



Montana Department of Transportation  
PO Box 201001  
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## 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  
Jerry Stephens, P.E./WTI MSU  
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: July 14, 2014

Subject: January 29, 2014 RRC Meeting Agenda (9:00 a.m. – 11:00 a.m. MDT Commission Room)

**RRC Members Present:** Steve Albert, Debbie Alke, Mike Bousliman, Jeff Ebert, Dwane Kailey, Sue Sillick, Jon Swartz, Mike Tooley, Duane Williams, Pat Wise, and Lynn Zanto.

**Others Present:** Pat Basting, Kris Christensen, Ric Hauer/UM, Phil Johnson, Justun Juelfs, Tom Martin, John McKenna/Montana Recreation Aviation Foundation (RAF).

1. **Budget Report:** Attached

No discussion.

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

No discussion.

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

- a. **Automatic Crash Notification: Assessing Montana’s Motor Vehicle Crash and Related Injury Data Infrastructure** – Final and Data Book Reports

- b. **Assessing the Effectiveness of Montana's Occupant Protection Programs (12-003)- Task 1 Report**
- c. **Evaluating WVC and Habitat Connectivity in the Madison Valley (11-007)- Progress Reports**
- d. **Impacts of Increased Canadian Economic Development (ICED) Phase 2 (12-002) - Task 1 Report.**
- e. **Information/Educational Campaign for Roundabouts (12-023)- Final, Project Summary, and Implementation Reports**
- f. **Montana LTAP- Progress Reports**
- g. **2013 Montana Summer Transportation Institute- Final Report**
- h. **Montana Weigh-in-Motion (WIM) and Automatic Traffic Recorder (ATR) Strategy (11-005) Task Report 1 and Progress Reports**
- i. **A Peer-to-Peer Traffic Safety Campaign Program (11-009)- Task 6 Report**
- j. **Re-evaluation of Montana's Air Quality Program (11-006)- Final, Project Summary, and Implementation Reports**
- k. **Relative Operational Performance of Geosynthetics Used as Subgrade Stabilization (10-008) - Task Reports 3 & 4 and Progress Reports.**
- l. **Research the Feasibility of Utilizing Recycled Asphalt Pavement (RAP) in Portland Cement Concrete Pavement- Phase 1 (9.004)- Final Report**
- m. **US 93 N Post Construction Wildlife Vehicle Collision and Wildlife Crossing Monitoring and Research - 2013 Annual Report and Progress Reports**
- n. **US 93 S Wildlife Structure Monitoring (04.016) - 2013 Annual Report and Progress Reports**

No discussion.

4. **Contract Amendment:** Attached

a. **US 93 North Post Construction WVC and Wildlife Crossing- 5<sup>th</sup> Year Monitoring**

Pat Basting was present to represent the technical panel for this project. Pat reviewed the project, which includes pre- and post-construction evaluation. The preconstruction evaluation was completed in 2007. Post-construction monitoring began in 2010 and was contracted for four years.

The current request is to complete a fifth year of post-construction for the Evaro and isolated structures locations, with two options. The first option involves continuing the evaluation in the fifth year identical to that of the first four years for about \$154,000. The second option involves a reduced effort for the fifth year at the isolated structures locations focusing on sensitive species for about \$105,000. Note: Most of the fifth year evaluation for the Ravalli Hill and Curves was completed with a federal grant. A fifth year evaluation will add power to the statistical analyses. Pat noted the contract amendment request includes answers to questions it was anticipated the RRC may have.

Mike B. questioned whether we truly need a fifth year of evaluation.

Tom Martin urged the RRC to consider the fifth year evaluation for option 1. He suggested MDT extend the current evaluation through five years for all locations.

Jeff asked what guarantees we have that another funding request for a longer post-construction evaluation. Sue emphasized that even with a fifth year evaluation, there is no guarantee we will obtain statistically significant results. That's the nature of the beast; there are no guarantees in research.

