MoDOT

Missouri Department of Transportation
Patrick K. McKenna, Director

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September 4, 2024

Dear Research Partner:

The Missouri Highways and Transportation Commission requests proposals from qualified organizations—namely private consultants, universities, and research organizations—to furnish professional services as described in the following request for proposal to be coordinated by the Research Unit of the Construction and Materials Division.

Please submit a proposal for project **TR202505** entitled, **"Simple for Dead, Continuous for Live Load Steel Superstructures."** The submittal must include a work plan, the proposed project team and its background, and any related projects now active or recently completed by your firm. The project team must be led by a professional engineer licensed in the state of Missouri in accordance with the provisions of Chapter 327 RSMo, and the final part must be sealed.

The selection committee will use Qualification Based Selection. A "not to exceed" budget amount is included in the RFP to assist with the required scope, but budgets are not to be included with the proposal submissions and will not be presented to the selection committee.

Please submit all proposals to **MoDOTResearchRFP@modot.mo.gov** by **October 30, 2024** at **10 a.m. (Central)**. More information about project contracting in general can be found at https://www.modot.org/information-researchers under RFP documents.

Sincerely,

Jen Harper
Research Director

Attachment

MoDOT

Our mission is to provide a world-class transportation system that is safe, innovative, reliable and dedicated to a prosperous Missouri.

www.modot.org

Background

The use of Simple for Dead, Continuous for Live load (SDCL) steel superstructures on Missouri roadways can potentially save money on projects where the current standards (continuous for dead and live loads) are more expensive and/or cannot compete with concrete superstructures. Steel fabricators realize the potential for these structure types, but the savings cannot be fully realized without guidance and standards.

Objectives

The goal of this research project is to develop guidance with standard details for inclusion into Section 751.14 of MoDOT's Engineering Policy Guide. Guidance would include span configurations where this methodology is best value or can be competitive. Guidance is also needed to fill any design gaps not explicitly covered by the AASHTO LRFD Bridge Design Specifications. Standard details would include the superstructure detail over intermediate and end bents.

Project Requirements

Task 1: Project Management

The Contractor will facilitate a kickoff meeting with MoDOT to review the work plan, scope, and schedule; and establish a protocol for regular ongoing communication and coordination with the team. The Contractor will schedule and conduct quarterly project status meetings to review progress of the previous period and anticipated work for the next period. Meetings can be in-person or online. The Contractor will also develop minutes for the kickoff meeting and each of the quarterly status meetings. The finalized work plan will detail implementation of the following tasks as well as the resources and schedule required to carry them out.

The Contractor is required to submit a **Data Management Plan (DMP)** to MoDOT within 2 weeks after the project kickoff meeting. The plan will describe the anticipated format(s) of the Contractor's data and related files they will use. The DMP should address how the Contractor will use platform-independent and non-proprietary formats to ensure maximum utility of the data in the future. Please refer to the DMP fillable form on the **website**.

Task 2: Literature Review

A thorough literature search of other research and review of other state DOTs practice for using this approach would be included in the scope of developing guidance.

Task 3: Verification Modelling

The Contractor will perform modelling of a steel structure(s) with the recommended load transfer mechanism and construction details to verify the expected performance of the SDCL structure. Structure types should be limited to steel plate girder and steel rolled shapes. The Contractor will provide a software modeling comparison between traditional continuous steel girder span (continuous for dead and live) and this novel SDCL span design.

Task 4: Develop Guidance for MoDOT's Engineering Policy Guide

The Contractor will develop guidance for inclusion into Section 751.14 of MoDOT's Engineering Policy Guide for the following areas:

- Standard details for SDCL load steel girders including superstructure details over intermediate and end bents.

- Standard details for intermediate bents showing the superstructure connection with the cap beam. These details should address the various categories of seismic design.

- Span configurations where this methodology is the best value or can be competitive.

- Fill any design gaps that are not explicitly covered by the AASHTO LRFD Bridge Design Specifications.

- Create design aids to assist in the development of SDCL girders.

- Guidelines for analyzing SDCL using conventional software built for continuous for dead load and live load structures should be considered.

- Develop a table or graph showing simple span length versus girder size and girder spacing.

- Show a cost comparison between traditional continuous steel girder span (continuous for dead and live) and SDCL steel. Show separate costs for materials and construction between these two methods.

