SOLUTIONS

RESEARCH PROGRAMS

Winter 2014

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PROJECT HIGHLIGHTS

New Pavement Marking Bead Technology Evaluation

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

The Montana Department of Transportation is evaluating several new types of reflective beads to accentuate clarity and presence of pavement markings during nighttime dry and wet conditions.

Currently, conventional glass beads used in pavement markings suffer from diminished "retro-performance" when covered with a thin film of water, especially during nighttime driving conditions. This reduced retroreflectivity can impede a driver's ability to see the pavement stripes effectively, a condition which this new generation of beads is designed to improve. The products chosen to test are the 3M Ceramic Elements, dual-optic microcrystalline ceramic beads embedded on a center core, and Potters Visimax Plus, glass beads three to four times the diameter of conventional glass beads.

The project, located between the towns of Rockvale and West Laurel Montana, is on Highway 310, a heavily trafficked two-lane road. Ten lane miles were chosen to test the efficacy of the new beads. The performance of these new beads will be compared to that of the Department's conventional Type 2 beads.

3M Ceramic Elements

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Additional information is available on the experimental project website. Please contact Craig Abernathy (406.444.6269 or cabernathy@mt.gov) for more information.

Potters Visimax Plus

Red Arrow Notes Delineation of 3M Ceramic Elements Beads Vs. Conventional Beads

Geosynthetic Reinforced Soil-Integrated Bridge System (GRS - IBS)

This structure, built at the South Fork Dry Fork Marias River crossing near Dupuyer Montana, employs the Geosynthetic Reinforced Soil (GRS) Integrated Bridge system (IBS), an Every Day Counts technology. GRS-IBS is a system that uses a series of alternating layers of granular fill material and fabric sheets of geotextile to create a composite reinforcement that provides support for the bridge slab.

The combination of compressive strength of the granular soil and tensile strength of the geotextile results in a very strong internally supported structure that is able to carry a substantial load. Furthermore, this design provides a smooth transition from the roadway to the bridge since the construction is jointless and has no approach slab.

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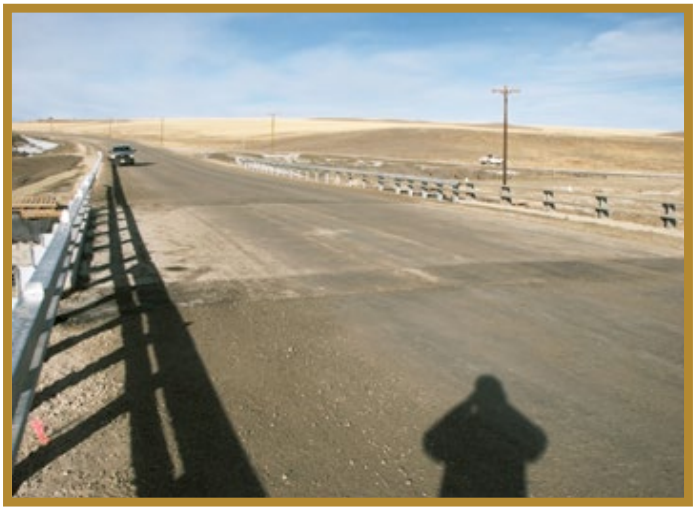
Simpler construction techniques and very little concrete are used as compared to construction of conventional abutments, reducing construction time and cost.

Additional information is available on the experimental project website. Please contact Craig Abernathy (406.444.6269 or cabernathy@mt.gov) for further information.



LIBRARY CORNER

Information Overload: Ideas for Managing Too Much of a Good Thing

Information can be a powerful resource, enabling staff to make better decisions and to avoid costly mistakes. Research shows that it can be useful, but to a point. At the point of "too much", it can overwhelm an individual, causing a decline in effectiveness. Individuals are then not able to process the incredible load of information they receive.[1]

With today's technology, people are easily inundated. It is worthwhile to look at ways to manage its influx so that information can be used to improve efficiency, rather than swamping and frustrating employees.

One strategy is to have clearly defined priorities for information and to set your focus on the topics that are important to you. As you go through emails and websites, if you have a clear focus on what is needed for your work, you can more easily filter what is essential from what can be deleted.

