

**MONTANA DEPARTMENT OF TRANSPORTATION**  
**ACTIVE AND RECENTLY COMPLETED RESEARCH PROJECTS <sup>1</sup>**  
**May 11, 2018**

| Problem Statement # | Project Title  | Technical Panel (TP) Members   | TP's Formed | Lit. Search | Action                  |                   |   | % Complete (Time)   |
|---------------------|--|--|-------------|-------------|-------------------------|-------------------|---|---|
|                     |  |  |             |             | TP                      | RRC               | Research: MSU/UM/ Contractor  |   |
| N/A                 | <i>Statewide Rockfall Hazard Rating Process Update</i> (Darren Beckstrand/Brent Black)   | Jeff Jackson (Chair), Scott Helm, Bret Boundy, Doug McBroom, Jack Dartman, and Sue Sillick   | Y           | N/A         | Positive Recommendation | Approved 4/10/15  | Landslide Technology 8239-001 6/15-9/17 (28)  | 100 DONE  |
| N/A                 | <i>Traffic Safety Culture Pooled Fund Study</i> (There will be numerous projects underneath this pooled fund study.)<br><b>Projects 8882-309-01, 05, 07, 09:</b> MGMT Support<br><b>Project 8882-309-02:</b> Assessment of Traffic Safety Culture Related to Driving after Cannabis Use<br><b>Project 8882-309-03:</b> Assessment of Traffic Safety Culture: Exploring Traffic Safety Citizenship<br><b>Project 8882-309-04:</b> Traffic Safety Cultures and the Safe Systems Approach - Towards a Cultural Change Research and Innovation Agenda for Road Safety (TraSaCu)<br><b>Project 8882-309-06:</b> 2017 TRB Annual Meeting Travel<br><b>Project 8882-309-08:</b> Understanding Law Enforcement Attitudes and beliefs about Traffic Safety (Nic Ward) | Audrey Allums, Sue Sillick, Marcee Allen, Bob Seliskar, CA DOT, CT DOT, IA DOT, ID DOT, IL DOT, IN DOT, LA DOT, NH DOT, NV DOT, TX DOT, UT DOT, VT DOT, and WA DOT | Y           | Y           | Positive Recommendation | N/A               | WTI 10/14 9/19 (60) 8882-309-04 6/15-9/19 (52) 8882-309-08 4/17-3/19 (24) 08882-309-09 11/17-10/18 (12) | <b>01:</b> 100 DONE<br><b>02:</b> 100 - DONE<br><b>03:</b> 100 - DONE<br><b>04:</b> 69<br><b>05:</b> 100 DONE<br><b>06:</b> 100 DONE<br><b>07:</b> 100 DONE<br><b>08:</b> 58<br><b>09:</b> 58 |
| 12-010              | <i>Investigation of Prefabricated Steel Truss/Bridge Deck Systems</i> (Damon Fick)   | Kent Barnes (Chair), Dave Johnson, Phil Green/Independent Structural Engineer, Drew Sielbach/FHWA, and Sue Sillick   | Y           | N/A         | Positive Recommendation | Approved 8/27/14  | WTI 8226-001 9/14-9/17 (37)   | 100 DONE  |
| 13-008              | <i>Evaluation of Effectiveness and Cost-Benefits of Woolen Roadside Reclamation Products</i> (Robert Ament)  | Phil Johnson (Chair), Jennifer Davis, Scott Helm, Alan Woodmansey/FHWA, and Sue Sillick  | Y           | N/A         | Positive Recommendation | Approved 1/29/14  | WTI 8223-001 3/14-9/17 (43)   | 100 DONE  |
| 14-002              | <i>Feasibility of Non-Proprietary Ultra-High Performance Concrete (UHPC) for Use in Highway Bridges in Montana</i> (Mike Berry)  | Kent Barnes (Chair), Matt Needham, Devin Roberts, Drew Sielbach/FHWA, and Sue Sillick  | Y           | Y           | Positive Recommendation | Approved 3/31/15  | WTI 8237-001 4/15 - 9/17 (31)   | 100 DONE  |
| 14-017              | <i>Top-down Construction Cost Estimating Model/Guide Using a Neural Network Within an Off the Shelf Spreadsheet and Database Programs</i> (Doug Gransberg)   | Lesly Tribelhorn (Chair), Mike Grover, Bob Antonick, Jim Skinner, Bill Squires, Ben Nunnallee, Christie McOmber, Chris Riley/FHWA, and Sue Sillick                 | Y           | Y           | Positive Recommendation | Approved 10/31/14 | ISU 8227-001 12/14-7/17 (32)  | 100 DONE  |
| 14-022              | <i>Advanced Methodology to Determine Highway Construction Cost Index</i> (David Jeong)   | Chad Richards (Chair), Lesly Tribelhorn, Mike Grover, Miles Yerger, Chris Hardan, Bob Antonik, Chris Riley/FHWA, and Sue Sillick                                   | Y           | Y           | Positive Recommendation | Approved 1/28/15  | ISU 8232-001 2/15-11/17 (34)  | 100 DONE  |
| 14-031              | <i>MDT Wildlife Accommodation Process</i> (Kathy Harris)   | Bill Semmens (Chair), , Tom Martin, Shane Stack, Lesly Tribelhorn, Deb Wambach, Matt Collingwood, Nathan Haddick, Shane Stack, Heidy Bruner/FHWA, and Sue Sillick  | Y           | Y           | Positive Recommendation | Approved 7/23/15  | KLJ 5896 3/16 - 6/18 (28)   | 96  |

