



REPORT WRITING REQUIREMENTS

Research results are of little value if not disseminated; therefore, it is the normal practice of the Montana Department of Transportation (MDT) Research Programs to exert every reasonable attempt to publish and to distribute widely the progress and final reports, and other deliverables submitted on each project. Given this, it is desirable to maintain consistency in quality and style of presentation.

Reports communicate and store information. They should include all pertinent information and data used in the research. They are designed to explain the research process and findings to interested audiences. A poorly written report reflects poorly on the researcher(s), MDT, and the research itself, whether the research was valuable or not. MDT will not publish poorly written reports. In order to minimize the report review and revision time, the below requirements must be followed.

All reports begin as draft reports. Draft reports are complete in every aspect and are the consultant's vision of the final product. Unsatisfactory reports, those that in MDT's opinion do not meet these criteria, will not be reviewed and the consultant will be notified of this designation. Project proposals require a statement about how report quality will be ensured; this can be achieved via technical writer review or some other method. If poor quality reports are repeatedly submitted, MDT will require review by a technical writer at the consultant's expense prior to any further submittals. The report review process is as follows:

- ★ Consultant reviews MDT's latest report writing requirements (this document).
- ★ Consultant prepares reports meeting the requirements of this document.
- ★ Consultant emails PDF and Word forms of reports to the MDT Research Project Manager. If files are large, MDT's email system may reject them. In this case, files should be transferred via the Montana File Transfer Service. New users will need to create an account; current users need to log in - <https://transfer.mt.gov/Home/Login/>.
- ★ Research Project Manager will conduct a preliminary review to determine if the report is complete and meets the basic criteria of a final product. If it does not, the consultant will be notified that the report must be improved before it will be reviewed by the project technical panel. If it does, the report will be sent to the technical panel and the Research Programs Manager for review of content, legibility, organization, and presentation.
- ★ Final reports are sent to the MDT Librarian to identify Transportation Research Thesaurus (TRT) terms for possible inclusion on the Technical Report Documentation Page (TRDP) - [Technical Report Documentation Page PDF /Word](#).
- ★ Research Project Manager will compile all comments and send them to the consultant.
- ★ Consultant revises the report and resubmits the report and a line item response to all comments. Deadlines and timeframes are noted in project contracts.

- ★ This submit-review-revise process will be repeated as necessary until MDT accepts the products as final.
- ★ Task reports, presentations, and meeting notes are posted to the project page when the research contract is in effect but are removed when the final products are posted.
- ★ Final products are published on MDT's project page and are sent to the Research Project Report listserv, the Transportation Librarian's listserv, and the AASHTO Research Advisory Committee (RAC) listserv. This distribution initiates the process of including products in the TRB TRID and USDOT RosaP databases, as well as NTIS. Final products are also cataloged in the MDT library and in OCLC.

This document is a living document, changing as necessary. Please make sure you have the most recent version when using to prepare reports.

QUICK LINKS

[PROGRESS REPORTS](#) | [TASK AND INTERIM REPORTS](#) | [FINAL REPORTS](#) | [PROJECT SUMMARY REPORTS](#) | [IMPLEMENTATION REPORTS](#) | [PERFORMANCE MEASURES REPORTS](#) | [OTHER DELIVERABLES](#) | [ATTACHMENT 1: SECTION 508 ACCESSIBILITY RESOURCES](#)

GENERAL REQUIREMENTS

Accessibility

The National Transportation Library (NTL) only accepts documents for the Repository and Open Science Access Portal (Rosa P) if they are Section 508 accessibility compliant (see <https://transportation.libguides.com/accessibility>); this website also contains a link to a PDF checklist. All final deliverables must be formatted such that they meet Section 508 compliance. Since it is easiest to create accessible documents when they are initially being created, documents should be made Section 508 compliant in the original software (e.g., Word, Excel, PowerPoint, and In-Design). Likewise, since Final Reports incorporate the contents of Task Reports, it is recommended Task Reports be made accessible as well.

