Implementing the Results of MDT Research

The Research Program supported by Montana Department of Transportation (MDT) is focused on delivering results that can be implemented within MDT to creatively solve issues across a wide range of transportation topics, from planning and design to construction and maintenance and more.

Implementation plays an integral role in MDT research, beginning with a research idea and the research proposal developed in response to it, continuing through the research process until, finally, the research concludes and the full complement of research results are available for MDT to implement.

> *For More Information: Learn more about MDT's research process and how researchers engage with MDT in [Transportation Research Glossary](#), [Research Process](#) and [Guidance for Researchers](#).*

Advancing Implementation at MDT

The six steps that advance the implementation of MDT research are described below.

Step 1: Describe Anticipated Implementation in the Research Topic Statement

Research ideas are submitted using the [Stage 1: Research Idea form](#). Ideas that have the support of an MDT champion and pass a preliminary internal review of relevance to and viability for MDT are ready for an MDT staff member to complete a [Stage 2: Research Topic Statement form](#).

The Stage 2 form requires a description of the following:

Implementability of research results. After describing the products that will enhance implementation, identify any anticipated barriers to implementation and how they might be mitigated or removed.

Implementation plan. Present an initial implementation plan that includes specific tasks and time frames for completing them.

Parties responsible for implementation. Identify the MDT office or outside entity that will be responsible for implementation. (MDT Research Program staff do not have responsibility for implementation. Responsible parties will likely include the project champion and/or sponsor and the division(s) or unit(s) benefitting from the research results.)

Responsible Parties: MDT staff members completing a Research Topic Statement form, project champions, MDT Research Program Manager

Implementation-Related Form: [Stage 2: Research Topic Statement form](#)

Step 2: Consider Implementation in the First Technical Panel Meeting

Technical Panels (TPs) are convened early in the research process to examine the research topic statements that may move forward to become funded research. The TP may develop a [Research Problem Statement](#) to solicit proposals for the possible new research project.

Research Problem Statement

The TP may develop a Research Problem Statement before requesting a proposal. This form serves as a guide for potential researchers preparing their research project proposals.

Implementation is a topic addressed in the Research Problem Statement. While some of the content will be informed by the Research Topic Statement form (addressing the anticipated barriers to implementation and identifying who will be responsible for implementation), other details will be newly described by the TP, including:

- Specific activities that will ensure successful implementation
- Criteria for judging progress toward implementation
- Assessment of the potential impacts of implementation

Responsible Parties: TP members, MDT Research Project Manager

Implementation-Related Form: [Research Problem Statement template](#)

Step 3: Describe Implementation in the Research Project Proposal

Researchers wishing to participate in the MDT research program submit research project proposals in response to a direct request from MDT or a formal solicitation that issues a request for proposal (RFP) to a broader group of potential researchers.

MDT's research project proposal template addresses implementation in the following sections:

The *research plan* section of the proposal should include:

- Qualitative and quantitative performance measures such as environmental improvements or a cost/benefit analysis for the research and potential implementation. A Performance Measures Report is often a required deliverable.
- Final presentation that provides an overview of the research and describes how findings will be implemented.
- Implementation meeting, facilitated by the project's principal investigator, that reviews the research team's implementation recommendations. Results of this meeting are documented in an implementation report.

Products must include all those required to implement research results.

The *implementation* section of the proposal should include an implementation plan tied to performance measures. The plan should describe necessary implementation activities, an estimate of costs, barriers and, if applicable, the additional research needed to implement findings. These issues will be examined in greater detail in the implementation section of the final report and in the supplemental implementation report prepared after the research concludes.

Researchers will use all available idea documentation (Stage 2 form and Research Problem Statement, if available) to guide development of their proposals. The research proposal template offers additional details.

Responsible Parties: Potential researchers, TP members, Research Review Committee (RRC)

Implementation-Related Form: Research Proposal template ([Word](), [PDF]())

Step 4: Prepare for Implementation During the Research Process

Once a project has been funded and contracted and a notice to proceed has been issued, general information about the project is added to *Part A: Project Information* of the Implementation Planning and Documentation form by the MDT Research Project Manager in collaboration with the project champion. This form serves as an implementation planning document while the research is in process.

Responsible Parties: Project champions, MDT Research Project Manager

Implementation-Related Form: [Implementation Planning and Documentation form]() (Part A)

Step 5: Present and Document Implementation Recommendations

The research team documents implementation in two primary ways as a research project concludes:

- *Implementation section* in the final report
- *Implementation report*

Both reports must be approved by the project sponsor and champion before a project can move to the implementation phase.

A project implementation meeting is held as a research project concludes. After this meeting, the research team develops an *implementation report*. This report includes a brief introduction to the research topic, an implementation summary and the project's objective followed by the research team's implementation recommendations and MDT responses. The implementation report must receive approval from the TP and the project's sponsor before it is published and used to track implementation after the research concludes.

Concurrent with delivery of the implementation report, the MDT Research Project Manager, in collaboration with the project champion, updates *Part B: General Implementation Information* of the Implementation and Planning Documentation form to record publication of the implementation report and summarize research findings.

Responsible Parties: Researchers, TP members, project champions, project sponsors, MDT Research Project Manager, MDT Research Program Manager, RRC

Implementation-Related Forms:

[Guidance for Preparing Research Reports and Other Communication Products]()
[Sample Implementation Report]()
[Implementation Planning and Documentation form]() (Part B)

Step 6: Track Activities During an Implementation Phase

Actionable implementation activities or tasks are documented in *Part C: Implementation Activities* of the Implementation Planning and Documentation form. The MDT Research Project Manager completes the form with input and review from the principal investigator (PI) and the TP.

The TP and project sponsor review and take action to implement the identified activities or tasks. They designate an MDT subject matter expert or work unit as the responsible party for each implementation activity, include estimated costs, and document implementation barriers with possible mitigation measures.

The implementation process is iterative. Start and end dates are identified in the form and are tracked by the MDT Research Section. Collaborative updates to the form are made by the TP and project sponsor as activities are completed or in the cases where mitigation cannot remove a barrier.

When all implementation activities are complete, the form is finalized and uploaded to the Project Content Management System (PCMS), a file storage system primarily used for federally programmed projects. The final form is then distributed by the Research Program Section to the TP, project sponsor, RRC and PI. The completed form is also posted on the project web page.

Responsible Parties: MDT Project Manager, MDT Research Program Manager, TP members, project sponsors, RRC, PI

Implementation-Related Form: [Implementation Planning and Documentation form](#) (Part C)