Dwane reminded the RRC that we installed the wildlife crossing structures for the "spirit of the Place", not with a benefit/cost analysis in mind. Sue mentioned that likely there will be qualitative performance measures in addition to the benefit/cost analysis. Dwane also stated a part of the purpose of the research project was to determine which crossing structures are most effective.

Pat stated the measures of effectiveness related to safety and connectivity, based on results in Banff National Park, were agreed upon by the three governments involved.

Dwane made a motion to fund option 1 at \$153,894. Mike B. seconded the motion. All RRC members present voted in favor, except Jeff Ebert, who voted against the motion. The motion passed.

5. **Proposals:** Attached

a. **Recreational Aviation Foundation (RAF) Backcountry Airstrips Noise Impact on Wildlife Partnering Project**

Debbie introduced John McKenna/RAF and Ric Hauer/UM - Institute on Ecosystems. Debbie stated the RAF is a volunteer organization with many back country airstrips. She indicated the results of this research will be widely applicable.

John and Ric presented a request for funds (\$19,300) to assist in the evaluation of small aircraft noise on the long-term stress in wildlife.

USFS District Rangers and BLM Managers regularly revise their land use plans, often on a 10-year cycle. These managers enjoy significant latitude in changing such practices - e.g. closing an airstrip - and such decisions remain for long periods. Public comment periods (to which land managers are accountable) are always a part of this process. Reopening or closing an airstrip is often influenced by what is claimed to be fact about noise impacts. Currently, there is only anecdotal evidence in defense of aircraft access, which is always countered by claims of aircraft-induced harm to wildlife.

This research involves testing wildlife scat for the long-term stress hormones - glucocorticoids. Long-term stress response in birds will be tested via blood samples. The null hypothesis is always used in research projects. In this case, the null hypothesis is the aircraft noise has no effect on the long-term stress levels in mammals and birds near back country airports. It was asked, what if the results show an effect. The response was, it is what it is and there would need to be a balance between use and environmental needs. Regardless, the results will help in decision-making.

Tom Martin asked if species are being targeted. The response was that, yes, species are being targeted. Scat will be collected for elk, deer, possibly bear, and some smaller

mammals. Stress levels in birds will be tested by catching birds in a mist net and collecting blood samples. He also asked about the study area. The study area is expected to be several hundred meters from the runways, with the control expanded several kilometers from the runways. Tom noted that the results could be far reaching in terms of threatened and endangered species.

Jeff asked how many back country airports would be involved in the study. The response was 6-10 in western Montana, and they may drop down to gather some data in Idaho.

This is a partnering project with funds being provided by grants from the Aircraft Owners and Pilots Association (AOPA) Foundation (\$10,000) and the RAF (\$5,000). In-kind services, such as flight operations (pilots and aircraft), science-related research skills and credentialed supervision, and publicity, are offered from UM and the RAF.

John and Ric requested \$19,300 to cover the cost of a graduate student, and lab analysis and field materials. The total cost of the project, minus the in-kind donations, is \$29,300.

Lynn commented the project is very affordable. Mike B. commented that the time for faculty is all donated and only \$5,000 is being requested for a student to work on the project during the summer.

Jon suggested MDT pays for the fuel cost as this cost may be significant for the pilots who are already donating their time and aircraft. John responded this would be helpful as it would allow for the study to be expanded. Dwane asked for a rough estimate of the fuel cost. The response was about \$6,000. Dwane suggested fuel costs (\$5,700) be paid up to a cap of \$25,000 in total cost for the project.

Jon made a motion to approve this project at a cost of \$26,000, with \$6,700 available for fuel. Lynn seconded the motion. All RRC members present voted in favor of the motion; the motion passed.

**b. Traffic Safety Culture Pooled-Fund Program**

Mike T. was present to discuss this pooled fund program, the object of which is to initiate a collaborative research effort related to traffic safety culture. There is quite a bit of research related to traffic engineering and safety, but less so on traffic safety culture. It is believed for additional strides in safety, research is needed in regards to traffic safety culture. This program will involve research to solve specific culture-based traffic safety problems, create training and education materials to enhance workforce understanding and application of traffic safety culture methods, and provide technology transfer of the best practices in traffic safety culture methods.