Tutorials, guidance, and checklists can be found on the [National Transportation Library \(NTL\) Accessibility Guide](#), including a link to the [General Services Administration \(GSA\) 508 website](#). For Word documents, use the Accessibility Checker within Word (File, Info, Check for Issues, Check for Accessibility) and refer to the appropriate links on the GSA 508 website linked above. For PDF documents, use the accessibility tool in Adobe Acrobat Pro and refer to the appropriate links on the GSA 508 website linked above. For PowerPoint documents, Excel documents, and multimedia products, refer to the appropriate links on the GSA 508 website linked above.

Documents that do not meet Section 508 requirements will be sent back to the consultant until they do meet these requirements. Again, it is easiest to meet Section 508 compliance as deliverables are being constructed, rather than after the fact. Some helpful hints include the following:

- ★ Familiarize yourself with Section 508 compliance guidance and specific rules and standards that apply to each publication or other communication product.
- ★ Submit 508 compliance alternative text for non-text elements when submitting the first draft of final products.
- ★ Use the “simple table” when possible. The “simple table” contains only one row of horizontal and one row of vertical headers. Complex tables with more than a single row of headers can add a tremendous amount of time when converting a document into HTML and making it 508 compliant.
- ★ Provide high quality, high resolution (300 dpi or greater) photography or artwork if necessary and providing original drawings or illustrations.
- ★ Ensure that all legal written permissions or licensing for any content, as applicable, are included with the submission.

Additional resources are linked in Attachment A

Copies Required

All reports must be submitted electronically, in both MSWord and PDF. Hard copies of these reports are not required.

ORCID

Researchers should have an ORCID (<https://orcid.org/>). This ORCID should be included in all final products after each author name.

PDF Documents

All PDF documents must be prepared using the setting to create fonts as outline. Doing this ensures fonts are sent as "images/outlines" rather than as the actual font, which others may not have.

Report Deadlines and Corrections

Various progress reports, task reports, a final report, a project summary report, an implementation report, and a performance measures report are required for all research projects, as appropriate and as contracted. Other reports and deliverables may be required for specific research projects. Due dates are as specified in the project contract. At least two months should be allowed for the first review and revision cycle of a draft final report: one month for review and one month for revisions. Subsequent revisions of the draft final report are due within one to two weeks of receiving report comments; the deadline is determined as per each project contract. The review and revision cycle for all reports will be repeated as many times as necessary before the final products are accepted as final. Only well-written and complete reports following these guidelines will be reviewed by the project panel. It is the responsibility of each principal investigator (PI) to ensure all comments are incorporated into the final report, as appropriate. A line item response is required for all reports.

Report Quality

The acceptability of reports is judged by three criteria: (1) fulfillment of project objectives as set forth in the contract, (2) adequacy of documentation, and (3) clarity of presentation. Reports should be complete and concise in all their parts, organized appropriately to serve their purposes, correct in matters of fact and documentation, and edited for basic uniformities of style and usage. Time and effort devoted to the preparation of a quality report are clearly worthwhile investments, because poorly organized and poorly written reports will not be acceptable in fulfilling contract requirements and will be returned for editing prior to MDT review. Reports are expected to be of exceptional quality. "Draft" deliverables are the research team's vision of the complete and final deliverables. All draft deliverables must be spell checked and reviewed by a person. MDT strongly encourages authors to engage professional editors and proofreaders to review reports for compliance with standards and for general readability before they are submitted to MDT for review. In some cases, this may be required.

PROGRESS REPORTS

Progress reports are to be submitted either monthly or quarterly as specified in each project contract. These reports are made via the form found at <https://www.mdt.mt.gov/other/webdata/external/research/forms/MDT-RES-003.pdf>.

TASK AND INTERIM REPORTS

All Final Report requirements, as detailed below, apply except for the Report Organization #1, 2, and 4; renumber pages as appropriate. Content should be logically organized into discrete chapters with headings as appropriate.

