead
Washington, DC

The Missouri Division office respectfully requests the approval of the Programmatic Work Plan for Utilizing Alternative Technical Concepts (ATC) for Design-Bid-Build Construction Projects submitted by Missouri Department of Transportation (MoDOT) on August 20, 2019 under Special Experimental Program (SEP-14).

This programmatic work plan that would allow MoDOT to utilize ATC on any federally-eligible Design-Bid-Build construction projects when deemed appropriate and beneficial as explained in the work plan. MoDOT has committed to an evaluation of the effectiveness of ATCs by using various performance measures and providing the FHWA MO Division office an annual report. The FHWA MO Division will be involved with the ATC projects through project specific reviews, approvals, meeting attendance and coordination.

The Missouri Division supports the submittal and would like to recommend a programmatic approval period of 5 years.

Thank you for your attention and please let me or Dawn Perkins of my staff know if you have questions.

/S/

Jeffrey Blanton
Assistant Division Administrator

Attachment

Programmatic Work Plan for Utilizing Alternative Technical Concepts for Design-Bid- Build Construction Projects (SEP-14)

Purpose and Scope

The Missouri Department of Transportation (MoDOT) and the Federal Highway Administration (FHWA) are entering into this programmatic work plan agreement to approve the use of Alternative Technical Concepts (ATC) on any federally-eligible Design-Bid-Build construction projects when deemed appropriate and beneficial according to the guidelines set forth in MoDOT's [Engineering Policy Guide \(EPG\), Article 147.1](#). Currently, each individual project requires a written work plan and formal approval prior to utilizing the ATC process. With this agreement, MoDOT and FHWA agree to programmatically approve the use of ATCs, a form of "innovative contracting" identified under the FHWA's SEP-14 program, without requiring a specific work plan and approval for each individual project.

Introduction

An ATC is a proposed change to agency-supplied base design configurations, project scope, design criteria or construction criteria. This change provides a solution that is equal or better to the requirement in the contract. In the broadest sense, ATCs are similar to value engineering, but they are made as a part of the bid proposal before contract award. ATCs provide flexibility to the bidders in order to enhance innovation and achieve efficiency. MoDOT has successfully used ATCs on a handful of projects since 2010. To assist in determining whether or not to pursue ATCs, MoDOT has published [Guidelines and Procedures](#) in the EPG. Additional resources include a [white paper](#) on the standard ATC contracting process and a list of [frequently asked questions \(FAQs\)](#).

MoDOT routinely performs a Project Delivery Determination process which includes a high-level risk assessment on projects that provide opportunity for significant value as a result of contractor input. The Project Delivery Determination includes evaluation of opportunities and obstacles attributed to both Design-Build and Design-Bid-Build. This information is used for decision making on choosing the appropriate delivery method for projects.

Following the decision to utilize Design-Bid-Build based on the outcome of the Project Delivery Determination on a project the owner should consider utilizing the Design-Bid-Build ATC process if the following conditions are present:

- a) Risks identified in the Project Delivery Determination are appropriate for this approach.
- b) The owner desires to achieve significant value from contractor input.
- c) Industry is acceptable to the approach.
- d) Owner resources are available.

Two-Step ATC Approval Process

Step 1: Conceptual ATCs (CATC) [defined in page 5 of [White Paper](#)] are confidentially submitted with enough supportive information that an opinion on the benefits, the drawbacks, and the cost and time impacts for design and construction can be made. The CATC is evaluated against the project goals and standards. MoDOT makes this decision on a pass/fail basis. Once a CATC is approved (a pass decision), the contractor may choose to pursue the ATC in more detail and submit it for final approval and inclusion in the bidding documents.

Step 2: The contractor must submit the original approved CATC and enough supportive documentation for MoDOT to determine whether all approved and appropriate standards and contract requirements can be met, that all potential impacts have been considered and are acceptable, that the cost and time impacts are acceptable, and that the resulting benefit/cost ratio as defined in the contract is acceptable. If determined acceptable, the ATC is approved and the necessary redesign is undertaken in order to provide the specific contractor with a set of contract documents and plans to bid the project. Each contractor with an approved ATC can choose to bid the approved ATC or can bid the base design that has been provided for the project. The bids will be accepted and compared using the low bid process.

