



Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001

Memorandum

To: RRC Members
Steve Albert/WTI
Debbie Alke, Administrator/ Aeronautics Division
Mike Bousliman, Administrator/Information Services Division
Jeffery M. Ebert, P.E./District Administrator-Butte
Larry Flynn, Administrator/ Administration Division
Dwane Kailey, Administrator/Highways and Engineering Division
Bob Seliskar/FHWA
Jon Swartz, Administrator/Maintenance Division
Mike Tooley/Director
Duane Williams, Administrator/Motor Carrier Services Division
Pat Wise/Deputy Director
Lynn Zanto, Administrator/Rail, Transit, and Planning Division

From: Susan C. Sillick, Manager
Research Programs

Date: December 31, 2014

Subject: October 31, 2014 RRC Meeting Notes

RRC members present: Steve Albert, Mike Bousliman, Dwane Kailey, Sue Sillick, Mike Tooley, Duane Williams, Pat Wise, and Lynn Zanto.

Other present: Danielle Bolan, Kevin Christensen, Kris Christensen, Jim Davies, Chris Dorrington, Doug McBroom, Roy Peterson, and Lesly Tribelhorn.

1. **Budget Report:** Attached

It was asked why the projected amount of available federal funds increases over time. Sue noted that projections are carried out through current obligations, which can be as far out as seven years in the future as that is the time limitation for contracts. Since we solicit for research projects annually and approve funding for new research projects as needed, our obligations for future years are not as high as our current obligation. Sue added that this is somewhat of an artifact as we don't know what projects we will approve in future years.

2. **Research Projects - current listing:** Attached

An update was given on the projects approved for the 2014 solicitation projects moved forward to technical panels in May and two additional projects

- ★ Availability and Disparity Study - The SOW was approved by the RRC on 10/22/14 via e-mail ballot. The RFP was drafted and sent to DOA to be issued; the RFP was issued on 10/29/14.
- ★ 14-002 (UHPC for use in MT Bridges), 14-007 (3/4" Crushed Base Course), 14-020 (Land Mobile Radio) - Proposals are pending for these projects.
- ★ 14-016 (Enterprise Architecture) - The RFP is in development.
- ★ 14-017 (Top-down Construction Cost Estimating) - The proposal is on this agenda for funding approval.
- ★ 14-019 (RWIS) - The technical panel is reviewing this proposal.
- ★ 14-021 (Unbalanced Bidding Patterns) - The technical panel is recommending this project be cancelled at this meeting.

Of the 13 new projects from the 2014 solicitation and two additional new projects, one is recommended for cancellation, one proposal is pending RRC funding approval, three are in the RFP process with one being issued already, four are pending final proposals, five are in the SOW development and review stage, and one is pending WTI facility development.

- a. Advanced Method to Detect Unbalanced Bidding Patterns Using Historical Bid and DWR Date (14-021) - Project Cancellation

Kevin Christensen was present on behalf of the technical panel to recommend this project be cancelled. Kevin indicated there is quite a bit of information on this topic already available and it is somewhat of a rare occurrence. Also, MDT's approach to unbalanced bidding is similar to other states. Finally, we have software in place to identify unbalanced bidding.

The RRC had no issues with cancelling this project.

- b. Bakken Impacts on Montana Highways - 2014 Update

Chris Dorrington indicated an update on the subject research should be completed as there are changes in technology with the newer super pads and changes in the amount of sand needed. However, he stated it is probably premature at this time because traffic data hasn't been updated yet. Chris also suggested we should wait two years before updating the previous study. He requested this topic be tabled pending the 2015 solicitation cycle.

Dwane stated that we need to be cognizant of the drop in oil prices; below a certain price, it will no longer be advantageous to extract oil from the Bakken region. Dwane stated he thought the breakeven is between \$70-\$80/barrel.

This topic has been tabled pending the 2015 research topic solicitation cycle.

- c. Availability and Disparity Study -

Sue noted the RFP was issued on 10/29/14.

d. RWIS (14-019)

Mike Bousliman expressed concerns with this project duplicating an ISD project. However, it was explained that ISD staff was invited to the first technical panel meeting where it was made clear that while the efforts are related, they are separate. This project is specific to the future direction of RWIS sites while ISD's project is on traveler information

Doug McBroom requested to be added to the technical panel.

3. **Reports:** Available on Research [website](#)

No discussion

- a. [2014 Montana Summer Transportation Institute](#)- Final Report
- b. [Impacts of Increased Canadian Economic Development \(ICED\) on Northern Montana Highways Phase 2](#) (12-022)- Final and Project Summary Reports

4. **Proposals:** Attached

a. **Special Event Traffic Planning Synthesis**

This proposal was presented for funding approval by Danielle Bolan on behalf of the technical panel. This is a synthesis project, the purpose of which is to document existing special event traffic management practices in Montana, identify best management practices used across the U.S. that are applicable to Montana, and provide MDT with recommendations for implementing traffic management strategies for special events.

Dwane indicated this topic is timely as signal timing updates will be done by 2018.

