

MEMORANDUM

To: RRC Members
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
Tim Reardon, Director
Bob Seliskar/FHWA
Jerry Stephens, P.E./WTI MSU
Jon Swartz, Administrator/Maintenance Division
Duane Williams, Administrator/Motor Carrier Services Division
Lynn Zanto, Administrator/Rail, Transit, and Planning Division

From: Susan C. Sillick, Manager
Research Programs

Date: April 6, 2012

Subject: 3/28/2012 RRC Meeting Notes

Action items are underlined.

RRC Members Present: Debbie Alke, Mike Bousliman, Jeff Ebert, Larry Flynn, Dwane Kailey, Sue Sillick, Jerry Stephens, , Dwane Williams, and Lynn Zanto.

Others Present: Kris Christensen, Chris Dorrington, Dave Hand, Doug McBroom, Priscilla Sinclair, Matt Strizich, and Deb Wambach.

1. **Budget Report:** Attached

No discussion.

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

No discussion.

3. **Reports:** Available Upon Request

No discussion.

- a. **Determination of Material Properties and Deflection Behaviors for Contemporary Prestressed Beam Design (10.009) – December 2011 Progress Report**

- b. **Feasibility of Reclaimed Asphalt Pavement (RAP) in Portland Cement Concrete Pavements (PCCP) (09.004)** – January 2012 Progress Report and March 2012 Meeting Presentation
- c. **LTAP** – January 2012 Progress Report
- d. **Montana Intercity Bus Service (10-015)** – *Final Report*
- e. **Steel Pipe Pile/Concrete Pile Cap Bridge Support Systems (09.016)** –December 2011 Progress Report
- f. **US 93 North Post-Construction Wildlife-Vehicle Collisions and Wildlife Crossing Monitoring and Research-** February 2012 Progress Report
- g. **Recycling Recovered Traction Sanding Material (09.08)-** January 2012 Progress Report and Task 1 Report
- h. **Automatic Crash Notification-** February 2012 Progress Report

4. **Contract Extensions:** None

5. **Proposals:** Attached

- a. **Evaluating Wildlife-Vehicle Collisions and Habitat Connectivity in the Madison Valley (11-007)**

Deb Wambach was present to discuss this proposal on behalf of the Technical Panel, who recommend this proposal for funding.

The objective of this project is to determine the effect of the major highways in the Madison Valley on wildlife mortality and movement patterns or connectivity. The study area is the US 287 corridor from Norris Hill to the junction of US 191 and includes the portion of MT 87 from the US 287 junction to Reynolds Pass on the Montana-Idaho border. This study area was expanded from the area previously discussed. The tasks to achieve this objective include: 1) literature review, 2) gather existing data and reconnaissance, 3) road kill surveys, 4) wildlife monitoring, 5) GIS development (the goal is to eventually have a statewide database), 6) data analysis, and 7) mitigation recommendations.

Jeff Ebert asked about the breaks in the study area (page 3 of the proposal). Deb responded that the study focus areas are those most critical to habitat connectivity.

Dwane Williams asked why the Madison Valley. Deb responded that there are a number of factors leading to the need for wildlife research in this area, including: 1) strong local interest, 2) active county growth policy, 3) previous research upon which to build, and 4) the area is a critical wildlife corridor coming out of Yellowstone National Park. Local owners want to place fencing and MDT Environmental staff wants to use this research to help guide these local decisions. MDT will use the results of this research as the basis for future wildlife evaluations and construction projects.

This project is 2.5 years in duration and costs \$212,530.

Lynn made a motion to fund this project. Dwane seconded the motion. All RRC members present voted in favor of the motion. The motion passed. Research staff will execute a contract for this project.

b. Design and Analysis Procedures for Asphalt Mixtures Containing High RAP Contents and/or RAS Pooled-Fund Study

Matt Strizich was present to discuss this project.

The objectives of this pooled-fund project are to 1) establish mechanistic test criteria for asphalt mixtures (warm and hot) containing high recycled asphalt pavement (RAP) and/or reclaimed asphalt shingles (RAS); and 2) propose asphalt mixture specifications that incorporate the mechanistic criteria based on the results of the study.