FINAL REPORTS

REPORT ORGANIZATION

1. The Consultant should provide one or more pictures in .jpg format for the cover page by the deadline indicated in the project contract.
2. MDT will provide the cover, copyright, and cost statement pages and will add this information to the final PDF document.
3. Page iii (after the cover and copyright page, which MDT adds to the submitted report) is the title page. It holds this page number but is not physically numbered. The title page should include:
 - a. Title
 - b. Prepared by statement
 - c. Prepared for statement as detailed below

Prepared for the
MONTANA DEPARTMENT OF TRANSPORTATION
in cooperation with the
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

- d. Date (Month, Year); this date needs to be updated with subsequent revisions.
4. Page iv is the [Technical Report Documentation Page PDF /Word](#). This is the first page that is physically numbered. Sections 1, 4-5, 7, 9, and 11-21 need to be completed. All sections, except 1 and 11 need to be completed in draft reports. The abstract must follow [NISO standards](#). A good abstract will help readers find your report and decide to read it; it should briefly tell the reader why the research was important, what results you found, and how your research results will benefit future or change current practices. For more information, see <https://research.transportation.org/Report-Guidelines-and-Requirements/>.
5. Page v is the [Disclaimer/Alternative Format Statement page](#). These are required. The Acknowledgements Section should list the panel members and the Research Project Manager.
6. Page vi begins the Table of Contents. The author chooses Table of Contents level of detail; however, this must be consistent from section to section. A List of Figures and List of Tables must follow the Table of Contents, as appropriate. These last two items can be on the same page, if the author so chooses. Pages numbers must occur on these pages, with a dotted line connecting the contents and the page number. Individual items should be hyperlinked to the appropriate section, figure, or table.
7. All data must be expressed either in metric with the English values following in parentheses or an [English/Metric conversion chart](#) must be included in each report. This page should continue the Roman numeral numbering from above.
8. If warranted, include an acronyms page. This page should continue the Roman numeral numbering from above.
9. In the body of the report, content should be logically organized into discrete chapters. The headings are determined by the author and should be appropriate for the content. The body of the report should be understandable by the intended audience and should include all the information needed to adequately support the conclusions and recommendations presented. Recommendations should be clearly identified. All pages should be numbered in Arabic.
10. Appendices can follow the body of the report with supplementary material. Appendices must be identified in the Table of Contents, referenced in the text, and must occur in the order of text reference. All pages should be numbered in Arabic. Appendix letters can be included in the page numbering for this section.

STYLE

To achieve uniformity and consistency, MDT Research staff use standard reference works for guidance. The latest edition of *Merriam-Webster's Collegiate Dictionary* is the preferred authority for spelling and capitalization. The *Chicago Manual of Style* and *Words into Type* are also generally followed. Following are some rules of style that are designed to ensure reasonable uniformity and consistency. All reports must be written in the third person.

Abbreviations, Acronyms, and Symbols

Abbreviations, acronyms, and symbols must be fully defined the first time they are used in the report; the definition should be given first followed by the abbreviated term in parentheses.

Formatting

1. Type all material 1 to 1.5 spaced, including quotes, references, and so forth on 8½- x 11-in. paper in portrait orientation.
2. All reports should be in a single column format to facilitate on-line reading.
3. All margins should be 1". Some deviation is allowed on a page-by-page basis to allow for aesthetics.
4. Begin each chapter or appendix on a new page.
5. Do not add blank pages.
6. All pages must be numbered.
7. Paginate the front matter with lowercase roman numerals at the bottom of the page. The Title page holds page iii but is not physically numbered.
8. Paginate the body of the report consecutively with Arabic numerals at the bottom of the page.
9. The Appendices, if any, can be numbered either sequentially from the main body of the report or as A-1, A-2, B-1, etc.
10. All headings at the same level must be in the same font/format.

