

## MEMORANDUM

To: RRC Members  
Debbie Alke, Administrator/Aeronautics Division  
D. John Blacker, Administrator/Maintenance Division  
Mike Bousliman, Administrator/Information Services Division  
Monte N. Brown, Operations Manager/Business Process Solutions Unit  
Robert E. Burkhardt/Federal Highway Administration  
Jim Currie, Deputy Director/Department of Transportation  
Jeffery M. Ebert, P.E./District Administrator-Butte  
Larry Flynn, Administrator/Administration Division  
Loran Frazier, P.E., Administrator/Highway and Engineering Division  
Jim Lynch, Director/Department of Transportation  
Dennis Sheehy, Administrator/Motor Carrier Services Division  
Jerry Stephens, P.E./WTI MSU  
Sandra S. Straehl, Administrator/Rail, Transit, and Planning Division

From: Susan C. Sillick, Manager  
Research Programs

Date: June 6, 2008

Subject: Summary of Minutes from the May 27, 2008 RRC Meeting

The following RRC members were present: Debbie Alke, John Blacker, Mike Bousliman, Monte Brown, Bob Burkhardt, Jim Currie, Larry Flynn, Loran Frazier, Dennis Sheehy, Sue Sillick, Jerry Stephens and Dick Turner (for Sandy Straehl).

1. **Budget Report** – No discussion
2. **Research Project – current listing** – No discussion

Of the nine new projects from the January Solicitation, Sue reported that one of the projects has already been funded. The remaining project technical panel selections have been completed and technical panels have either met or have a scheduled meeting date. Two of these projects will come before this committee today for Approval-in-Concept to issue RFP's and one of these projects will come before this committee today for funding approval.

Sue reported that by an e-mail ballot voting 13 to 0 the RRC agreed to commit \$25,000.00 and partner with WTI on the following project: **An Objective Evaluation of an Education-Based Distracted and Drowsy Driving Intervention for Teen Age Drivers in Rural America.**

Jim Currie asked about progress in partnering with WTI. Sue replied that WTI is represented on technical panels by their request. Sue also discusses projects that were already in progress when the change in process occurred (January 2008) with Jerry Stephens before they come to this committee. Finally, as partnering opportunities arise, Sue and Jerry discuss potential projects.

## 2a. **Ground Penetrating Radar Analysis** (08.013) – Request for Scope of Work Approval-in-Concept

Jon Watson/Materials Bureau met with the RRC to request a Scope of Work Approval-in-Concept on behalf of the Technical Panel so that an RFP can be issued.

The Pavement Analysis section is currently using a GPR (Ground Penetrating Radar) system, and has been since 2006, as basis for their statewide reconstruction and rehabilitation projects. The Technical Panel would like to conduct this project in two phases. The second phase would be a field validation and would be dependent upon the successful completion of the first phase, with enough established data to warrant Phase II.

The overall objective is to provide statistically defensible recommendations for the use of GPR statewide to aid in the determination of reconstruction and rehabilitation treatments. This objective is dependent on the ability of GPR to determine the variability of roadbed characteristics and to what extent GPR can delineate those characteristics in regards to determining the structural layer prevailing conditions. Note: This effort will only focus on roadbeds using bituminous asphalt. This project will include, but not be limited to:

### **Phase 1: Feasibility Study**

#### Tasks

1. Through a review of current literature, industry practice, and interviews with State DOT's and Provinces, report on the current practice relating to the use of GPR in conjunction with pavement analysis programs. This task will put emphasis on the technical aspects of those programs that pertain to the objective of this effort. This is not a software development project; however, the contractor may report on existing software or emerging technology related to this effort.
2. It will be necessary for the contractor to understand how the Department currently conducts the GPR program. The contractor will report on all aspects of the non-destructive testing (NDT) activities and process relating directly to GPR use at MDT and how these activities relate to other NDT programs.
3. The variability of road bed structure by region, environmental, or seasonal factors that may influence the GPR analysis is a key element with this effort. There must be baseline documentation to reasonably ascertain that variability and to what extent GPR can be used for and conversely what GPR cannot delineate. The contractor must report on current GPR use and contemporary technology to delineate pavement layers. This must be substantiated prior to any proceeding with any proposed sampling efforts.
4. Tasks one (1) through three (3) should provide a clear rationale for phase 2.

