

SOLUTIONS



RESEARCH PROGRAMS

Summer/Fall 2018

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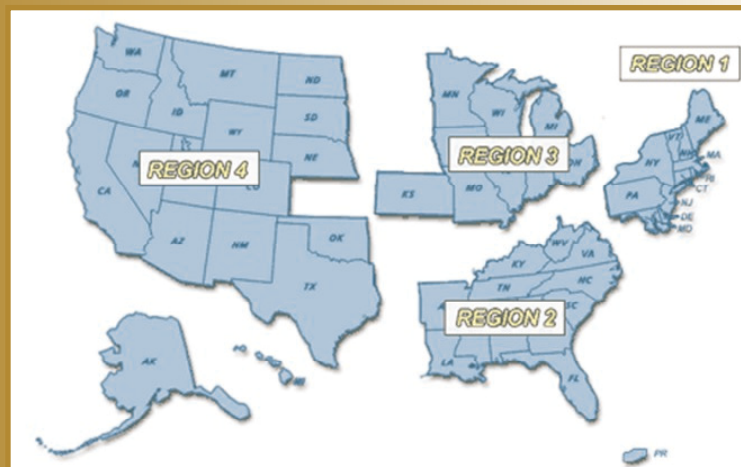
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PROJECT HIGHLIGHTS

High Value Research – Rock Fall Hazard Process

<https://www.mdt.mt.gov/research/projects/geotech/rockfall.shtml>

Every year, there is a competition among state DOTs, DC, and Puerto Rico for High Value Research. Within each of the four AASHTO regions, four high value research projects are selected, for a total of 16 high value research projects nationwide. These projects are called the Sweet Sixteen. Each region conducts voting by peers to identify their top four projects. All of the submittals are published each year in a document titled [Research Impacts: Better Faster Cheaper](#). In addition, a brochure of the Sweet Sixteen titled [Research Makes The Difference](#) is published annually. Winners present their projects at the annual summer AASHTO Research Advisory Committee (RAC) meeting and are also presented with a certificate at the award luncheon. In addition, winners may present a poster at the TRB Annual Meeting the following year.



This year, the Montana DOT won one of the four High Value Research awards for Region 4, with our 2017 [Rockfall Hazard Process Assessment](#). Sue Sillick was presented with an award in July at the RAC meeting. Darren Beckstrand, principal investigator for this project, will present a poster at the 2019 TRB Annual Meeting. Currently, a poster highlighting this project is on display in the Research poster case outside of MDT HQ auditorium. If you are in HQ anytime through the January 2019, come check it out.

For more information, visit the [project website](#) or contact [Sue Sillick](#) (ssillick@mt.gov or 406.444.7693).



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Sinusoidal Centerline Rumble Strip (SCLRS) Evaluation

<https://www.mdt.mt.gov/research/projects/sclrs.shtml>

Centerline rumble strips (CLRS) are a low-cost, effective method to reduce roadway departure crashes. Rumble strips use both noise and vibration to alert a driver that their vehicle is leaving the travel path. To be effective, the noise generated inside the vehicle must rouse a drowsy driver or grab the attention of a distracted driver. Since there is a wide range of “drowsiness” and “distraction” inside the vehicle compartment, more noise is typically better.

Conversely, the noise generated outside the vehicle can be disruptive to residents or businesses in the area, and the goal is to produce as little sound as possible broadcast outside the vehicle, while still maintaining the CLRS safety effect. The focus of this project is to document installation and noise levels of SCLRS, which will be compared to that of CLRS the Department now deploys.

Research staff will conduct full site inspections annually to document visual appearance of the SCLRS. The MDT Planning Division Remediation and Assessment Section will conduct noise level measurements to compare decibel levels of the current traditional milled CLRS with the four (4) SCLRS designs in place.



Grinding in action



Example image of completed cut



Sealed SCLRS



Sinusoidal cutting head

For more information, contact Craig Abernathy (cabernathy@mt.gov, 406-444-6269)



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Wildlife Accommodation Process

<https://www.mdt.mt.gov/research/projects/env/wap.shtml>

Wildlife accommodations are features designed and implemented into a transportation facility to moderate the effects of the infrastructure on wildlife and their habitat. The objective of these features is to minimize or eliminate barriers to wildlife movement, protect important habitat components within the landscape, and reduce or eliminate the potential for wildlife-vehicle collisions. The Montana Department of Transportation (MDT) recognized there is not a defined procedure for addressing wildlife accommodations within the project development process. To date, wildlife accommodations have been addressed on a case by case basis using an informal process that lacked definition and consistency, and often resulted in last minute design changes, increased costs, and project delays. The goal for this project was to develop a formal Wildlife Accommodation Process (WAP).

The WAP is intended to bring all functional areas within MDT together during project development to assess the need and feasibility of wildlife accommodations in every project. This multidisciplinary group, with membership from the affected District, Planning, Preconstruction, Construction, and Maintenance, is designated as the Design Team, provides input early in the design process, and is critical to the success of the process. Through the Design Team, communication is improved among functional areas involved with transportation facilities throughout the entire facility lifecycle.



