

MEMORANDUM

To: RRC Members
Debbie Alke, Administrator/Aeronautics Division
D. John Blacker, Deputy Director
Mike Bousliman, Operations Manager
Jeffery M. Ebert, P.E./District Administrator-Butte
Larry Flynn, Administrator/Administration Division
Jennifer Jensen, Operations Manager
Dwane Kailey, Operations Manager
Jim Lynch, Director
Bob Seliskar/FHWA
Dennis Sheehy, Administrator/Motor Carrier Services Division
Jerry Stephens, P.E./WTI MSU
Jon Swartz, Administrator/Maintenance Division
Lynn Zanto, Administrator/Rail, Transit, and Planning Division

From: Susan C. Sillick, Manager
Research Programs

Date: January 12, 2011

Subject: 10/27/2010 RRC Meeting Notes

RRC Members Present: John Blacker, Larry Flynn, Jim Lynch, Bob Seliskar, Dennis Sheehy, Sue Sillick, Jerry Stephens, and Jon Swartz.

Others Present: Craig Abernathy, Kent Barnes, Bret Boundy, Kris Christensen, Bill Cloud, Jeff Jackson, David Jacobs, and Moriah Thunstrom

1. **Budget Report:** Attached

No discussion.

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

a. **Assessing the Extent and Determinants of Induced Growth Scope of Work (10-016) – Approval-in-Concept**

Moriah Thunstrom presented the scope of work (SOW) on behalf on the technical panel to obtain approval to issue an RFP for this project.

In order to satisfy the requirements of MEPA and NEPA, environmental documents must consider potential direct, indirect, and cumulative impacts of proposed projects. Direct impacts are relatively straightforward to assess. Indirect effects are more complex to assess, especially with no established guidelines. MDT does not have a defined, uniform

process specific to Montana for assessing induced growth. The purpose of this research is to develop practical refinements to MDT's current analysis methods for evaluating induced growth impacts associated with transportation projects. This project will result in process improvements and legal defensibility, and improved involvement with the public and resource/regulatory agencies.

Jim Lynch questioned the need for and asked which area in the Department was the lead for this project. Moriah told Jim that Environmental was the lead. Jim expressed concern that this research will negatively affect projects. Moriah assured Jim the purpose of the project is to develop a tool to help MDT meet federal and state requirements more effectively. Jim requested a meeting with himself, Lynn Zanto, Tom Martin, Moriah Thunstrom, and John Blacker to discuss these concerns. If Jim's concerns are alleviated and Jim gives the OK, the SOW will be sent to the RRC for an e-mail ballot to approve it in-concept and to issue an RFP.

b. Determination of Material Properties and Deflection Behaviors for Contemporary Prestress Beam Designs Scope of Work (10-009) – Approval-in-Concept

Kent Barnes presented the SOW for this project on behalf of the technical panel to obtain approval to request a proposal.

Prestress concrete beams have been a common item in bridges since the late 1950s. They have proven to be cost-effective and low maintenance. MDT is in the process of implementing prestress concrete beams. Construction with these beams poses a number of challenges resulting from a lack of understanding of the elastic and non-elastic properties of the prestress beams with Montana materials and environmental factors which may affect those properties. Quantification of these properties will allow full realization of the economies of modern prestress concrete design in Montana.

John Blacker asked whether this information already exists as prestress concrete beams have been around for a while. Kent said that certainly we will build on what others have done; however, testing with Montana-specific materials is necessary. John also asked if this project is suited for a pooled-fund study. Kent didn't think so due to the requirement for testing with materials found in each state.

John Blacker made the motion to approve this SOW-in-concept and for the technical panel to request a proposal. The proposal when approved by the technical panel will be presented to the RRC for funding approval. Jon Swartz seconded the motion. All voted in favor; the motion passed.

3. Reports: Available Upon Request

No discussion.

- a. **Automatic Crash Notification: Assessing Montana’s Motor Vehicle Crash and Related Injury Data Infrastructure** - Progress Reports- April and August 2010
 - b. **Bozeman Pass Wildlife Monitoring** – Progress Reports –May, June, July 2010
 - c. **Burrowing Mammal Impacts on Paved Highways- Phase I (07.010)**- Progress Reports- April and July 2010
 - d. **Effects of Defensive Vehicle Handling Training on Novice Driver Safety: Phase 3. Data Analysis and Results** – Final Report
 - e. **Feasibility of Reclaimed Asphalt Pavement (RAP) in Portland Cement Concrete Pavements (PCCP) (09.004)**- Progress Reports- April and July 2010
 - f. **Ground Penetrating Radar Analysis – Phase II (08.013)**- Progress Reports - May and October 2010
 - g. **Impact of Canadian Economic Development on Northern Montana Highways (08.002)**– Final Report
 - h. **Interim Evaluation of Three Instrumented Bridges in Saco (09.017)**- Progress Reports- April and July 2010
 - i. **Montana Rest Area Usage (09.003)**- Progress Reports- April and July 201
 - j. **Local Transportation and Land Use Coordination: Tools and Gaps (07.014)** – Final Report and Products
 - k. **LTAP**- Progress Reports- March and July 2010
 - l. **Motor Fuel Refunds (09.005)** – Progress Reports – March and June 2010
 - m. **Steel Pipe Pile/Concrete Pile Cap Bridge Support Systems: Confirmation of Connection Performance (09.016)** Progress Report – June 2010
 - n. **Steep Cut Slope Composting: Field Trials and Evaluation (05.010)** – Progress Report – March and April 2010
 - o. **Summer Transportation Institute**- 2010 Final Report
 - p. **US 93 Post-Construction Wildlife-Vehicle Collisions and Wildlife Crossing Monitoring and Research**- Progress Reports- April and July 2010 and 2010 Interim Report. *New wildlife crossing use video on website*
4. **Contract Extensions:** None
5. **Proposals:** Attached
- a. **Montana Intercity Bus Service Study (10-015)**

David Jacobs presented this proposal on behalf on the technical panel for funding approval.