The ATC process can require a significant time investment from the team members, including FHWA. To be successful, you must have time and resources committed to the process, and realize that multiple ATCs could develop in parallel with development of the base design. It is critical to have a good project management team with great time management skills and committed to the success of the process. Ideally, preliminary plans are shared with industry 9 to 12 months prior to beginning the ATC approval process. However, we have implemented on a much shorter timeframe, even within the 5-week advertisement. MoDOT does not alter the bid schedule when using the ATC process.

Proposal

In order to deliver projects as efficiently as possible, MoDOT requests approval under SEP-14 to utilize ATCs, a low-bid procurement process that integrates contractor experience and innovation. The intent is to capture the benefits of contractor's cost and time savings ideas through the use of a competitive process. Delivery of the process will be made within state and federal regulations for Design-Bid-Build jobs. The outline below follows the basic steps of the process.

- a) MoDOT and/or a consultant develop a base design of all proposed work.
- b) Contractors may, at their discretion, propose an ATC to complete the proposed work. Contractors choosing not to participate in the ATC process must bid the base set of plans furnished by MoDOT. MoDOT reviews the proposed ATC for acceptance.
- c) MoDOT informs contractors (confidentially) if their concept(s) are approved (or not approved) to be used when bidding on the project.

- d) Contractors submit bids based (in part) on their approved concept(s).
- e) Project is awarded to low bidder.
- f) MoDOT and/or a consultant complete the final design and quantities for the awarded bidder.

MoDOT is requesting programmatic approval to use ATCs on any federally eligible construction project per the guidelines in the [Engineering Policy Guide Article 147.1](#). In addition, MoDOT agrees to inform FHWA of the intent to evaluate the use of ATCs for specific projects in a timely manner. Per this notification, FHWA reserves the right to participate in the evaluation of the use of ATCs for the given project.

Roles and Responsibilities of MoDOT

MoDOT's Project Manager will have primary responsibility for ensuring an ATC project is executed in accordance with state and federal laws and regulations while implementing the project goals established for their respective project. The Project Manager has the responsibility of conferring with MoDOT subject matter experts, such as design, bridge, environmental, financial or Right of Way (ROW) staff, to assist in the decision making process, when appropriate. MoDOT's Design Division Bidding and Contract Services Engineer and the Design Liaison Engineer will serve as the main point of contact with FHWA for ATC projects. Each of these multi-disciplinary entities will comprise the ATC Review Team in collaboration with FHWA. Project specific submittals, approval requests, and coordination may be delegated to the Project Manager, with the approval and under the direction and supervision of the Central Office Design Division.

MoDOT will proactively coordinate and collaborate with FHWA to determine an agreed upon level of FHWA involvement in all facets of the project. MoDOT will coordinate project actions, approval requests, activities, submittals, core team status meetings, project coordination meetings with MoDOT and/or Contractor teams, and written or verbal coordination with FHWA. Written responses to FHWA submitted comments or inquiries will be provided in a timely manner.

Roles and Responsibilities of FHWA

The FHWA designated Transportation Engineer (TE) will have primary responsibility for ensuring an ATC project is executed in accordance with federal laws while implementing FHWA's Performance Plan and required stewardship and project involvement. The designated TE will serve as MoDOT's main point of contact for ATC projects in their respective MoDOT District. Project specific submittal reviews, approvals, meeting attendance and coordination may be delegated to other FHWA staff members, with the approval and under the direction of the designated FHWA TE.

FHWA will proactively coordinate and collaborate with MoDOT to determine an agreed upon level of FHWA involvement in all facets of the project. FHWA will provide timely

reviews of project submittals and written review comments. If the FHWA TE becomes unavailable during a review period, the FHWA Project Implementation Team Leader or FHWA Assistant Division Administrator may be contacted regarding all project-related issues.