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|---------------------|--|--|-------------|-------------|-------------------------|-------------------|---------------------------------------|----------------------------|
|                     |  |  |             |             | TP                      | RRC               | Research: MSU/UM/ Contractor          |                            |
| 15-008              | <i>Guidelines for Chemically Stabilizing Problematic Soils (Bhaskar Chittoori)</i>   | Jeff Jackson (Chair), Jim Davies, Scott Helm, Darin Reynolds, John Sharkey, DJ Berg, Leslie White, Aaron Anderson, Jeff Patten/FHWA, and Sue Sillick                                       | Y           | N/A         | Positive Recommendation | Approved 3/22/17  | Boise State 9389-522 4/16 - 6/19 (39) | 67                         |
| 15-013              | <i>Effective Production Rate Estimation and Monitoring of Controlling Activities Using Daily Work Report Data (David Jeong)</i>  | Lisa Durbin (Chair), James Dunbar, Chris Hardan, Geno Liva, Chad Richards, Alan Woodmansey/FHWA, and Sue Sillick   | Y           | Y           | Positive Recommendation | Approved 12/1/16  | ISU 9344-504 1/17 - 8/18 (20)         | 85                         |
| 15-015              | <i>Regional Regression Equations Based on Channel-Width Characteristics to Estimate Peak-Flow Frequencies at Ungauged Sites Using Data Through Water Year 2011 (Pete McCarthy)</i> | Dave Hedstrom (Chair), Kurt Marcoux, Steve Story/DNRC, and Sue Sillick   | Y           | N/A         | Positive Recommendation | Approved 12/18/16 | USGS 9353-511 2/17 - 9/21 (56)        | 29                         |
| 18-007              | <i>Large-Scale Laboratory Testing of Geosynthetics in Roadway Applications</i>   | Darin Reynolds (Chair), Jim Davies, Scott Helm, Bill Henning, Jeff Jackson, Paul Jagoda, Drew Sielbach/FHWA, and Sue Sillick   | Y           | Y           | Positive Recommendation | Approved 1/24/18  | MSU 9564-602 3/18-2/20 (24)           | 13                         |
| 18-009              | <i>Testing "Wildlife-Friendly" Fencing Modifications to Manage Wildlife and Livestock Movements</i>  | Larry Sickerson (Chair), Shane Mintz, Louise Stoner, Jerilee Weibel, Joe Weigand, Kam Wrigg, Heidi Bruner (FHWA), and Sue Sillick  | Y           | Y           | Positive Recommendation | Approved 4/24/18  |                                       |                            |
| 18-016              | <i>Feasibility of Non-Proprietary Ultra-High Performance Concrete (UHPC) for Use in Highway Bridges in Montana - Phase 2: Field Application</i>                                    | Lenci Kappes (Chair), Paul Bushnell, Matt Needham, Devin Roberts, Drew Sielbach/FHWA, and Sue Sillick  | Y           | Y           | Positive Recommendation | Approved 2/23/18  | MSU 9578-606 3/18-6/20 (28)           | 9                          |
| 18-017              | <i>Concrete-Filled Steel Tube to Concrete Pile Cap Connections - Further Evaluation/Improvement of Analysis/Design Methodologies</i>   | Lenci Kappes (Chair), Steffan Tyler, Drew Sielbach/FHEWA, Jim Scoles/MM, and Sue Sillick   | Y           | Y           | Met 11/22/17 and 12/7   |                   |                                       | Proposal is being drafted. |
| 18-018              | <i>Alkali-Silica Reactivity in the State of Montana</i>  | Paul Bushnell, Russ Lay, Matt Needham, Matt Strizich, Jerry Bowser/Old Castle Materials, Ken Munski/Terracon, Leo Zwemke/Knife River, and Steve Morrical, and Sue Sillick                  | Y           | Y           | Positive Recommendation | Approved 2/23/18  | MSU 9577-607 4/18-7/20 (27)           | 7                          |
| 18-020              | <i>Unmanned Aerial Vehicle (UAV) Applications for Montana Transportation Corridors</i>   | Fred Beal (Chair), Wade Cebulski, Bobbi DeMontigny, Chuck Granger, Paul Hilchen, Amanda Jackson, Steve Keller, Bryce Larsen, Rick LePage, Bryan Shields, Jeff Patten/FHWA, and Sue Sillick | Y           | N/A         | Recommend Cancel        | Cancelled         | XXXXXXXXXXXX                          | XXXXXXXXXX                 |

1. Projects which have been completed for six months are removed from this list in June and December. Click on [All Projects Listing](#) (below) to view all research projects.  
[All Projects Listing](#)