

MEMORANDUM

To: RRC Members
D. John Blacker, Administrator/Maintenance Division
Monte N. Brown, Administrator/Administration Division
Richard B. Clark, Administrator/Information Services Division
Jim Currie, Deputy Director/Department of Transportation
Dave Galt, Director/ Department of Transportation
Joel M. Marshik, P.E., Administrator/Highway and Engineering Division
Drew F. Livesay, Administrator/Motor Carrier Services Division
Sandra S. Straehl, Administrator/Transportation Planning Division
Bob Seliskar/Federal Highway Administration

From: Susan C. Sillick,
Research Section

Date: February 10, 2004

Subject: Summary of Minutes from Tuesday, January 27, 2004 RRC meeting

The following RRC members were present: John Blacker, Jan Brown for Bob Seliskar, Monte Brown, Dick Clark, Jim Currie, Dave Galt, Drew Livesay, Sandy Straehl, and Sue Sillick.

1. **Meeting without a Quorum** – Dave Galt

Dave Galt explained that he feels the RRC is an important committee. Therefore, the committee is composed of Administrators. He does not want RRC members to send proxies. Decisions will be made by RRC members present, regardless of the number of members present.

2. **Budget Report** – Attached – No comments

3. **Research Project – current listing** – Attached – No comments

4. **Reports:** Available Upon Request

4a. ***Crack Sealing Cost Effectiveness*** (93.013) – Quarterly Progress Reports – 7/1/2003 to 9/30/2003, 10/01/2003 to 12/31/2003

Jim Currie stated this was a very worthwhile project and would like to hear about the results.

Sue told the RRC that this project should be finalized soon and there would be a presentation when the final report is complete.

- 4b. ***Field Evaluation of the Performance of Three Concrete Bridge Decks on Montana Route 243 (HPC - Phase II, Saco)*** – Quarterly Progress Report – 7/01/2003 to 9/30/2003
- 4c. ***Why Did the Turtle Cross the Road? Consequences of a Highway on Painted Turtle Populations in Montana*** – Quarterly Progress Reports – 7/1/2003 to 9/30/2003, 10/01/2003 to 12/31/2003
- 4d. ***A Study for the Economic Effects of Reconfiguring Montana’s Two-Lane Highways*** – Monthly Progress Reports – September 2003, October 2003, and November 2003
- 4e. ***Bat Use of Bridge Structures in the MDT Billings District: A Pilot Study (01.016)*** – Quarterly Progress Report – 7/1/2003 to 9/30/2003
- 4f. ***Evaluation of Wildlife Crossing Structures on US Highway 93 Evaro to Polson*** – Quarterly Progress Reports – 7/1/2003 to 9/30/2003, 10/01/2003 to 12/31/2003
- 4g. ***Bozeman Pass Wildlife Linkage and Highway Safety Pilot Study*** – Quarterly Progress Reports – 7/1/2003 to 9/30/2003, 10/01/03 to 12/31/03
- 4h. ***High Performance Concrete-Phase III*** – Quarterly Progress Report – 7/1/2003 to 10/31/2003
- 4i. ***Develop Performance Prediction Models for Checking Design Generated by a Flexible Pavement Design Procedure (98.003)*** – Quarterly Progress Report – 7/1/2003 to 9/30/2003, and Monthly Progress Reports – October 2003, November 2003, and December 2003
- 4j. ***The Effects of Highways on Fragmentation of Small Mammal Populations and Modifications of Crossing Structures (Culverts) to Mitigate Such Impacts*** – Interim Report – November 2003
- 4k. ***Rockfall Hazard Classification and Mitigation System*** – (01.015) – Quarterly Progress Reports – 7/1/2003 to 9/30/2003, 10/01/2003 to 12/31/2003
- 4l. ***Road Sand Management on Highways Adjacent to Streams (02.004)*** – Quarterly Progress Report – 7/1/2003 to 9/30/2003
- 4m. ***Cut Slope Stabilization through Organic Matter Addition: Phase II (98.019)*** – Quarterly Progress Reports – 7/1/2002 to 9/30/2003, 10/01/2003 to 12/31/2003
- 4n. ***Fish Passage at Road Crossings in Montana Watersheds Providing Bull and Cutthroat Trout Habitat*** – Quarterly Progress Report – 10/1/2003 to 12/31/2003

4o. *Biodiesel Phase II* – Monthly Progress Report – December 2003

5. **Contract Extensions: *Field Evaluation of the Performance of Three Concrete Bridge Decks on Montana Route 243 (HPC – Phase II, Saco)*** – Attached

Kent Barnes/Materials Bureau met with the RRC to give a project update, and request additional time and funds (\$50,000.00).