Figures

1. Figures should convey information clearly and completely and should stand by themselves.
2. All figures must be placed in the text shortly after the first reference to each figure; not more than 1 page away from the first reference. Don't split paragraphs with figures.
3. All figures must be of sufficient quality such that a copy of the printed original is still of sufficient quality for publication.
4. Titles and legends should be distinguished from the body of the report by placement and a difference of font.
5. Text should appear in a consistent font throughout the report. A font should be chosen for readability and contrast with surrounding text.
6. Caption all figures below each figure to identify their contents.
7. Cite the source of the figure, if applicable, below the caption. Include photo credits.
8. Use figures of comparable size and scale when they are intended to be compared.
9. Similar figures must use the same formatting.
10. Large figures, which would not be easily readable otherwise, may be presented in landscape orientation or produced on oversize pages. For oversize pages, please contact your Research Project Manager to determine best approach (e.g., don't include oversize figures in report, rather link to a web page or place oversize figures in a separate report volume).
11. Color is preferred, but all visual aspects must be clearly identifiable in a black and white copy (i.e., easily distinguishable when printed in black and white).

Tables

1. Tables should convey information clearly and completely and should stand by themselves.
2. Tables are used to present short descriptions or numerical listings that are most clearly and effectively presented in tabular form. They should be self-explanatory and should supplement, not duplicate, information given in the text and illustrations.
3. All tables must be placed in the text shortly after the first reference to each table; not more than 1 page away from the first reference. Don't split paragraphs with tables.

4. Caption all tables above each table to identify their contents. Titles and legends should be distinguished from the body of the report by placement and a difference of font.
5. Text should appear in a consistent font throughout the report. A font should be chosen for readability and contrast with surrounding text.
6. Cite the source of the table, if applicable, below the table.
7. Arrange tabular matter carefully so that the intended comparisons are clear. Choose appropriate vertical columns to provide reasonable balance to horizontal and vertical dimensions.
8. When a dash (-) or other symbol is used in a table, indicate its meaning in a footnote (e.g., missing data, data not available, or not applicable).
9. Combine tables of similar form in order to reduce space requirements, eliminate heading duplications, and permit easier comparison of values.
10. Tables must be formatted the same throughout the report, as appropriate.
11. Check the accuracy of all values and totals included in tables.
12. Color is preferred, but all visual aspects/features must be clearly identifiable in a black and white copy (i.e., easily distinguishable when printed in black and white).
13. Large tables, which would not be easily readable otherwise, may be presented in landscape orientation or produced on oversize pages. For oversize pages, please contact your Research Project Manager to determine best approach (e.g., don't include oversize tables in report, rather link to a web page or place oversize tables in a separate report volume).

References

Reference sections, unlike bibliographies, list only sources cited in the text. If any references are cited, the report must contain a Reference or Literature Cited section. Any generally used formatting style may be used. Consistency is key. The listing of references demands absolute accuracy. Because they come from a wide variety of sources, definite rules for the identification of reference materials have been adopted. They should be carefully observed.

1. Be sure that:
 - a. Names are spelled correctly and consistently.
 - b. Initials and dates are correctly given.
 - c. Title of article is given as published.
 - d. ACS (American Chemical Society) abbreviations are used for periodicals and other standard publications.
 - e. Avoid unpublished references, as possible. Do not use expressions such as Paper prepared for Presentation or Paper presented at, when publication has occurred. Give only the published location.
 - f. Be sure that entries agree with text and other citations of references. Remember that text revisions may require reference changes and vice versa.

Bibliography

Bibliographies, unlike reference sections, may list related sources that are not cited in the text. Bibliographies generally are organized alphabetically. (Reference sections list only the sources cited in

the text, organized alphabetically.) A Bibliography may be included as an addition to the References or Literature Cited section, arrange the entries as one of the following:

1. **Alphabetical Arrangement by Author.** Arrangement by author will include names of persons (authors, editors, and compilers) and corporate bodies (governmental agencies, societies, institutions, and so forth). In listing federal governmental agencies, "U.S." should precede the name of the agency so that such entities may be grouped in the bibliography.
2. **Chronological Arrangement.** A bibliography may be arranged chronologically to show the development of a subject. Entries are then arranged alphabetically by author under the year.
3. **Classified Subject Arrangement.** This arrangement is made based on a systematic division of the subject of the bibliography. Alphabetical author arrangements are used in such lists under each subject.