MDT allows RAP to be used in highway projects, but limits it to 30% in the lower lifts and 15% in the top lift. Current AASHTO recommendations make it difficult to design asphalt mixtures with high RAP contents. Disposal of RAP is becoming more and more difficult, since counties don't have the funds to place or use it. In addition, aggregate availability is an issue in some locations. Increasing the amount of RAP used in construction projects will result in huge cost savings due to less hauling of aggregate, disposal of RAP, and virgin oil used with RAP. Also, Matt would like to get ahead of legislation on this topic. Already, there is legislation requiring MDT to use more recycled materials in general.

In addition, this project will investigate the use of RAS. Matt needs to clarify whether the shingles are tear-offs or factory shingles. In Montana, the tear-offs would be used, which are less clean than factory shingles.

Dwane noted the project is being led by the Louisiana DOT and questioned whether the results would be applicable to Montana. The purpose of our participation is to buy a seat at the table to ensure the results are applicable to Montana. Matt will have this discussion with LADOT prior to funds being obligated. Matt will also clarify the type of shingles to be used in this research.

Funding is required at \$28,000 per year for three years, totaling \$84,000.

Dwane made a motion to fund this project. Lynn seconded the motion. All RRC members present, except Larry, voted in favor of the motion. The motion passed. Larry explained he believes there is too much variability in how we deal with tear-off shingles and in the aggregate and oil used in the northern states as compared to the southern states. Sue will commit funds on the pooled-fund website if Matt determines the research results will be applicable in Montana. If so, Sue will then obligate funds after the study reaches the funding requirement and is cleared by FHWA.

c. Impacts to Montana State Highways Due to Bakken Oil Development

Sue commented that this proposal is currently in draft form. Comments on the proposal were sent to the Principal Investigator at North Dakota State University (NDSU). This draft proposal was added to the agenda because this project is time-sensitive. NDSU is the prime for this project as they completed a similar project for the NDDOT.

Chris Dorrington was present to discuss this proposal.

The objective of this research is to assess the impact of oil-related development and production on Montana highways. A forecasting tool will be developed whereby truck movements are determined within region(s). Also, truck movements will be assigned to Montana state highways and their impact determined.

Pavement degradation due to increased traffic volume and the high percent of trucks is significant. Transportation infrastructure is a critical link in providing for local transportation demands and for regional economic development. A GIS-based model for the state highway network, predicting route and location of impact, will provide a framework for prioritized project selection within the affected region.

Cities and counties are impacted and are requesting funding. The cities and counties are at vastly different levels of preparedness. This research will help MDT staff to make informed decisions in the affected area and in relation to statewide needs. Chris suggested at some point we may want to reach out to Montana state agencies in areas other than transportation, such as health and human services, that are impacted by oil production and development as well.

Mike asked about the products of this project. We will have a routable GIS network that we will own and maintain. Mike also commented that the budget area of the proposal was not as detailed as we are used to in the proposals from WTI. Sue said these were a part of the comments already sent to the Principal Investigator and we will have an itemized budget before contracting.

Jeff asked if this will be a part of P³. Lynn and Chris responded that there is no way to automatically enter this into the P³ process. However, the information will be used at the project level in the decision making process. It is potential this could be added to the P³ process as a network effect at a later date.

Chris closed in commenting that there is a swelling need for this information, it should help the districts in determining needs, and it will feed into the P³ process.

This project is about a year in duration with critical information for possible legislative action being provided in September. The project cost is \$110,000.

Larry made a motion to fund this project. Lynn seconded the motion. All RRC members present voted in favor of the motion. The motion passed. Once the final proposal is received, Sue will execute a contract.

d. **A Peer-to-Peer Traffic Safety Campaign Program (11-009)**

Priscilla Sinclair was present to discuss this proposal on behalf of the technical panel, who recommends this proposal for funding.

The objectives of this project are to evaluate the Texas Peer-to-Peer young driver safety program in rural and urban Montana-specific applications and to use this program as a model for subsequent implementation of its best practices in communities across the state. Priscilla stated Texas saw a 33% decrease in young driver crashes.

This project directly supports MDT's Comprehensive Highway Safety Plan (CHSP) goals of reducing the number of young driver fatal and incapacitating injury crashes, and saving the lives of those passengers not yet licensed. The project and its subsequent implementation will increase awareness among young people of the dangers associated with driving and riding in a vehicle, the measures they can take to mitigate these dangers, and the importance of taking responsibility for their own driving and safety.

