

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: May 12, 2004

Subject: Summary of Minutes from Tuesday, April 29, 2004 RRC meeting

The following RRC members were present: John Blacker, Monte Brown, Jim Currie, Dave Galt, Drew Livesay, Joel Marshik, and Sue Sillick.

1. **Budget Report:** Sue distributed revised budget sheets.
2. **Research Project – current listing** – Attached – No additional comments.
3. **Reports:** Available Upon Request
 - 3a. *A Study for the Economic Effects of Reconfiguring Montana's Two-Lane Highways* – Progress Reports – January and February 2004
 - 3b. *Pavement Performance Prediction Models* (98.003) – Progress Reports – February and March 2004
 - 3c. *Hydraulic Characteristics of the Upper Yellowstone River, Montana* (99.018) – Progress Report – 7/1/2003-12/31/2003
 - 3d. *Evaluation Methods for Estimation of Bridge-Pier Scour for Streams with Coarse Bed Materials Based on Observed Pier Scour in Montana* (99.019) – Progress Report – 7/1/2003-12/31/2003
 - 3e. *Methods for Determining Bankful Discharge and other Flood Discharges for Ungaged Sites in Western Montana Based on Channel Morphology* – Progress Report – 7/1/2003 - 12/31/2003

3f. ***High Performance Concrete Mix Design*** – Phase III – Progress Report – February 2004

3g. ***Evaluation of Biodiesel Fuel*** – Progress Reports – January, February, and March 2004

3h. ***Recommendations for Winter Traction Materials Management on Roadways Adjacent to Bodies of Water*** (02.004) - Progress Report – 1/1/04 – 3/31/04

3i. ***Rockfall Hazard Classification and Mitigation System*** (01.015) – Progress Report - 1/1/04 – 3/31/04

3j. ***Fish Passage at Road Crossings in Montana Watersheds Providing Bull and Cutthroat Trout Habitat*** – Progress Report – 1/01/04 – 3/31/04

3k. ***Field Evaluation of the Performance of Three Concrete Bridge Decks on Montana Route 243 (HPC – Phase II, Saco)*** – Progress Report – 1/1/04 – 3/31/04

3l. ***Evaluation of Wildlife Crossing Structures on US Highway 93 Evaro to Polson – Phase I*** – Progress Report - 1/1/04 – 3/31/04

3m. ***Cut Slope Stabilization Through Organic Matter Addition: Phase II*** (98.019) – Progress Report – 1/1/04 – 3/31/04

3n. ***The Association Between Landscape Features and Transportation Corridors on Movements and Habitat-Use Patterns of Wolverines*** – Progress Report – 1/1/04 – 3/31/04

3o. ***Why did the Turtle Cross the Road? Consequences of a Highway on Painted Turtle Populations in Montana*** – Progress Report – 1/1/04 – 3/31/04

3p. ***The Effects of Highways on Fragmentation of Small Mammal Populations and Modifications of Crossing Structures to Mitigate Such Impacts*** – Final Report – FHWA/MT-04-005/8161

3q. ***Air Quality Analysis of MDT Transportation Improvements: Cost-Effectiveness Analysis of the MACI Program*** – Final Report – FHWA/MT-04-002/8175

4. **Contract Extensions:** None

5. Proposals:

5a. Evaluation and Assessment of the Engineering Characteristics of RAP/Aggregate Blends for Use in Highway Pavement Sections

Rich Jackson/Materials Bureau was present to support this proposal.

A large quantity of waste asphalt material is generated every year on MDT projects, resulting in considerable disposal costs. Recycling the waste asphalt by mixing it with aggregate or soil for use as base course or subbase course pavement materials represents a potential solution to this problem. However, the engineering characteristics of mixtures containing reclaimed and recycled asphalt pavement (RAP) and aggregate have not been investigated by MDT and the long-term suitability and performance of this type of blended material in Montana highway pavement sections is unknown.

The primary purpose of this project is to evaluate the engineering suitability of using RAP as an additive to aggregate base or granular subbase soil.

Jim Currie made a motion to approve \$19,914 for this project. Monte Brown seconded the motion. The motion passed.