Each entry in a bibliography provides information that will result in ready identification. Entries must be sufficiently detailed, intelligible, and consistent in form with the style followed throughout the bibliography.

An annotation, in the form of a paragraph, may be placed after the main body of the entry. Compress the annotation to the fewest possible words.

Courtesy

Acknowledgment or credit should be given (by footnote, bibliographic reference, or a statement in the text) for use of material contributed or assistance provided, even when a copyright notice is not applicable.

Caveat for Unpublished Work

Some material may be protected under common law or equity even though no copyright notice is displayed on the material.

Proprietary Information

To avoid restrictions on the availability of reports, proprietary information should not be included in reports, unless it is critical to the understanding of the report and prior approval is received from MDT. Reports containing such proprietary information will contain a statement on the Technical Report Documentation Page restricting availability of the report.

Use of Copyrighted Material

If already published material is used in a report (as in quotations of 50 words or more or use of tables and illustrations), extreme care is necessary to comply with any copyright requirements that may apply. If there is any doubt about whether reprinted material is copyrighted, it should be checked with the author and/or publisher. Permission in writing to use copyrighted material must then be obtained by the consultant, not by MDT staff, from both the author and the publisher. Copies of all correspondence regarding permission to use copyrighted material, particularly the final letters granting

permission, should be transmitted to MDT, where they will become part of the permanent file on the particular report.

Particular attention is called to the fact that practically all commercial journals are copyrighted *in toto*, as also are most association journals, all commercial books, many association books and manuals, many special reports (e.g., ASTM, TRB, and so forth), and all newspapers. Because the United States of America is bound by many foreign copyrights, any use of foreign materials should be checked as carefully as materials published in the United States.

After permission to use copyrighted material has been obtained, MDT should be given both a bibliographical reference to the source and a specific tie to the referenced material, particularly figures. For text material, the edition and page (preferably located by lines) should be cited; for tabular material, the page and table number should be given.

Errata Process

Errata are short and minor revisions to a printed or published document to correct mistakes such as factual, spelling, or typographic corrections. After a research document is printed or published (i.e., defined as released to the public) on a website and typographical or technical errors are found, an errata notification is to be created to notify readers of the need for corrections in the document. Errata are posted on MDT project pages and sent to a distribution listserv.

PROJECT SUMMARY REPORTS

Project summary reports should contain the following sections: introduction, what we did, what we found, and what the researchers recommend. Only text and graphics are to be provided. MDT staff will place the contents into the MDT template. Section 508 accessibility compliance applies to content submitted by the consultant. An example report can be viewed at http://www.mdt.mt.gov/other/webdata/external/research/docs/reconfig/project_summary.pdf.

IMPLEMENTATION REPORTS

Implementation reports will include the following sections: introduction and purpose, implementation summary, and implementation recommendations. This report follows the implementation meeting and the recommendations section contains the researcher's recommendations and an MDT response to each recommendation. Section 508 accessibility compliance applies to content submitted by the consultant. An example implementation report can be found at http://www.mdt.mt.gov/other/webdata/external/research/docs/research_proj/seismic/phaseiii/implementation_report_feb13.pdf.

PERFORMANCE MEASURES REPORTS

Performance measures reports document the value of the research. Section 508 accessibility compliance applies to content submitted by the consultant. An example performance measures report can be found at http://www.mdt.mt.gov/other/webdata/external/research/docs/research_proj/rest_area/pm_report.pdf.

OTHER DELIVERABLES

Communication Deliverables: All communication deliverables, such as posters and presentations, must be prepared following [MDT's Communication Guidelines](#). If you have questions or need assistance, please contact your Research Project Manager.