## **Phase 2: Field Validation**

### Tasks

5. Current consensus within MDT indicates core samples may be required in the determination of which variables affect the quality of the GPR output. The sampling methodology must be warranted; and will be conducted and coordinated by the contractor with acceptance by MDT. GPR sampling will be conducted by MDT in coordination with the needs of the contractor. The contractor may submit other scenarios for validation.
6. The contractor is required to estimate the level of visitation to field and headquarter locations. The contractor is also responsible for the coordination of those events. If in-state data sampling phase is approved, all field work and data sampling activities must be in concurrence with and approved by MDT.
7. The contractor's recommendations as to which conditions, project types, etc lend themselves to GPR analysis.
8. The prospective contractor must also submit a technical support plan to assist MDT with future in-house calibration activities. This plan must be complete and sufficient enough to allow MDT to conduct all necessary calibration activities.

Loran Frazier made a motion to proceed with an RFP. Monte Brown seconded the motion. The motion passed. Jim Currie was not present for this vote.

### **2b. Impact of Increased Canadian Economic Development on Northern Montana Highways (08.002) - Request for Scope of Work Approval-in-Concept**

Dick Turner/Transportation Planning met with the RRC to request a Scope of Work Approval-in-Concept on the behalf of the Technical Panel so that an RFP can be issued.

Dick informed the committee that this is envisioned as a phased project. Phase II would only go forward if there is a clear cut indication from Phase I of an increase in truck volumes.

The need for this study developed as a result of the Bear Paw Developments Association, elected officials, and other area leaders concerns over truck traffic along the Wild Horse Trail out of the Havre area. Therefore, this study is limited to the north-south highway corridor leading to the nine ports served by paved highway from the Port of Coutts-Sweet Grass to the Port of Regway-Raymond. Impacts to traffic volumes on other highways will also be noted if they are identified during the course of the north-south corridor analysis.

The Scope of work takes into consideration the following:

- 1) Review and summary of the relevant literature;
- 2) Reports on the condition and current level of operations for each of the identified highway corridors;

- 3) Assess existing and future economic conditions; and
- 4) Based on the information developed in the previous tasks, estimate future commercial traffic volumes on all corridors for 10 and 20 years planning horizons

Jim Currie made a motion to proceed with an RFP. Dennis Sheehy seconded the motion. The motion passed.

### 2c. **Cut Slope Composting – Phase III** – Request for Scope of Work Approval-in-Concept

Phil Johnson/Environmental Services Bureau met with the RRC to request a Scope of Work Approval-in-Concept on behalf of the Technical Panel so an RFP can be issued.

The original Cut Slope study began in 2003 to determine the positive value of applying compost to harsh growing conditions. This was accomplished by increasing vegetation and decreasing soil erosion. The previous study used 1 and 2 inches of compost. The test sections showed improvements in plant growth.

This research project will focus on two primary purposes:

- 1) Evaluate the performance of compost applied at rates less than what was used in the original research. Ideally, this second phase of research will establish recommendations for minimum quantities to be used on project cut and fill slopes.
- 2) Evaluate the use of various materials and/or application techniques to prolong the period of time the compost remains on the slope.

Phil would like to be able to set up study plots this fall near the junction of I-90 and US 287. If this study proves successful, MDT could realize a large monetary saving in the application of compost.

John Blacker would like this project connected to the deer composting project, if possible.

John Blacker made a motion to proceed with an RFP. Loran Frazier seconded the motion. The motion passed.