At the completion of the intensive field effort this summer, the project budget was reviewed. At that time, the Consultant discovered a large cost overrun. This overrun reflected delayed construction, quality-related instrument issues, and unanticipated effort and resources needed to complete the construction work.

There was general displeasure with the manner and timing of this request. The RRC felt that the Consultant should have addressed this issue much earlier. However, the RRC recognized that the Consultant is doing a good job, and this project is worthwhile.

Dave Galt made a motion to fund the project an additional \$50,000.00 and extend the completion time to December 2005. John Blacker seconded the motion. The motion passed.

6. **Proposals:**

6a. *Investigation of the Soil Air Voids Test for Use in Compaction Control* – MPART Small Project – Attached

Kent Barnes/Materials Bureau met with the RRC to explain the importance of this project.

The soil air voids test is a simplified method that can be used by field inspectors to quickly evaluate the suitability of a compacted layer of soil, and was initially implemented because of its timesaving benefits and relative simplicity. However, the Proctor test is the industry standard method.

The objective of this project is to evaluate the suitability of the air voids method as a means of evaluating the quality of a compacted layer of soil in terms of desired engineering properties. Kent assured the RRC that this project is of high value and low cost, and the results will determine if MDT stays with its current test method or changes to the Proctor Method.

Jim Currie made a motion to fund this research project for \$17,458.00. Monte Brown seconded the motion. The motion passed.

7. **Implementation:**

7a. Planted Riprap Demonstration and Research for Steambank Stabilization at Bridges, Culverts, and Rivers Adjacent to Roads and Outfalls (01.019) – Attached

Phil Johnson/Environmental Bureau attended the meeting as chairman of the Technical Panel.

Several years ago a specification was written to revegetate areas covered by riprap placed on bridge ends and streambanks up and downstream from bridge openings. Two years ago an idea for a similar project was approved for technical panel review. The Technical Panel decided to review the current specification and evaluate some of the projects where the specification was implemented. The technique appears to work, as there were no failures observed in the field. Sight modifications were made to the specifications to ensure riprap stability. No further works needs to be conducted and the specification will be implemented in all projects.

With the implementation of a specification, this projected is complete

8. ***Cold Region and Rural Transportation Research, Maintenance, and Operations Test-Bed, Lewistown, Montana – Steve Albert***

Steve Albert/Western Transportation Institute-MSU, Bozeman attended the meeting giving a PowerPoint presentation on a proposed test-bed at the Lewistown airport.

Five conceptual research themes have been proposed for the Lewistown Airport test-bed. They are as follows: 1) Winter maintenance practices and technology applications, 2) Winter driving and training for commercial vehicle operators, 3) Work zone safety and training, 4) Elderly driver human factors and safety, and 5) Lane departure warning, road-animal detection, and collision avoidance.

When asked by Dave Galt what was needed from MDT, Steve replied that he needed seed money to get this facility off the ground.

John Blacker indicated he had some projects he would like to see conducted at this facility (for example: deicers, solids and streams). Jim Currie said he would like to see deicer information for the 2005 legislative session.

Sandy Straehl suggested the development of intermediate stepping stones to compartmentalize funding with milestones would be helpful in transitioning from plan to reality. It may be possible to request earmarks to facilitate reaching each of the stepping stones. Sandy also suggested a strategic plan would be helpful.

Dave Galt suggested NHTSA be added as a potential partner.

The RRC suggested research themes #2 and #4 should be combined.

Dave Galt asked Steve for his immediate needs. Steve said he needs \$50,000.00 for the RADS Project. Sue reminded the committee that \$30,000.00 had already been approved for this project.