Attachment 1: Section 508 Accessibility Resources

National Transportation Library (NTL) LibGuide: <https://transportation.libguides.com/accessibility>

- ★ Accessibility Checklist - <https://transportation.libguides.com/accessibility/checklist>

Adobe

- ★ Adobe PDFs: Create and Verify PDF accessibility - <https://helpx.adobe.com/acrobat/using/create-verify-pdf-accessibility.html>
- ★ Adobe DC Accessibility Guides - <https://www.adobe.com/accessibility/products/acrobat/training.html>
- ★ Adobe In-Design
 - ✓ Accessibility - <https://www.adobe.com/accessibility/products/indesign.html>
 - ✓ Accessibility FAQ - <https://www.adobe.com/accessibility/products/indesign/fag.html>
 - ✓ Adding Alt text to Images - <https://www.adobe.com/accessibility/products/indesign/alt-text.html>
 - ✓ Mapping Styles and tags - <https://www.adobe.com/accessibility/products/indesign/mapping.html>
 - ✓ Accessibility Touch Up Wizard - <https://www.adobe.com/accessibility/products/indesign/acrobat-x-action-wizard.html>

GSA

- ★ Create Accessible Digital Products - <https://www.section508.gov/create>
- ★ PDF Accessibility Checklist: <https://section508.gov/sites/default/files/PDF%20Printable%20Checklist.docx>.
- ★ Training - <https://section508.gov/training>

MS Office: Accessibility: <https://support.office.com/en-us/article/improve-accessibility-with-the-accessibility-checker-a16f6de0-2f39-4a2b-8bd8-5ad801426c7f?ui=en-US&rs=en-US&ad=US>

HHS: <https://www.hhs.gov/accessibility.html>

- ★ Creating Accessible PDFs in Word - <https://www.hhs.gov/web/section-508/making-files-accessible/create-accessible-pdfs/index.html>
- ★ Required Fixes for PDF Files - <https://www.hhs.gov/web/section-508/making-files-accessible/pdf-required/index.html>
- ★ Encouraged Fixes - <https://www.hhs.gov/web/section-508/making-files-accessible/pdf-encouraged/index.html>
- ★ General Office Document Checklist - <https://www.hhs.gov/web/section-508/making-files-accessible/checklist/aspa-dcd-general-office-document-file-508-checklist/index.html#0>
- ★ Audio/Video Files Checklist - <https://www.hhs.gov/web/section-508/making-files-accessible/checklist/av-508-checklist/index.html>

SSA

- ★ PDF Accessibility Checklist - <https://www.ssa.gov/accessibility/checklists/pdf/pdfchecklist.html#collapsible=Test7>
- ★ MS Word 2016 Accessibility Checklist - <https://www.ssa.gov/accessibility/checklists/word2013/Word2016.html>

- ★ MS Excel 2016 Accessibility Checklist - <https://www.ssa.gov/accessibility/checklists/excel/excelchecklist2016.html>
- ★ MS PowerPoint 2016 Accessibility Checklist - <https://www.ssa.gov/accessibility/checklists/ppt/pptchecklist2016.html>
- ★ Older Versions of MS Office Documents (under Accessible Document Authoring & Testing) - https://www.ssa.gov/accessibility/developer_resources.html
- ★ Alternative Text Guide - https://www.ssa.gov/accessibility/files/SSA_Alternative_Text_Guide.pdf

Additional Resources

- ★ Accessibility for Document Creators and Providers TLN webinar - <https://rosap.ntl.bts.gov/view/dot/37174>
- ★ Color Tools
 - ✓ How to Use Color Blind Friendly Palettes to Make Your Charts Accessible - <https://venngage.com/blog/color-blind-friendly-palette/>
 - ✓ A11y color Palette <http://a11yrocks.com/colorPalette/>
 - ✓ Coblis — Color Blindness Simulator: <https://www.color-blindness.com/coblis-color-blindness-simulator/>
 - ✓ Paciello Group Colour Contrast Analyser: <http://developer.paciello.com/resources/contrastanalyser/>
 - ✓ WCAG Colour Contrast Checker: <https://websemantics.uk/tools/wcag-colour-contrast-checker/>
 - ✓ WebAIM Color Contrast Checker: <https://webaim.org/resources/contrastchecker/>
 - ✓ WebAIM Link Contrast Checker: <https://webaim.org/resources/linkcontrastchecker/>
- ★ PDF Techniques for WCAG 2.0 - <http://www.w3.org/TR/WCAG-TECHS/pdf.html>