It was noted there are a number of related efforts; this effort needs to be complimentary to these other efforts.

The program structure/organization will need to be determined by the partnering agencies, with a focus on the low-hanging fruit first. A number of potential projects have

been identified, but projects will be moved forward depending on the priorities of the partners.

Initial MDT funding was discussed, with agreement at \$80,000.

Mike B. made a motion to move forward with this program, with MDT as the lead agency contributing an initial amount of \$80,000. Dwane seconded the motion. All RRC members present voted in favor of the motion; the motion passed.

**c. Clear Roads Pooled-Fund Study**

Justun Juelfs was present to request four years of funding at \$25,000 per year, for a total of \$100,000 for this pooled fund study. Justun explained the Clear Roads organization was formed in 2004 in response to real world testing in the field for highway winter operations. He stated this ongoing research program has 26 participating states to fund practical and usable winter maintenance research. Collectively, this results in \$625,000 available each year for winter maintenance research. Justun stated the Clear Roads efforts have already assisted MDT in legislative matters, as well as in operations, and provides a clearinghouse for winter maintenance information. MDT is beginning its third consecutive year of funding previously approved by the RRC.

Some of the benefits of contributing to this pooled fund program include the following:

- Submit research proposals for group consideration
- Vote on which projects get funded
- Evaluate technical proposals from academic and private-sector investigators
- Serve on the TAC and oversee the research projects
- Meet with experts from around the country on winter maintenance issues
- Instant access to the other 26 member states to ask questions as well as provide feedback about MDT's operation
- Product experience summary from member states

Jon proposed this pooled fund program be funded for five years at \$25,000 per year for a total of \$125,000. Dwane made the motion, which was seconded by Mike B. All RRC members present voted in favor of the motion. The motion passed.

**d. Evaluation of Effectiveness and Cost-Benefits of Woolen Roadside Reclamation Products (13-008)**

Phil Johnson attended to represent the technical panel for this project. Phil stated there are 1.35 million sheep in Montana and the surrounding states, resulting in considerable waste wool that is not fit for the garment industry. This raised the question as to whether this waste wool can be cost effectively incorporated into roadside reclamation products. This project involves testing of woolen erosion control, soil retention, and vegetation establishment blankets and related materials for roadside reclamation purposes in terms of performance in the lab and field and cost effectiveness.

Jon asked about the insulating quality of wool and its effect on plant life. Phil responded plants can handle higher temperatures as long as water is not a limiting factor, and wool has high water retention capability.

Jeff indicated we need to be careful about sole source issues. The response indicated the panel, which includes an FHWA representative, is aware of this issue and the material will be specified rather than the source.

Jon made a motion to fund this project at \$146,394.70. Debbie seconded the motion. All RRC members present voted in favor of the motion. The motion passed.

**6. Implementation/Performance Measures/Technology Transfer**

**a. FHWA Technology Transfer Funds - Attached**

Bob Seliskar was unable to attend, but Sue stated FHWA Technology Transfer funds are available, with a focus on Market-Ready and Every Day Counts technologies. She also stated in the recent past, research staff applied for and received funds to conduct a peer exchange on the Bridge-in-a-Backpack technology. Sue asked to be notified if anyone wanted to apply for these funds.

**b. Information/Education Synthesis on Roundabouts**

Roy Peterson was unable to attend; this presentation will be given at a later RRC meeting.

**c. Re-evaluation of Montana's Air Quality Program**

Due to time restrictions, Lynn will present the results of this project at a later RRC meeting.

**d. SHRP 2 - Joint NDDOT , MDT, and SHRP 2 Staff Visit**

Sue reminded everyone that the SHRP 2 and NDDOT staff visit is scheduled for 2/6/14.

**e. Winter Research Newsletter - Available on Research [website](#)**

Sue announced that Winter 2013 Research Solutions newsletter was published.

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

Due to time restrictions, this agenda item was skipped.

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 Dyrdahl/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  
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  
Matt Strizich, P.E./Materials Bureau  
James A. Walther, P.E./Highways and Engineering Division  
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