Lynn added that we can't just implement the Texas program in Montana due to Montana's rural nature. This project will provide the information to implement this program in Montana.

This project is 16 months in duration and costs \$134,973.

Jeff made a motion to fund this project. Lynn seconded the motion. All RRC members present voted in favor of the motion. The motion passed. Research staff will execute a contract for this project.

d. **Re-Evaluation of Montana's Air Quality Program (11-006)**

Doug McBroom was present to discuss this proposal on behalf of the technical panel, which recommends this proposal for funding.

The objectives of this project are to:

- Determine the best use of CMAQ funds for each of Montana's transportation-related pollutants,
- Determine project recommendations that are the most cost effective for long-term air quality standards attainment,
- Determine needed funding and program policy changes,
- Identify areas prone to future transportation-related pollutants, and
- Determine need for education in Montana communities on best practices to prevent nonattainment of transportation-related pollutants.

Jeff asked about the proposal selection criteria. Doug noted there were five proposals, none of them were Montana companies, and the selection criteria were qualifications, experience, research methods, and references. Sue added that cost is not typically a part

of the selection criteria for Research RFPs as we are seeking the best approach to the issue, qualifications, and experience. Usually, the successful proposal is in the middle when compared to the costs for all proposals.

Doug reviewed the MACI and CMAQ programs, funding sources, and funding requirements. This research may affect the distribution of MACI-D funding, which is discretionary with funding totaling about \$3 M/year.

The project is eight months in duration and costs \$134,563.

Lynn made the motion to fund this project. Dwane second the motion. All RRC members present, except Jeff, voted in favor of the motion. The motion passed. Research staff will execute a contract for this project.

6. Implementation/Technology Transfer: None

7. Department/Division Hot Topics – RRC Members Roundtable Discussion

a. Solicitation

Sue announced the annual solicitation for research ideas was distributed the week of March 19th. Research ideas are due by 4/30/12 and champions will present their topics at the May RRC meeting.

b. WTI Funding

The University Transportation Center (UTC) program is federally-funded. Up through September 2011, there were approximately 60 federally funded UTCs. WTI was one of these UTCs. As a national UTC, WTI received \$3.5 M each year. For FFY 2012, USDOT determined the objectives of the legislated UTC program were met. The program was cancelled as it was and reinstated as a different UTC program. An RFP was issued to fund 22 UTCs. WTI was not selected through this process.

Federal funding comprised about 30% of WTI's total funding, which required a 1:1 match, and covered such items as Jerry and Steve's salary, students salary and tuition, and administrative staff (editors, and communications and finance staff). Some WTI staff have already been laid off. As of 5/15/12, Jerry will no longer be supported by UTC funding.

One key service that used to be included in project proposals with support from UTC funding, but will now require additional project funds is editors' review of project deliverables. In addition, as WTI's Research Director, Jerry and Sue communicated quite frequently about project and program issues as they arose. This facilitated coordination and collaboration between WTI and MDT. The time available for these discussions has decreased significantly and will no longer be available as of 5/15.

This current UTC program is funded for one year. The pending highway legislation dictates yet another UTC program.

Dwane reminded everyone that MDT's Research Program is beneficial to MDT. He also stressed the importance of identifying the benefits of research and quantifying these benefits where appropriate.

cc: Craig Abernathy/Research Programs w/attachments
Kent M. Barnes, P.E./Bridge Bureau
Kevin Christensen/Highways and Engineering Division
Kris Christensen/Research Programs w/attachments
Tim Conway, P.E./Consultant Design Bureau
Lisa Durbin/Construction Administration-Bureau
Mike Dyrdahl/Highways and Engineering Division
Paul R. Ferry, P.E./Highways Bureau
Paul Jagoda, P.E./Construction Engineering Bureau
Michael P. Johnson/District Administrator-Great Falls
Tom Martin, P.E./Environmental Services Bureau
Doug McBroom/Multimodal Programs Bureau
Shane Mintz/District Administrator-Glendive
Ed Toavs/District Administrator-Missoula
Roy Peterson, P.E./Traffic & Safety Bureau
Suzy Price/Contract Plans Bureau
Jim Skinner/Planning and Policy Analysis Bureau
Rob Stapley/Right of Way Bureau
Stefan Streeter, P.E. /District Administrator-Billings
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