Another way to help manage information is to invest a bit of time in creating a personal organization system that works for you. There are different ways to do this.

Email

You might consider creating a folder system in which you can deposit emails so that they're not cluttering your inbox. Then, periodically, set aside time to go through and delete anything outdated or irrelevant.

Websites

Depending on your Internet browser, you can bookmark sites, add them to your "Favorites", or setup your browser to navigate to website(s) upon opening, allowing you to easily access these sites. You can also

[1] Joseph Ruff, "Information Overload: Causes, Symptoms and Solutions." (LILA Briefing, Harvard Graduate School of Education, 2002), http://lila.pz.harvard.edu/_upload/lib/InfoOverloadBrief.pdf.

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use online tools like Delicious that allow you to assign tags to websites. These tags will allow you to organize your sites, so that when you click on a tag, you'll see a collection of sites that are assigned the same tag.

This enables you to keep similar websites together and stored, so you can more easily retrieve the site that you need when you need it.

RSS Feeds

In addition, certain technology applications can be used to help make information more easily accessible and to save you the time it takes to find it. RSS feeds, for example, can let you know when new content is added to websites that you want to watch.

For those less familiar with this technology, RSS stands for "Really Simple Syndication". Feeds allow you to see updates in one spot, delivered to you, so that you don't have to re-visit the website on a regular basis to see what's new. You can subscribe to the feed so it's available in a folder on your web browser. When new items are available for you to review, the folder name will be in bold (the bold lettering lets you know there's something new). If you have Outlook 2010, you can even set up the RSS feed to be delivered through e-mail directly to an RSS folder; these instructions can help if it's your first time (for Outlook, see the "Manually enter a New RSS Feed Subscription" section). It doesn't take up very much space and is relatively simple to configure. Most sites with RSS feeds identify their feeds with the RSS icon.

The Transportation Research Board's (TRB) website has RSS feeds available for publications and research opportunities, and is a good example of a site where RSS can be very useful. TRB publications are numerous, and without the help of tools like RSS feeds, keeping up with pertinent information can be challenging. There is a link to RSS feeds in the top right-hand corner of the TRB homepage.

Where to Search and Information Quality

Knowing where to search and being able to discern information quality can also save time when you need to find resources on a topic. Although doing a Google search can be useful in certain situations, there are better options that are more likely to give you results related to your needs, as well as having the level of quality and authority that is needed to do your work.