### 3. **Reports:** Available Upon Request

3a. **Axial Capacity of Piles in Intermediate Geomaterials** – Progress Report – December 2007

3b. **Bozeman Pass Wildlife Monitoring** – Progress Reports – January, February, March, and April 2008

3c. **Developing a One Stop Shop for Traveler Information in Montana (05.013)** – Progress Reports – December 2007, and January and February 2008

3d. **Disparity/Availability Study** (06.010) – Progress Reports – December 2007, and January, February, March, and April 2008

3e. **Growing Neighborhoods in Growing Corridors: Land Use Planning for Highway Noise** – Final Report – FHWA/MT-08-002/8117-36

3f. **Highway Project Cost Estimating Best Practices** (04.018) – Progress Reports – December 2007, and January and February 2008

3g. **LTAP** – Progress Reports – December 2007 and March 2008

3h. **Research in Support of Container/Trailer on Flatcar in Intermodal Service on Montana's Class 1 Railroads** (05.015) – Progress Report – January 2008

4. **Contract Extensions:** None

5. **Proposals:**

5a. **Keep Encouraging Young Driver Safety (KEYS) Pilot Study: Increasing Parent Involvement in Teenage Driving through Driver Education**

David Huff/OPI attended the meeting and spoke in favor funding of this proposal on behalf of the Technical Panel.

GDL (graduate driver licensing) was the first major step implemented after licensing laws were changed in July 2006, thereby changing the culture of teen driving in Montana.

To ensure that the benefits of GDL are realized all three countermeasures that address teen driving risk – GDL, driver education, and parent involvement – need to be combined. Ensuring parental involvement into driver's education is a means for parents to receive the necessary information and instruction needed to supervise their teenage driver from a highly qualified source. This increase in parent-involvement can be increased by clearly defining parent's rolls and responsibilities.

The goals of the KEYS Pilot Study are to determine the feasibility of integrating parent-teen homework assignments into the Montana driver education curriculum and family support for the use of these homework assignments to increase the effectiveness of parent involvement in supervised practice and restriction of teen driving.

The objectives of this project are:

- 1) Engage parents in driver education programs thorough parent-teen homework assignments.
- 2) Provide parents with information and tools to move effectively supervise their teen's practice driving and assess their teens' driving skills and readiness.

- 3) Develop the materials needed to accomplish objectives 1 & 2 utilizing and interdisciplinary group of expert driver educators, driver education policy makers, and young driver safety researchers.
- 4) Utilize qualitative feedback from driver education instructors, teens and parents about the process, materials, and effectiveness of involving parents in driver education to assess and revise the materials based on it.

The KEYS Pilot Study program is a joint project of Montana State University – Northern (MSUN), the Montana Traffic Education Association, The Traffic Education Unit of the Montana Office of Public Instruction, and Dr. Jessica Harts, young driver safety research with the University of North Carolina, Charlotte, and former research fellow with the national Institute of child Health and Human Development.

Jim Currie made a motion to fund this project for \$24,490.00. Dennis Sheehy seconded the motion. The motion passed.

#### **5b. LTAP – Work Plan**

Steve Jenkins, LTAP/MSU, Bozeman presented his work plan and budget for the coming year.

Steve stressed that his big item for the year was LTAP's training program and invited the committee to look over this year scheduled training on page 5 of the work plan. He also pointed out that since January he has held 33 safety training workshops.

Steve was informed that he should be aware that funding for his programs could be cut in future years due to lower gas tax income.

John Blacker indicated he would like the LTAP program run out of MDT.

Mike Bousliman made a motion to accept the work plan and budget as presented. Monte Brown seconded the motion. The motion passed. Voting "no" Loran Frazier, Dennis Sheehy, John Blacker, and Jim Currie.

Loran, Dennis, and Jim voted against the LTAP work plan due to future funding uncertainties. John voted against the LTAP work plan because he would rather MDT operate the program.

#### **5c. Monitoring Wildlife Crossings on US 93 South**

Pat Basting/Missoula-Environmental met with the RRC and spoke in favor of funding for this project on behalf of the Technical Panel.

The objective of this proposal is to determine the effectiveness of animal crossing structures and associated wildlife fencing along US 93 using raw data through investigating animal-vehicle and animal crossing structures before and after construction.

Mike suggested automating camera data collection.

Loran Frazier made a motion to fund this project in the amount of \$467,795.00. Monte Brown seconded the motion. The motion passed. Voting no - Larry Flynn, Dennis Sheehy, and John Blacker. John wanted his no vote to reflect that he felt the proposal was too broad.