The WAP is a series of steps that have been integrated into MDT's existing project development process. The first step encompasses the identification and presentation of wildlife needs and general wildlife accommodation recommendations. The second step involves presentation of detailed recommendations for wildlife accommodations in the newly developed Wildlife Accommodations Recommendation Memo (WARM), a new activity in the design process flowchart. This is based on a wildlife needs assessment and the general recommendations from Step 1. The WARM is distributed to the multidisciplinary Design Team. An iterative evaluation process follows as Step 3, the cooperative and iterative feasibility evaluation of the wildlife accommodations recommendations. Within this step, recommendations are accepted, modified, or rejected for further development based on this evaluation.



Alternate recommendations, not previously included in the WARM, may emerge during this iterative evaluation. Step 4 involves the documentation of the Design Team's findings in the Wildlife Accommodations Decision Report (WADR). The WADR documents wildlife accommodations that will advance to final design, those that will not advance, and full justification as to why each accommodation was accepted, rejected, or proposed as an alternative by the Design Team. In the last step, Step 5, the accepted, modified, and alternate wildlife accommodations are advanced into the project design phase.



All plans, details, and special provisions for wildlife accommodations are incorporated into project development by the Design Team. Any issues that arise during final project development that have an impact on the implementation of wildlife accommodations are discussed with the Design team to determine if a feasible alternative can be identified. Changes to the WADR decisions are documented in subsequent milestone documents.

Implementation products were developed as a part of this research project. Also, developed as a part of this project are an implementation plan, performance measures, and a process review. As an initial implementation step, this process was presented to management in August. Additional training will be presented to MDT staff and consultant designers. This process has already been incorporated into a handful of projects. Full implementation will occur after training is completed for all new projects and for projects still in the early design phases.

For more information, visit the [project website](#) or contact Sue Sillick (ssillick@mt.gov or 406.444.7693).

LIBRARY CORNER

Special Library Association Conference

<http://www.mdt.mt.gov/research/unique/services.shtml>

A wealth of knowledge and knowledge workers descended upon Baltimore, MD in June for the Special Library Association Annual Conference. As part of that, those of us on the Government Transportation Research Information Committee (GTRIC) attended our annual meeting. Information professionals representing many varieties of special libraries were treated to training, discussion, and networking opportunities topped with a keynote address from the U.S. Librarian of Congress Dr. Carla Hayden. (Pictured right)

The conference had some common themes including discoverability, knowledge and data management.

The lower level of the Baltimore Convention Center was full to bursting with 132 exhibitors available to demonstrate the latest technology in the field.



Photograph of Carla Hayden. Available at: <https://twitter.com/libnofcongress> [Accessed 25 Oct. 2018].



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Here librarians and information professionals experimented with the latest databases, research tools and data management software.

This conference affirmed practices we currently use and offered insight to help us work more efficiently in the future. One of the things I enjoyed was the sheer number of sessions. The sessions were scheduled in such a way that with some thoughtful planning, the knowledge acquired from each presentation could inform and build upon something in another.



To highlight a few examples:

Taxonomy to Drive Personalization Aligning User Interests and Content focused on using key words strategically to standardize content. This

is not a new idea but it emphasizes the importance of selecting tools our users can employ to have a more granular look at hierarchical terms. What does this mean to us? It helps us narrow down searches to get the right content at the right time. This way the transportation staff we serve receives personalized and accurate recommendations.

On that note, tying nicely into the taxonomy session, Diving Deeper Into Discovery emphasized the importance of a single entry point to multiple content collections and the integration of multiple databases. Ease of access and discoverability are important, but it is hard to discover resources if no one knows the resource exists.

That is why it is important to have A Seat At The Table – The Journey from Service Provider to Integrated Partnership: Successes and Challenges This session

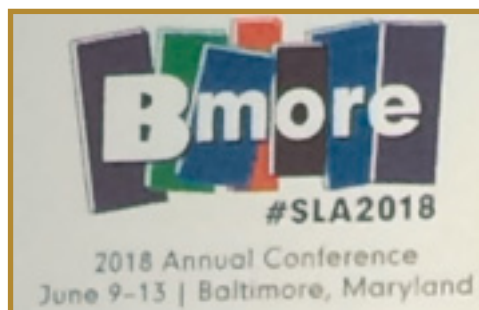
discussed the importance of marketing library services to those who need them. To do this, information professionals are encouraged to attend meetings around their respective agencies to understand what is happening, what is coming, and how to translate the current needs of the agency into supported library services.

This can be difficult with budget constraints. Government Information Preservation on a Shoestring Budget was all about working within various limitations. The session included a demonstration of a project in which a perfectly relevant digital collection was no longer accessible due to broken links. This session explained how to house a digital collection and ensure that it stays in place by using original content, saving the content, and giving it proper attribution. Similarly, the message from Transitioning Into A Special Library reminded attendees to be proactive, entrepreneurial, and adaptable when it comes to getting information into the hands of those who need it, and ensuring our services are utilized efficiently.