Task 5: Develop Draft Report and Research Summary

The Contractor will prepare a draft Report and Research Summary along with all accompanying documentation identified as beneficial during the study. These drafts should be a complete Report and Summary except for revisions based on MoDOT's review. A final report must include a completed Technical Report Documentation page. Please refer to the Publication Guidelines and summary template on the **website**.

Task 6: Develop Final Report, Research Summary, and Presentation

The Contractor will develop a final report detailing the tasks completed during the project, including any and all findings generated during the project's duration. The Contractor will provide a 1-2 page research summary that states the project objectives, findings and conclusions. A presentation for MoDOT staff summarizing important or significant details of the project must be provided. Please refer to the Publications Guidelines for the report and research summary, which can be found on the **website.**

Project Deliverables

For templates and forms for reports and plans, visit **https://www.modot.org/information-researchers**

Communications

E-mail and phone communications between the Principal Investigator(s) and MoDOT contacts are required to provide on-going updates of progress throughout the project.

Data Management Plan

The plan is a formal document that describes the data that is acquired, created, or produced during the project. It specifies who owns it and who can access it explains how it will be described, managed, analyzed, stored, shared, and preserved during and after the project is over. Please refer to the DMP fillable form on the **website**.

Quarterly Reports

Quarterly reports should be submitted throughout the project on the 15th day of April, July, October, and January. The quarterly reports are not intended to replace any additional correspondence between the research team and MoDOT needed to keep the project moving. Please refer to template on the website.

Interim Presentation

An interim presentation shall be scheduled near the mid-point of the project to update MoDOT on the progress and the direction of the project. The purpose of the interim presentation is to evaluate the progress and determine if any mid-project corrections are necessary.

Draft Final Report and Research Summary

These drafts should be complete except for revisions based on MoDOT's review. A final report must include a completed Technical Report Documentation page. Please refer to **Publication Guidelines** and summary template on the website.

Final Report and Final Research Summary

After MoDOT's review is complete and documents have been edited to MoDOT's satisfaction, final documents should be submitted as Word documents (unless otherwise instructed). Please refer to **Publication Guidelines** and summary template on the website.

Final Presentation

The Contractor will present the results, recommendations, and implementation ideas to MoDOT and other stakeholders. The Contractor will coordinate the meeting location and date with MoDOT. For stakeholder and agency participants, any travel and lodging fees are to be covered by individual attendees or their firms. MoDOT and stakeholders will provide feedback, especially comments about implementation, to the contractor.

Task-Specific Deliverables

Task	Deliverables
1	Meeting agenda, minutes, and data management plan.
4	Language for MoDOT's Engineering Policy Guide
5	Draft report and summary
6	Final report, summary, and presentation

Project Schedule

The following is an estimate of the project timeline and information on key dates within the project, presuming the project starts January 2, 2025. Proposals need to include a work plan with a proposed timeline. For an example of a work plan template, see link below. Changes to our estimated project timeline below will be considered, however, timeline extensions cannot be guaranteed. If the Contractor believes the project can be completed sooner, please include a revised schedule with the proposal. The project timeline will be discussed and finalized during the kickoff meeting.

For report templates and forms, visit **https://www.modot.org/information-researchers**.

Date	Milestone
1/15/2025	A kick-off meeting with MoDOT will be scheduled to discuss project requirements and deliverables. The dates of key milestones and deliverables will be determined from this meeting.
1/15/2025	Data management plan due.
1/5/2026	Draft language for the MoDOT Engineering Policy Guide due.
2/9/2026	MoDOT comments on EPG language submitted back to Contractor.
4/1/2026	Draft final report, draft summary report, other deliverables are due. The draft documents shall be submitted to MoDOT approximately two months prior to the final report.
6/1/2026	Final report, summary report, and presentation are due. The final documents shall be due approximately one month before the end of the contract. This is to allow all billing to be completed prior to the end of the project.
7/1/2026	Final invoice due and contract ends.

Special Notes

This document constitutes an RFP from qualified organizations to conduct the **TR202505 Simple for Dead, Continuous for Live Load Steel Superstructures** study for the MHTC and Missouri Department of Transportation (MoDOT). MHTC reserves the right to reject any and all proposals for any reason whatsoever.

Project budget is not to exceed $300,000. A budget is not to be included in the proposal but will be required for the contract and must be within this limit. For a Budget template, report templates and forms, see **https://www.modot.org/information-researchers**.