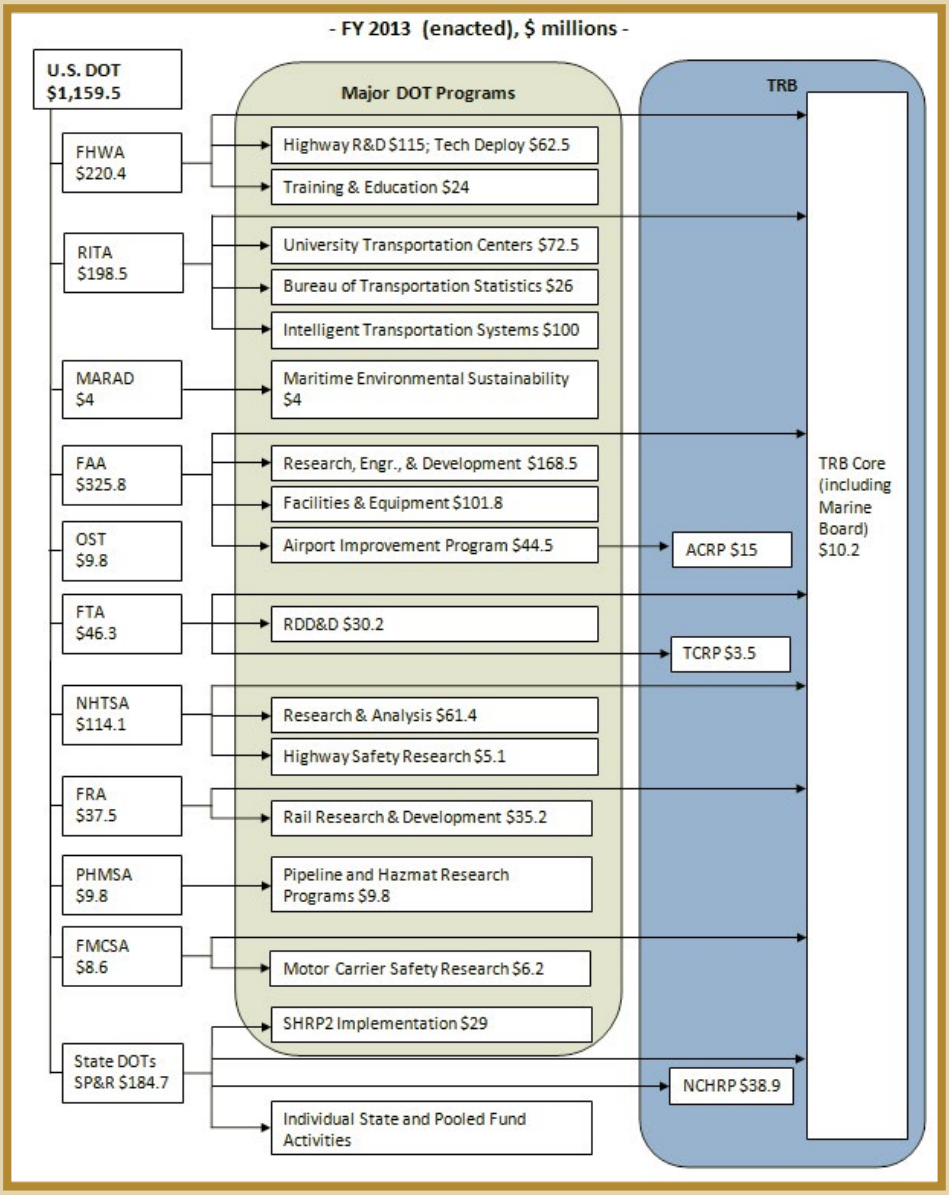
The MDT Library web page has links to websites that can be useful if you need transportation-specific information. The Transportation Research Board's TRID database, for example, contains over a million records of transportation research from sources such as state and federal agencies, the Transportation Research Board, international organizations, and more. It's a great place to start a search for transportation-specific information.

As an information consumer, it's important to evaluate sources to make sure that the information is accurate and timely. Evaluating the information before you process it can save you the frustration of wasting time on resources that are inaccurate or not authoritative enough to use in your work. You can sometimes tell by the publisher, if the resource is produced by a recognizable source. If author information is available, you can see if it's created by someone who has experience and is knowledgeable on the topic. You should check the site for a date published to make sure that you're not using an outdated resource. The quality of writing (grammar, objectivity, accuracy, use of referenced material, and so on) may also indicate whether or not the resource is reliable. This site (scroll down the page to view information) offers more details that can help you to better evaluate web resources.

These are just a few general suggestions to help manage information so that it's more useful and easily accessible when you need it. Information overload can certainly lead to frustration and a decline in efficiency, but there are strategies and technologies available to help you have more control. If you'd like more information or need help searching for information, please contact Katy Callon (406.444.0871 or kcallon@mt.gov).

DID YOU KNOW?

U.S. DOT Support for Transportation Research and the Transportation Research Board's (TRB's) Role[1]



U.S. DOT Support for Research and Technology

[1] Draft. Created by Robert E. Skinner, Jr., Transportation Research Board and Timothy Klein, US DOT.

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1. Based on annualized FY 2013 funding in effect October 2013; provided by the U.S. DOT Research and Innovative Technology Administration (RITA).

2. Major programs and the associated funding are listed with the agency that administers the program rather than where the funding originates. This means that the University Transportation Centers Program and the Intelligent Transportation Systems Program are shown as part of RITA. However, no adjustments are made for smaller programs and funding transfers from modal administrations to the Office of the Secretary (OST) and among modal administrations.

3. Some but not all data programs are included. For example, the Bureau of Transportation Statistics is included but not NHTSA's data programs.

4. The amount shown for State Planning & Research (SP&R) funding is the portion (25%) that must be spent on research activities. SP&R is part of federal aid provided to state departments of transportation for highways.