Speaking of adaptation, Flight of the Drones was probably the most exciting session (for me) during the SLA experience! One of the speakers listed on the agenda was unable to make it, and I was asked to speak about the [UAV listserv](#) and the recently published [WTKN Libguide](#).

The many other sessions over the course of this conference offered information about Data Management Plans, Knowledge Management, and even a minicourse in not-so-technical-writing for newsletters like this!

For more information or to share resources, please contact Bobbi deMontigny (bodemontigny@mt.gov or 406.444.0871).





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DID YOU KNOW?

New MDT Research Projects

<https://www.mdt.mt.gov/research/unique/solicit.shtml>

Each year in February and March, MDT solicits for new research ideas.

A simple Stage 1: Research Idea form is due each March 31st. Internal champions are required for each research idea. After a review of the literature, the champion determines if the research idea should move forward to Stage 2. If so, Stage 2: Research Topic Statement forms are due each April 30th. In May of each year, champions present their research topics to MDT's high-level Research Review Committee (RRC) and District Administrators.

In May, June, or July of each year, these two groups determine which research topics will move forward to technical panels. More information on MDT's research project process can be viewed at the above website. This May, MDT approved seven new research projects to move forward to the technical panel stage for federal fiscal year 2019 (10/1/18-9/30/19).

[Bridge Deck Cracking Evaluation](#)

[Concrete-Filled Steel Tube to Concrete Pile Cap Connections – Further Evaluation/improvement of Analysis/Design Methodologies: Phase 2- Specimen Testing](#)

[Developing a Systematic Approach for Safety Improvements on Low-Volume Roads in Montana](#)

[Effectiveness of Highway Safety Public Education at Montana Motor Vehicle Division and Vehicle Registration Stations by Using Safety Videos](#)

[Evaluation of thin Polymer Overlays for Bridge Decks](#)

[Monitoring Streamflow Using Video Cameras](#)

[Use of Fluorescent Orange Delineators in Temporary Traffic Control Work Zones](#)

Technical panels have been formed and are meeting to determine the scope of each research project.

For more information, please contact the Research Project Manager listed on each of the above pages.

CALENDAR OF EVENTS

January

- AASHTO RAC Meeting - 1/13
- TRB Annual Meeting - 1/13 - 1/17
- MDT RRC Meeting - 1/31

February

- NCHRP Highway Synthesis Topic Statements Due - 2/18
- MDT RRC Meeting - 2/28

March

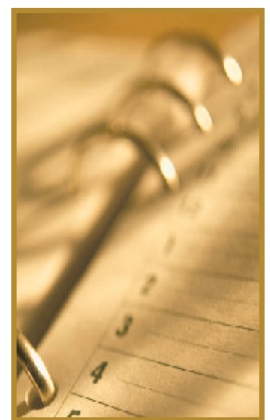
- NCHRP IDEA Proposals Due - 3/1
- MDT RRC Meeting - 3/28

April

- MDT RRC Meeting - 4/26

May

- TCRP IDEA Proposals Due - 5/1



For additional information, please see: <http://rppm.transportation.org/Lists/Calendar/calendar.aspx>.



NEW RESEARCH PROJECTS

[Bridge Deck Cracking Evaluation](#)

[Concrete-Filled Steel Tube to Concrete Pile Cap Connections Phase IV: Further Evaluation and improvement of Analysis and Design](#)

[Developing a Systematic Approach for Safety Improvements on Low-Volume Roads in Montana Use of Fluorescent Orange Delineators in Temporary Traffic Control Work Zones](#)

[Effectiveness of Highway Safety Public Education at Montana Motor Vehicle Division and Vehicle Registration Stations by Streaming Safety Videos](#)

[Evaluation of Thin Polymer Overlays for Bridge Decks](#)

[Monitoring Streamflow Using Video Cameras](#)

[Use of Fluorescent Orange Delineators in Temporary Traffic Control Work Zones](#)

NEW RESEARCH REPORTS

[Wildlife Accomodation Process](#)

A listing of all past and current research projects can be found at

http://www.mdt.mt.gov/research/projects/sub_listing.shtml

NEW EXPERIMENTAL PROJECTS

[Tencate-Mirifi MPV400 Polypropylene Nonwoven Geotextile](#)

[Centerline Rumble Strips \(CLRS\)](#)

[T5 Base One Soil Stabilization](#)

[RoaDrain Geocomposite for Added Subsurface Drainage](#)

[Fiber Reinforced Asphalt Cement \(FRAC\)](#)

NEW EXPERIMENTAL REPORTS

[Crack Sealing Milled Asphalt Pavement Prior to Overlaying Montana](#)

A listing of all past and current experimental projects can be found at

http://www.mdt.mt.gov/research/projects/exp_sub_listing.shtml



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REMINDER

Information on research services and products, such as research and experimental project processes and reports and technology transfer services, can be found on the Research web site at www.mdt.mt.gov/research.

MDT's library collection can be searched through the [library catalog](#). The catalog and other information resources are available through the [MDT Library web site](#).

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