All questions, information, data and/or manual requests regarding any aspect of the RFP details or process for submissions should be submitted to **MoDOTResearchRFP@modot.mo.gov** by the date and time listed in the "RFP Schedule" section of the RFP. This is the only acceptable method for contact regarding the RFP and contacting MoDOT employees via other methods is prohibited. Not adhering to this rule is cause for disqualification of the proposal.

All information technology applications must be developed using one of the approved technologies below. Contractors may not use third-party tools or software that would place a licensing responsibility on MoDOT without prior review and approval of the tools and/or software by MoDOT's Information Systems Best Practices Review Team (BPRT) and IS management.

- Application Runtime/Framework
  - .NET 6.0 or .NET Framework
    - A currently supported .NET 6.0 or above release should be used unless there is a specific need for .NET Framework. If a .NET Framework is needed, a currently supported 4.8 release or above must be used. (See **.NET and .NET Core official support policy (microsoft.com)**)
    - Web applications must use either the MVC, Razor Pages or Web API framework.
    - Library dependencies used in the application should be reviewed/updated on an annual basis.
  - .NET and .NET Core Official Support Policy - Learn about .NET and .NET Core support policies, which refer to several technologies including the runtime, ASP.NET Core, and Entity Framework Core.
- Programming Languages – The following are the approved programming languages that should be used for new development:
  - C#
  - JavaScript
  - CSS
  - HTML
  - Python* (Python is reserved for use in ESRI scripts and other small one-time uses. Large scale use of Python requires approval from BPRT. The Python programming language is incorporated into the setups of ArcGIS Desktop, ArcGIS Pro, and ArcGIS Enterprise. For other platforms a version 3.x of Python from www.python.org should be used.)
- Client-Side Software Packages
  - All customer applications should be Web Based, browser applications. Applications should be tested and designed to use the latest IS approved browser(s) at a minimum.
  - No client-side software, other than a modern browser, should be required to run the web application. Examples:

- - No Java Applets
    - No Silverlight
- On Premise Database Deployments – These shall be run on:
    - Oracle 19C; or
    - The application should be designed and maintained to run on the latest supported version of SQL server. In certain cases, Microsoft SQL Server 2016 or higher can be used if approved by the MoDOT IS Data Service Management team.
- Personal Identifiable Information (PII): No PII can be stored in any database table unless the application has a specific business need to use that data. All PII data that is stored must have approval from MoDOT's IS Cyber Security Team.

- Accessibility: All web applications must meet the standards established in **State of Missouri's Accessibility Standard**, which is based on Section 508 of the Rehabilitation Act (as amended) and Web Content Accessibility Guidelines. (See **Accessibility (mo.gov)**.) All web applications must adhere to the W3 Web Content Accessibility Guidelines 2.1 with an "AA" level of conformance (**WCAG 2.1 AA**).

- Copywrite and Attribution: Never use text, diagrams, photographs, audio, multimedia, program source code, script, or graphics from another author's web pages unless the author explicitly states that it may be freely copied, or you make appropriate arrangements with the author. Vendor logos, branding, or other company endorsements must not appear if there is a supported option and there is a licensed way to eliminate them from the display.

RFP Requirements

- "Contracting Documents" provide further details and links to the required forms. They are available at https://www.modot.org/information-researchers.

- **Offeror's Project Experience**: The proposal must clearly identify the Offeror's experience in offering the services requested in this RFP during the past three (3) years. The description should include a list of the agencies which your organization has served during this time period or currently serves. Please highlight any work you have done with other state agencies or local governments.

- **Team Member Experience**: Please list all team members (including subcontractors) proposed to work on the project. Attach licenses, certifications and resumes for key personnel.

- **Offeror's Client References**: Proposals should indicate the name, title, and telephone number of at least three clients within the past three years.

- Proposals must be no more than ten (10) pages in length with a font size no less than 12 points. This length limit **does not include** the Proposal Submission Form, Offeror's Project Experience, Team Member Experience, Offeror's Client References, and may include optional cover letter (if included, one (1) page maximum).

- Proposals must be submitted as one combined PDF document. The submission should **only include the required documents** organized in the following order: 1) Proposal Submission Form; 2) Cover Letter (Optional; 1 page maximum); 3) Body of Proposal (including work plan

and project schedule); 4) Offeror's Project Experience; 5) Team Member Experience; and 6) Offeror's Client References.