Jim Currie made a motion to add \$30,000.00 to this amount and to approve this project in concept; final funding approval will be discussed after the RRC has reviewed the proposal. Dave Galt seconded the motion. The motion passed.

The RRC would also like Steve Albert to present a strategic plan for the Lewistown test-bed facility at the next RRC meeting.

9. **Special Projects** – Dave Galt

9a. *Motor Carriers Safety Review*

Dave Galt has secured Motor Carrier Safety Training/Education funding. He would like WTI to prepare a proposal to evaluate this training.

Jim Currie made a motion to approve this project in concept. Dave Galt seconded the motion. The motion passed.

9b. *Young Driver Traffic Fatalities*

Dave Galt is concerned with the staggering accident rate for young drivers. He would like to have WTI conduct a literature review/feasibility study for the comparison of accidents between students who attend the Lewistown Driving course and those who don't.

If the project is feasible, Dave would like to see interested parties (OPI, FHWA, NHTSA, BIA) join together to conduct research. Dave suggested the study subjects come from Lewistown. Dick Clark suggested the study should also include subjects from the area surrounding Lewistown, including Hays/Landusky.

9c. *Animal Crossings*

Dave Galt wants to build an overpass in the Swan Valley with fencing to prevent road kill in the area.

A number of concerns were expressed, including: 1) availability of a project to tie this one to, 2) time to let a project, and 3) right-of-way and environmental issues

Sandy Straehl expressed the need for baseline data.

Steve Albert mentioned sensor technology may be appropriate.

Jan Brown mentioned the possibility of negotiating a “Get out of Jail” card with the resource agencies.

Steve Albert/WTI is interested in conducting the feasibility study.

10. MDT Research Solicitation

**2004 Research Solicitation
Research Ideas to be Ranked**

PROB #	SUBJECT	PROBLEM TITLE
04.003	Maintenance	A Novel Quality Control Technique for Corrosion-Inhibited Deicers
04.005	Transportation Planning	Potential Track Expansion for Steam Locomotive #12, Virginia City, Montana
04.012	Traffic Safety	An Evaluation of the Effectiveness of Advanced Warning Flashing Signals in the Reduction of Accidents at High-Speed Signalized Intersections
04.014	Aeronautics	Air Service
04.016	Environmental	Development of Wildlife Crossing Structures for Small and Large Species and Analysis of Their Effectiveness.
04.018	Transportation Planning/ Engineering	Highway Project Cost Estimating Best Practices
04.019	Traffic Safety	Evaluation of Mitigation Measures to Reduce Open Range Livestock-Vehicle Collisions
04.020	Materials	Determine Properties of Compacted Rap and Rap Mixtures

Mike Bousliman, Champion – *A Novel Quality Control Technique for Corrosion-Inhibited Deicers* – 04.003

Dan Williams was present to support the idea. Currently, testing for the presence of corrosion inhibitors in deicers takes a week. Product is often dispensed before test results are in. The object of this research is to examine the feasibility of using a marker to quickly identify the presence of corrosion inhibitors.

Dan Williams said this project would take 18 months to complete at a cost of \$166,000.00.

The consensus of the RRC is that this project seems more appropriate for a pooled fund study, possibly through the Pacific Northwest Snowfighters (PNS) or should possibly be funded by the industry.

John Blacker indicated this project is not critical and can wait. Therefore, the RRC removed this topic from consideration.

Tom Steyaert, Champion – *Potential Track Expansion for Steam Locomotive #12, Virginia City, Montana* – 04.005

This proposal suggests a feasibility study for expanding the steam locomotive #12 track from its current run to possibly Butte.

Research projects focusing on modes other than highways must be intermodal to be eligible for funds. This project is not intermodal; therefore, it was removed from consideration.

Steve Keller, Champion – *An Evaluation of the Effectiveness of Advanced Warning Flashing Signals in the Reduction of Accidents at High-Speed Signalized Intersections* – 04.012

The purpose of this investigation would be to evaluate the effectiveness of the various advanced warning devices used by MDT in terms of crash and severity rates.

The Director indicated that the advance warning configuration does not work for motor carriers. He also indicated he shared plans from Idaho with Traffic Engineering. He would like plans from other states such as Idaho investigated for implementation prior to initiating a research project. The RRC removed this topic from consideration.