5. TRB's Core Program receives funding from other federal (non-DOT) and non-federal sponsors as well as revenues from registration and exhibit fees, publication sales, meeting patrons, etc. Total Core Program funding for 2013 was approximately $10.2 million.

6. Not all U.S. DOT funding directed to TRB in 2013 is shown. Support for ad hoc studies and conferences is excluded as well as contributions to continuing research activities of less than $100,000.

7. Abbreviations

ACRP, Airport Cooperative Research Program
BTS, Bureau of Transportation Statistics
CTBSSP, Commercial Truck and Bus Safety Synthesis Program
FAA, Federal Aviation Administration
FHWA, Federal Highway Administration
FMCSA, Federal Motor Carrier Safety Administration
FRA, Federal Railroad Administration
FTA, Federal Transit Administration
HMCRP, Hazardous Materials Cooperative Research Program
MARAD, Maritime Administration
NHTSA, National Highway Traffic Safety Administration
NCFRP, National Cooperative Freight Research Program
NCHRP, National Cooperative Highway Research Program
NCRRP, National Cooperative Rail Research Program
OST, Office of the Secretary of Transportation
PHMSA, Pipelines and Hazardous Materials Safety Administration
RITA, Research and Innovative Technology Administration
RE&D, Research, Engineering, and Development
SHRP2, Strategic Highway Research Program 2
SP&R, State Planning &Research
STR, Surface Transportation Research
TCRP Transit Cooperative Research Program

For more information, please contact Sue Sillick (406.444.7693 or ssillick@mt.gov).

NEW RESEARCH REPORTS

Evaluation of Wildlife Crossing Structures on US Highway 93 Evaro to Polson - Annual Report 2013

Feasibility of Reclaimed Asphalt Pavement as Aggregate in Portland Cement Concrete Pavements

A listing of all past and current projects can be found at www.mdt.mt.gov/research/projects/sub_listing.shtml.

NEW EXPERIMENTAL REPORTS

Geosynthetic Reinforced Soil - Integrated Bridge System (GRS-IBS) Construction Report

TAPCO Sequential Dynamic Curve Warning System Construction Report

A listing of all past and current projects can be found at http://www.mdt.mt.gov/research/projects/exp_sub_listing.shtml.

MDT Research and Library Customer Appreciation Day - April 16, 2014

On April 16th from 9:30 AM – 11:30 AM, we will be hosting a Customer Appreciation Day at MDT Headquarters, Auditorium East, to showcase MDT's research projects and the library services and resources that are available to our customers. This event will feature snacks, games, and prizes. This event coincides with National Library Week; the theme this year is "Lives Change @ Your Library". We will have displays and posters to explore ways that the MDT Library can have an impact on those we serve. Please feel free to stop by; we'd love to talk to you more about the services we offer and to show how much we appreciate your ongoing support. If you have any questions, please contact Katy Callon (406.444.0871 or kcallon@mt.gov).

CALENDAR OF EVENTS

January
MDT RRC Meeting 1/29/14

February
NDDOT-MDT-SHRP 2 Joint Workshop 2/6/14
NCHRP (FY 2014) Synthesis Topics Due 2/8/14
SHRP 2 Round 3 Applications Due 2/14/14
NCHRP (FY 2015) Problem Statement Ratings Due 2/21/14
MDT RRC Meeting 2/26/14

March
IDEA Research Topics Due 3/1/14
TCRP (FY2014) Synthesis Topics Due 3/14/14
ACRP Research Problem Statements (FY2014) Due 3/19/14
MDT RRC Meeting 3/26/14
NCHRP (FY 2015) Projects Chosen
SHRP2 Round 3 Selections Announced

April
National Library Week 4/13-19/14
MDT Research & Library Customer Appreciation Day 4/16/14
MDT RRC Meeting 4/29/14
MDT Research Topic Statements Due 4/30/14

May
AASHTO Spring Meeting 5/3-7/14
MDT RRC Meeting 5/28/14

June
NCRRP Research Problem Statements Due 6/15/14
MDT RRC Meeting 6/25/14

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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