- The Offeror must respond to this RFP by submitting all the information required herein for its proposal to be evaluated and considered for award. Failure to submit all the required information shall be deemed sufficient cause for disqualification of a proposal from consideration.

- Proposals will be evaluated by an agency and stakeholder team with knowledge and backgrounds in relevant areas for this project. Selection of the successful Offeror will be based on the Offeror's demonstrated knowledge in the required areas, the merit of the proposed methods, approach in achieving the desired goals, the experience and qualifications of the team, the plan for ensuring implementation of results, and the adequacy and availability of team members to complete the work in a timely manner.

- Correct proposal submission is one of the evaluation criteria. If submission instructions in this section are not followed, the Offeror **risks an automatic 10 point deduction (out of 100 total points)** when points are awarded during the Proposal Evaluation Process.

RFP Schedule

The following RFP Schedule of Events represents MoDOT's best estimate of the schedule that shall be followed. The time of day for the following events shall be between 7:30 a.m. and 4:00 p.m. Central unless otherwise noted. MoDOT reserves the right at its sole discretion to expand this schedule, as it deems necessary, without any notification except for change in the deadline date for submitting a proposal. Time is of the essence for responding to the RFP within the submission deadlines.

The following timeline must be met for a proposal to be accepted.

Date	Action
9/4/2024	MoDOT posts RFP to the website at https://www.modot.org/research-requests-proposal.
9/25/2024 4 p.m. (Central)	Comments or questions must be submitted to MoDOTResearchRFP@modot.mo.gov. This is the only acceptable method for contact regarding the RFP and contacting MoDOT employees via other methods is prohibited. Not adhering to this rule is cause for disqualification of the proposal. This includes all requests for information, data, and manuals.
10/9/2024	MoDOT will post responses (to any questions or comments submitted) publicly on the website at https://www.modot.org/research-requests-proposal.

Date	Action
10/30/2024 10 a.m. (Central)	Proposals must be submitted to MoDOTResearchRFP@modot.mo.gov. Do not consider your proposal submitted until you receive notification of receipt. A notification should be sent by noon of the same day.
11/27/2024	MoDOT will notify submitters about project selection or if needed, about interviews to finalize selection.

Contracting Requirements

The award of this RFP is subject to a post-award negotiated contract. If the parties are unable to agree to terms in the post-award contract, MHTC shall reserve the right to cancel the award of the RFP and contract and select a different Offeror.

The successful team will be required to complete additional documentation and enter into a contract such as a "Standard Research Agreement" or "Task Order." Applicants should be aware of these additional needs so contracting can proceed in a timely manner. A copy of the Standard Research Agreement can be found on the website at https://www.modot.org/information-researchers. Any modifications to the Standard Research Agreement / contract must be submitted with the Offeror's proposal.

As part of the eAgreements process, MoDOT uses an electronic signature tool, DocuSign, for signing agreements electronically. All parties of the agreement must agree to sign electronically in order to utilize the electronic signature option. If your proposal is selected, you will be informed about how to obtain your credentials for electronic signatures (including how to become a MoDOT vendor if you are not already).

Standard contracts, forms, attachment templates and additional information are available at **https://www.modot.org/information-researchers**.

Proposal Submission Information

Submission Deadline

Proposals must be emailed by 10 a.m. CST according to the time stamp on the due date indicated. Any form containing a signature line in this RFP and any amendments, pricing pages, etc., can be electronically signed or manually signed and scanned and returned as part of the proposal. Please reference the project number and title since more than one RFP may be due at a time. They are to be emailed to the Research Director at **MoDOTResearchRFP@modot.mo.gov**.

Submission Confirmation

You will receive an email confirmation after your proposal has been received. If you do not receive such a confirmation by noon CST on the day of the deadline, please contact us at **MoDOTResearchRFP@modot.mo.gov** as soon as possible. Your submission should not be considered received until you have received your email confirmation.

Public Inspection

The Offeror is hereby advised that all proposals and the information contained in or related thereto shall be open to public inspection. MHTC does not guarantee nor assume any responsibility whatsoever in the event that such information is used or copied by individual person(s) or organization(s). Therefore, the Offeror must submit its proposal based on such conditions without reservations.

Clarification of Requirements

Any and all questions regarding specifications, requirements, competitive procurement process, or other questions must be directed to the Research Director at **MoDOTResearchRFP@modot.mo.gov** by the date and time listed in the project schedule.