Debbie Alke, Champion – *Air Service* – 04.014

Mark Simonich and Betsey Baumgart, from the Department of Commerce were present to discuss this idea.

Air Service in Montana is currently undergoing drastic change. The purpose of this research is to evaluate the effects these changes are having on tourism in Montana.

It was noted that in order to qualify for research funds, research in modes other than highways must be intermodal. The RRC felt this topic qualified as intermodal.

However, a major component of this research is data collection and database development. MDT IT issues must be handled through the IT Governance Board and included in MDT's IT Plan. It was suggest that the Department of Commerce could add this item to their IT plan. Research funds can be used for any research aspects of this topic. However, IT aspects must go through the appropriate IT channels.

Pat Basting, Champion – *Development of Wildlife Crossing Structures for Small and Large Species and Analysis of the Effectiveness* – 04.016

Bonnie Steg/Environmental was present to discuss this topic.

MDT has taken a proactive approach by incorporating many, potentially useful wildlife-friendly structures in current highway construction plans. It is now imperative to demonstrate the effectiveness of these attempts through monitoring efforts.

Some concern was expressed in beginning another wildlife crossing study, with the current US 93 North study. Sandy Straehl felt US 93 South maybe more informative statewide than US 93 North will be for this type of research.

Jim Skinner, Champion – *Highway Project Cost Estimating Best Practices* – 04.018

Engineer's construction cost estimates for highway projects moving into construction are frequently significantly higher than the estimate developed at the time of project nomination.

The purpose of this idea is to develop a project cost estimating approach that will result in a minimum of difference between total project cost at the time of nomination and total project cost at important benchmarks, including project letting and project closeout.

Jim Currie wants the entire process reviewed. Monte Brown indicated that accurate cost estimating ties to integrated financials. If we don't improve the cost estimating process, we could spend a high dollar amount on integrated financials, to obtain some not so good information.

Cindy Callan, Champion – *Evaluation of Mitigation Measures to Reduce Open Range Livestock – Vehicle Collisions* – 04.019

Mick Johnson/Great Falls District was also present to discuss this topic.

The goal of this research is to evaluate mitigation measures to reduce herd district and open range livestock-vehicle collisions, and to test and evaluate the application of such methods in a pilot project.

A large portion of this project involves the development of a GIS database. IT issues must be handled through other avenues. The research aspect should be investigated.

Richard Jackson, Champion – *Determine Properties of Compacted Rap and Rap Mixtures* – 04.020

Kent Barnes/Materials Bureau was present to discuss this topic.

MDT doesn't have enough aggregate in certain locations, yet we have plenty of RAP. The purpose of this research is to test rap or rap mixtures to determine if RAP is equal or better than aggregate in terms of drainability, permeability, compatibility, etc.

Kent Barnes believes this work can be done as an MPART Small Project.

Being no further business to come before this committee, the meeting adjourned.

cc: Craig Abernathy/Research Section
Debbie Alke, Administrator/Aeronautics Division
Suzy Althof/Contract Plans Bureau
Brooke Amestoy/Research Section
Kent M. Barnes, P.E./Materials Bureau
Bruce H. Barrett/District Administrator-Billings
Lisa Durbin/Construction Administration Bureau
Jeffery M. Ebert, P.E./District Administrator-Butte
Loran Frazier, P.E./District Administrator-Missoula
Dave Hill/Environmental Services Bureau
John Horton/Right-of-Way Bureau
Paul Jagoda, P.E./Construction Engineering Bureau
Michael P. Johnson/District Administrator-Great Falls
Joseph P. Kolman, P.E./Bridge Bureau
Russell G. McDonald/Human Resources Division
Ray Mengel/District Administrator-Glendive
Victoria A. Murphy, CPA, CFE/Highway and Engineering Division
Jeanne Nydegger/Research Section
Carl S. Peil, P.E./Preconstruction Bureau
Timothy W. Reardon/Legal Services
James A. Walther, P.E./Highway and Engineering Division
Duane E. Williams, P.E./Traffic & Safety Bureau
Mark A. Wissinger, P.E./Highway and Engineering Division
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