#### **5d. North/West Passage Transportation – Pooled Fund Study**

Jon Swartz/Maintenance Division met with the RRC to recommend funding for this pooled fund study.

The I-94 – I-90 North/West Passage corridor includes the states of Wisconsin, Minnesota, North Dakota, South Dakota, Montana, Wyoming, Idaho, and Washington.

The following goals and corresponding objectives have been developed in keeping with the corridor vision.

1. Integrate traveler information systems that can provide information appropriate to the location and need of the traveler.
  - a. Understand the common and unique information needs of the corridor's diverse travelers. This includes the type of information, as well as the mechanism for delivering the information.
  - b. Provide integrated traveler information systems – gathering and distributing – along the entire corridor.
2. Develop and promote cross-border jurisdictional cooperation and coordination in the planning, deployment, operations, and maintenance of ITS infrastructure.
  - a. Develop compatible and reliable communication systems among the states to support the operation of current future ITS technology in the corridor.
  - b. Establish shared procedures for using dynamic message signs among the states.
3. Integrate ITS projects for the North/West Passage Corridor into the state, regional, and local planning and programming processes.
  - a. Develop a one to three-year ITS project plan for the corridor, identified by state.
  - b. Identify and resolve legal or institutional issues related to funding project deployment and ongoing operations.
  - c. Document and share lessons learned from integration of ITS projects into state, regional, and local planning and programming processes.

John Blacker made a motion to fund this project for \$25,000.00. Loran Frazier seconded the motion. The motion passed.

## 5e. **Transportation Asset Management** – Pooled Fund Study

Jon Swartz/Maintenance Division attended the meeting and spoke in favor of funding this pooled fund study.

This pooled fund study allows MDT to send 2 staff members to the 2<sup>nd</sup> National Maintenance Quality Assurance Program (MQA) Peer Exchange and the National Workshop on Highway Asset Inventory and Data Collection.

MDT believes there is much that can be learned from each DOT and a face-to-face dialogue sharing their MQA best practices will advance the discipline and make MDT's maintenance program stronger.

The purpose of this peer exchange is to:

- 1) Update the existing MQA resources,
- 2) Prepare a glossary of commonly used terms for the concepts that guide MQA data collection analysis,
- 3) Identify progress on consistently used measures, and
- 4) Discuss analysis procedures and reporting to support decision-making.

Further, participation in the Workshop on Highway Asset Inventory and Data Collection will provide the opportunity to better understand the latest technologies and methods used to capture the information used in the MQA systems. Finally, a portion of these funds will also be used to update the existing MQA document library ([www.mrutc.org/outreach/mqa](http://www.mrutc.org/outreach/mqa)), prepare the MQA glossary, update the synthesis of commonly used standards and measures, and produce the proceedings and subsequent finding documents.

Jim Currie made a motion to allocate \$7,200.00 to this pooled fund study. Mike Bousliman seconded the motion. The motion passed.

## 6. **Implementation/Technology Transfer:** None

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

Jim Currie noted that Montana is facing a shortfall in revenue from gas tax which can have a lasting effect on the funding of MDT's infrastructure. If this trend continues, there will be cuts in all programs across the board.

John Blacker announced that Kyle DeMars has been selected as the new Maintenance Chief in Kalispell, replacing Stephen Herzog who has retired.

Bob Burkhardt announced Ted Burch and Carl James will be leaving FHWA and there will be some change in district FHWA personnel. (Five district staff will be reduced to three).

cc: Craig L. Abernathy/Research Programs w/attachments  
Lisa Autio/Research Programs w/attachments  
Kent M. Barnes, P.E./Bridge Bureau  
Kevin Christensen/Highways and Engineering Division  
Tim Conway, P.E./Consultant Design Bureau  
Lisa Durbin/Construction Administration-Bureau  
Mike Dyrdaahl/Highways and Engineering Division  
Paul R. Ferry, P.E./Highways Bureau  
John Horton/Right-of-Way Bureau  
Paul Jagoda, P.E./Construction Engineering Bureau  
Jennifer Jensen/Human Resources Division  
Michael P. Johnson/District Administrator-Great Falls  
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