Confidentiality

All members of the ATC review/approval team will be required to sign a confidentiality agreement before reviewing any ATC submittals. All ATC submittals are considered confidential and will not be shared with other bidders. An approved ATC is made public only if it is the low bid. Approved ATCs submitted by other than the low bidder are not disclosed.

It is understood MoDOT and FHWA staff will hold sensitive project information in the strictest confidence. It is understood both MoDOT and FHWA may, at times, require project involvement from respective internal and external specialist(s) (i.e., FHWA Headquarters or Resource Center experts) for specific aspects of the project where contractual, regulatory, or engineering expertise is needed. When this occurs, both MoDOT and FHWA will ensure that project confidentiality is maintained.

FHWA staff cannot sign project-specific confidentiality agreements. However, FHWA employees are bound by 18 USC 1905 which carries a criminal penalty if any employee discloses confidential information.

Guidelines and Evaluation

MoDOT developed guidelines for ATCs in MoDOT's [Engineering Policy Guide, Article 147.1](#). This article contains the basic guidelines, procedures, benefits, and potential drawbacks for using ATCs. [Guidelines](#), [FAQs](#), and a [white paper](#) are also provided. MoDOT will continue to evaluate the [effectiveness](#) of ATCs to ensure they are providing value and are being used on appropriate projects. See the [MoDOT All Savings Appendix and MoDOT 2018 Savings reports](#), and within them the "Acceptance of Alternate Technical Concepts" item that is being tracked annually.

Performance Measures

Tracker Measure 4d – Innovative Contracting Methods is MoDOT's performance measure that captures use of Design-Build, A+B Contracting, and Design-Bid-Build ATC at MoDOT. The target is 10% of MoDOT's total program (in dollars) be used on innovative contracting. MoDOT's Tracker can be found at <https://www.modot.org/tracker>. Measure 4d is in the Deliver Transportation Solutions of Great Value section.

In addition to the performance measure above: MoDOT will provide the following information:

- 1) Industry Reaction: MoDOT will record and track responses from the contracting industry, including an assessment of improvements to the process that may be proposed by industry.
- 2) ATCs Proposed: MoDOT will assess the number of ATC concepts proposed, the number of concepts approved for further development, and the number of concepts proposed at the time of bidding.
- 3) Time and Cost Savings: MoDOT will compare the cost of the Engineer's Estimate of the MOT concepts considered during design to the cost of the selected contractor's MOT plan. MoDOT will also evaluate any time savings from proposed MOT plans.
- 4) Lessons Learned: MoDOT will provide a summary of any lessons learned throughout the project and will include any items that may be improved for future projects that propose to utilize the technique.

Reporting

MoDOT will provide the FHWA Division Office with initial, interim, and final reports on this SEP-14 Programmatic work plan.

- a) Initial Report: At the end of Year 1, provide an initial report with the following information:
 - a. List all projects let during Year 1 using this contracting method
 - b. Report on Performance Measures above for Year 1 projects
- b) Interim Report: At the end of Year 2 and each succeeding year before the final year, provide an interim report with the following information:
 - a. List all projects let during succeeding years using this contracting method
 - b. Report on Performance Measures above for projects awarded during that succeeding year
- c) Final Report: At the end of the programmatic approval period, provide a final report with the following information:
 - a. List all projects let during the programmatic approval period using this contracting method
 - b. Report on Performance Measures above for projects awarded during the programmatic approval period

Periodic meetings will be conducted with MoDOT Design, MoDOT Construction and Materials, and FHWA to modify and improve the guidelines for using ATCs, as necessary. In the event significant changes are identified as necessary, those changes will be

communicated and coordinated with both Industry and the FHWA Missouri Division Office.

Summary of Projects

Since 2010, MoDOT has used ATCs on 6 projects. Examples of ATCs used on these projects can be found below and in [EPG 147.1](#).

- a) [J6I0984, I-70, St. Louis City \(Mississippi River Bridge\)](#)
- b) J5P2188, Missouri Route 5, Camden County (Hurricane Deck Bridge)
- c) [J9I2149, I-44 Pulaski County \(pavement\)](#)
- d) [J5P0892, US Route 65, Benton County \(pavement\)](#)