Lesly asked if the results could be used for work zones. Danielle indicated likely we will not be able to use then results for work zone situations.

Steve indicated a large part of special event traffic planning relies on and cost for is due to enforcement.

Duane indicated others beyond MDT play a role. Danielle indicated a separate task would be to identify what local agencies are doing in each of the communities. Lynn added that we are correct to initially focus on MDT. If we decide to take it further than this project, we will need to include local governments.

Dwane made a motion to fund this project at \$28,464.28. Mike Bousliman seconded the motion. All RRC members present voted in favor of the motion. The motion was approved; research staff will proceed with contracting.

b. Top-down Construction Cost Estimating Model/Guide Using a Neural Network Within Off the Shelf Spreadsheet and Database Programs

On behalf of the technical panel, Lesly Tribelhorn presented a request to approve funding for this project. The purpose of this research is to leverage the work of NCHRP 15-51: *Guide for Estimating Preconstruction Services Costs*, by extending the parametric models developed for preliminary engineering, right of way, etc. to the estimating of construction project cost at the earliest stages of project planning and development. Lesly explained that the “system” to be developed will “learn” and will continually be updated with the most recent cost information; the model will continually evolve as information changes. The result is decreased uncertainty and increase confidence in construction project cost estimating, with the tool providing confidence levels.

The proposal includes an ISU student intern for MDT. This intern will be able to gather data and spend time with MDT staff to learn from estimators and others. Estimators will be able to practice with the new tool, the information from which will assist in tool and guidance development.

Data will be pulled from PPMS and Site manager for this project. Also, one set of data will be used in tool development, with a different set of data being used to test the model.

Users will be trained on use and maintenance of the tool.

Dwane indicated we see projects with a wide range of cost increase from planning to construction bids, from 10% - 200%.

Mike Bousliman asked if ISD staff is involved in this project; Kris responded that Bob Antonick is on the panel. Lynn asked if Jim Skinner is involved; Kris responded that Jim is on the project panel.

Dwane made a motion to approve funding for this project at \$131,955. Pat seconded the motion. All RRC members present voted in favor of the motion. The motion is approved; research staff will complete contract negotiations and contracting.

c. Western Maintenance Partnership Pooled Fund Study

Doug McBroom was present to request funding for this pooled fund study. The purpose of this pooled fund study is to provide a focused look at maintenance within the WASHTO states to share experiences, innovations, expertise, and solutions in regards to the management of highway assets. It will include website development and travel for participants to enhance information sharing.

Duane made a motion to support this pooled fund study at a total of \$15,000 for the first three (of five) years of this study. Dwane seconded the motion. All RRC members present voted in favor of the motion. The motion is approved and research staff will

commit the funds on the pooled fund study website and obligate the funds through FHWA.

5. **Implementation/Performance Measures/Technology Transfer - None**

6. **Department/Division Hot Topics - RRC Members Roundtable Discussion**

Lynn stated the Rail, Transit, and Planning Division has completed the rest area plan and the railroad grade separation study.

Mike Tooley stated we survived the TCP process. Lynn stated we are updating the map and preparing a STIP amendment.

Steve indicated WTI has received a number of funding awards, including the lead for two Centers of Excellence. The first award is for a regional workforce development center for the western U.S, involving 10 western states and multiple agencies (e.g., DOLs, DOTs, DOEds, etc.) within these states. The Center will focus on recruitment, training, and other professional development and will have an advisory committee. The second Center will focus on rural road safety, through which training, technical support, and other information will be provided to transportation practitioners around the country. There is the opportunity for MDT to be represented on the steering committee for this Center. Pat was glad to hear about the workforce development center award and mentioned the MDT-MSU Design unit as one model.

Duane asked about the use of research funding for travel to meetings and to conduct peer exchanges. Regarding the former, Sue indicated research funding can be used for travel to meetings for presenters and technology transfer purposes. Lynn indicated planning funds can be used for tuition assistance. Regarding the latter, Sue stated research funding can be used to attend and/or conduct peer exchanges as they are a technology transfer function.

Mike Bousliman stated ISD is exploring a high school internship where MDT pays for a two-year associate degree for a four-year commitment.

Copies: Craig Abernathy/Research Section
Audrey Allums/Grants Bureau
Kent M. Barnes, P.E./Bridge Bureau
Katy Callon/Research Section
Kevin Christensen/Highways and Engineering Division
Kris Christensen/Research Section
Ryan Dahlke, P.E./Consultant Design Bureau
Chris Dorrington/Multimodal Programs Bureau
Lisa Durbin/Construction Administration Bureau
Mike Dyr Dahl/Engineering Operations Bureau
Ed Ereth/Data and Statistics Bureau
Paul R. Ferry, P.E./Highways Bureau
Dave Hand/District Administrator-Great Falls
Paul Jagoda, P.E./Construction Engineering Services Bureau

Tom Martin, P.E./Environmental Services Bureau
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Jerry Stephens, P.E./WTI MSU
Stefan Streeter, P.E./District Administrator-Billings
Matt Strizich, P.E./Materials Bureau
James A. Walther, P.E./Highways and Engineering Division
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