5b. Midwest Road Side Safety – Pooled Fund Study

Tom Atkins/Road Design was present to support this proposal.

The Highways Bureau is particularly interested in the development of long span guardrail designs. Past testing has shown improved safety performance in particular situations with this configuration. The improved safety performance may provide cost savings when spanned over low filled culverts that are 24 feet wide or less. It is believed that this configuration may reduce or eliminate the need for rail “nesting”, which would simplify the design and construction of barrier for low filled culverts.

Jim Currie made a motion to contribute \$5,000.00 for this project. John Blacker seconded the motion. The motion passed.

5c. Implementation Plan for Wildlife Mitigation Measures Along Highway 83 in the Seeley-Swan Valley, Montana: Animal-Vehicle Collisions and Habitat Connectivity

Marcel Huijser from WTI attended the meeting to discuss this proposal.

There is little detail regarding Phases II, III, and IV, because these Phases rely on the results of Phase I. Therefore, Sue recommended that if this proposal is approved, only Phase I should be approved at this time.

Phase I is aimed at acquiring information and identifying potential additional research and research needs. Specifically, data will be gathered to identify high-risk zones for animal-vehicle collisions and investigate techniques to reduce collisions through changes in the management of the road, right-of-way, and surrounding landscape. Habitat linkage zones will also be identified and ranked for selected species.

The purpose of this project is to produce a concrete implementation plan for mitigation measures aimed at reducing animal vehicle collisions and improving habitat connectivity for selected species along Highway 83.

Following discussion of this proposal, Joel Marshik made a motion to fund Phase I for \$65,580.00. Dave Galt seconded the motion. The motion passed.

6. Implementation:

6a. *The Effects of Highways on Fragmentation of Small Mammal Populations and Modifications of Crossing Structure (Culverts) to Mitigate Such Impacts* – Kerry Foresman, University of Montana-Missoula and Pat Bastings, MDT – Presentation of results and implementation.

Kerry discussed the results of this project. This study determined that small mammals use the culvert benches especially when there is water present in the culverts. Vegetative cover affects animal use of culvert benches, as well. This project also resulted in design specifications for culvert benches.

All stakeholders will convene to discuss implementation, including, but not limited to: culvert bench use policy, posting of design files to MDT's Document Management System (DMS) posting of results on website, and sharing the technology (Technology Transfer) both internal and external to MDT.

6b. *Air Quality Analysis of MDT Transportation Improvements* – Tom Steyaert – Presentation of results and implementation

The purpose of this project was to evaluate the cost effectiveness of projects funded through the Montana Air Quality and Congestion Initiative (MACI). For carbon monoxide (CO) emissions, traffic flow projects are the most cost-effective, while transit projects are the least effective. For PM-10 paving projects and purchasing air quality equipment are the most cost-effective projects, while transit and bike-pedestrian projects are the least cost-effective. MDT has done a good job in selecting MACI projects.

All stakeholders will convene to discuss implementation.

7. **Research Solicitation:**

2004 Research Solicitation

PROB #	SUBJECT	PROBLEM TITLE
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

7a. **Resubmittal of 04.019** – attached

Amanda Hardy/WTI and Cindy Callan/Great Falls District attended the meeting to discuss this resubmittal of a previous research problem statement.

The goal of this project is to research potential mitigation measures to reduce livestock-vehicle collisions and identify the extent of this issue in Montana. The request is to approve this research idea to move forward to a technical panel. No funding is to be considered at this time.

Following this discussion, John Blacker moved to bring this project forward to a Technical Panel. Joel Marshik seconded the motion. The motion passed

8a. ***Lewistown Research Facility - Young Driver Fatality Project***

Dave Galt has been working with WTI to prepare a proposal and partners, such as Department of Justice and Office of Public Instruction to help fund a project to determine if a defensive driving course can reduce the teenage accident rate in Montana. Dave is meeting with Lewistown Officials on May 21, 2004 to determine level of interest. He would also like to request NHTSA funding.

Dave Galt made a motion to set aside \$100,000.00 a year for five years for this project. John Blacker seconded the motion. The motion passed.

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