Federal law requires each state to spend 15% of its annual Section 5311 apportionment “to carry out a program to develop and support intercity bus transportation,” unless the Governor certifies “the intercity bus service needs of the state are being met adequately.” In addition, the statutory provision for certification by the chief executive officer implies a statewide assessment of intercity bus service currently available and of any existing needs.

This project will provide MDT with an assessment of current need for intercity bus service in the state, a review of the current services being provided in this regard, and an attendant assessment of how well these services are meeting the identified needs. In addition, any gaps or overlaps in services will be identified. The steps used in performing this analysis will be developed and documented in such a manner as to provide MDT a structured methodology to analyze intercity bus service in Montana as necessary, likely every three years.

John Blacker made a motion to fund this project for \$103,374. Jim Lynch seconded the motion. All voted in favor; the motion passed.

b. Subsurface Drainage for Landslide and Slope Stabilization Pooled Fund Study

Jeff Jackson and Bret Boundy presented a request for \$8,000 in additional funding for this pooled-fund study. MDT contributed \$20,000 in the past. Total project funding is about \$390,000.

The presence of water is one of the most critical factors contributing to the instability of slopes above and below roadways and highway structures. In many states including Montana, horizontal drains are a common means of stabilizing hillsides; however, the design of these drains has been haphazard. MDT, like most other state DOTs has, in the past, installed horizontal drains according to a “best guess,” with varying results.

The core objectives of the above referenced pooled-fund study (shared by ten states including Montana) include:

- 1) Consolidate information related to the design of horizontal drains for slope stability.
- 2) Create design guidelines that will provide the information needed to characterize the hydrogeology and estimate water levels under drained conditions.
- 3) Provide a clear methodology for drainage design using analytical or graphical methods, or more complicated numerical modeling.

Recently, however, members of the technical advisory committee recommended two additional specific items to support the main objectives:

- 1) Include a software tool to calculate hydraulic conductivity based on fracture data.
- 2) Make two site visits to landslides with horizontal drains currently installed to verify the proposed design methodologies by comparing predicted results with field data.

Jon Swartz made a motion to provide \$8,000 in additional funding for this pooled-fund project. Larry Flynn seconded the motion. All voted in favor; the motion passed.

6. Implementation/Technology Transfer: None

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

Sue Sillick made a proposal to move the annual solicitation for research topic statements from solicitation in November and December with the RRC and DAs moving topics forward to technical panels in January to March and April with topics moved forward to technical panels in May. The reason for this change is more and more the legislative session interferes with the meeting to determine which topics are moved forward to technical panels and the decision is delayed anyway. John Blacker said the proposal was a good idea. No one objected. The next solicitation will occur in March 2011 rather than November 2010.

Jim Lynch presented a hot topic on the funding for high-speed rail. He noted the definition of high-speed is travel greater than 50 mph. He also suggested the industry needs to look at different ways of moving people. Millions of dollars are being spent to develop high-speed rail in the more populous parts of the country. Jim suggested perhaps we should use the facilities that are already available, such as motor coaches on the highway system. Motor coaches meet the speed criteria for high speed rail; they just run on our current facilities rather than rail. Jim indicated MDT will conduct a feasibility study on this topic, which will be run through Planning or perhaps Research.

John Blacker asked if the federal funding situation with continuing resolutions affects Research funding. Sue indicated research funding is affected, along with the other federally funded programs. John Blacker, Larry Flynn, and Jim Lynch decided there is a need to discuss all programs affected and what happens if there is a period of time without federal funding.

Jon Swartz announced the new auditorium, which can be split into two conference rooms with a folding divider, and an additional conference room, both in the basement (or lower level) are available for use. MCS will move into the area that housed the old auditorium. Jim Lynch announced that with the new conference room facilities, any offsite meetings will need to be preapproved by Jim.

Kris Christensen announced that pictures and a video from the US 93 North post-construction monitoring project are posted on research's web site. Jim Lynch thought this might be a good topic to share with USFS during the next regularly scheduled meeting between MDT and USFS. Bob Seliskar added that there is federal funding available for a video on US 93 north. Sue added that MDT applied for and received \$50,000 in FHWA Surface Transportation Environment and Planning (STEP) Cooperative Research Program funds for use on the US 93 north post-construction evaluation.

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 Dyrdaahl/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
Ray Mengel/District Administrator-Glendive
Doug Moeller/District Administrator-Missoula
Suzy Price/Contract Plans Bureau
Timothy W. Reardon/Legal Services
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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