Publication Guidelines for MoDOT Research Reports

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# Report Submission and Review Process

The Principal Investigator (PI) should submit the **draft final report** approximately **four (4) months** **prior to the end of the project contract** (see RFP or deliverable timeline for specifics) to the MoDOT Research Project Manager (PM) for review. The draft report must be submitted as a Microsoft Word document.

The PI is expected to follow the report formatting guidelines in this document. In order to make that easy, please use the [**Section 508 compliant research report template**](https://www.modot.org/media/53127) that matches the guidelines in this document. (If you are preparing a report for a University Transportation Center (UTC), please confer with your PM about what template to use.)

***Reports that are not properly formatted, well-written and follow MoDOT guidelines may be returned to the PI for reformatting and resubmission (even before review).***

## The Review Process

* The PM will review the draft report to determine that the formatting and writing style of the report meet minimum satisfactory requirements before sending the report to the technical panel members for review.
* The PI should allow at least **two months** for the first review and revision cycle of a draft final report (one month for review and one month for revisions). The PI’s revisions of the draft final report are due **within one to two weeks** after receiving report comments. All editing deadlines will be determined by the PM.
* The review and revision cycle will be repeated as many times as necessary before the deliverables are accepted as final.
* The PM and technical panel will communicate comments about the report’s content to the PI. In addition, the PM will indicate any changes that must be made prior to submission of the final report.
* The PI is responsible for ensuring that all comments and changes are incorporated into the final report. Once the draft final report has been submitted, UNLESS authorized by the project manager, **NO new or altered content** is to be added to the report.
* The **final report** should be submitted as a Microsoft Word document approximately **two (2) months** prior to the end of the project contract. Depending on the circumstance, appendices may be submitted as one or more PDF files. This must be agreed upon ahead of time with the PM.

The acceptance of a PI’s final report will be made when the PM determines the following:

* The report fulfills project objectives.
* The report meets minimum satisfactory requirements and adheres to the guidance in this document including [Section 508 accessibility](https://www.modot.org/media/53127), unless exceptions have been approved by the PM (who has the final say).
* All PM and technical panel comments have been addressed, and all errors have been corrected.
* The report has been submitted in the agreed-upon file format.

## Additional Requirements

* The PI should identify or provide **one or more photographs** (portrait orientation) in an image format (such as a .jpg or .png) that represent the project. The image will be used by MoDOT to incorporate into the report cover. The image should be one that can be used with permission by the copyright owner (e.g. if a member of the PI’s team took the photo or it’s a MoDOT photograph).
* The PI should complete a **Research Summary** [**template**](https://www.modot.org/information-researchers) for the project and submit it to the PM with the final report.

# Report Requirements

## Writing Guidelines

The PI is responsible for conducting a thorough review of the content, writing style and formatting of the report to make sure that it complies with MoDOT guidelines and requirements BEFORE submitting the report to the PM for review. Any reports that do not meet these requirements will be returned to the PI for correction and/or improvement. This will lead to delays in the MoDOT review and publishing process.

In addition, the report should:

* Be thoroughly reviewed for grammar, [syntax](https://writingexplained.org/grammar-dictionary/syntax), spelling, and punctuation prior to submitting the report to the PM.
* Conform to standards of good scientific and technical writing.
* Be written with the audience of the report in mind (transportation professionals). As such, the writing should be concise, well-organized and easy to read.
* Use past tense and third person (not I or We) for all sections (except the Introduction, which should use present tense). The discussion or conclusions section may use present, past, or future tenses (depending on the context).

## Style Guide

MoDOT does not specify the PI follow a specific style manual. However, MoDOT does require the PI to:

* Use an accepted or widely used style manual to format citations in text (use Author-Date system instead of footnotes) and in the reference list.
* Consistently apply the style throughout the report (even if multiple authors have prepared separate sections of the report). If the PI is unsure of which style guide to use, then use [*The Chicago Manual of Style*](https://www.chicagomanualofstyle.org/home.html).

## Copyright/Proprietary Information

It is the responsibility of all authors of the report to obtain (and retain) all permissions from the copyright owners **before** reprinting graphical material in the report. Examples include:

* Photographs, software screenshots, scans or screenshots of text, pictures, maps, tables, charts, and graphs from copyrighted sources. Include the source or attribution according to the style guide being used for the report.
* **For all content from** [**AASHTO**](https://store.transportation.org/Page/CopyrightPermissions) **and TRB publications (such as** [**NCHRP reports**](http://www.trb.org/NCHRP/CRPRightsandpermissions.aspx)**,** [**TRR content on Sage website**](https://us.sagepub.com/en-us/nam/journals-permissions) **and** **pre-1996 papers****),** seek reprint permission before including excerpts from such copyrighted publications in the report.

Note that this stipulation does not apply if the producer of the text, chart or image is the performing organization or MoDOT itself.

## Accessibility and Section 508 Compliance

The report should comply with [Section 508](http://section508.gov/) federal requirements and State of Missouri requirements (see [Missouri ICT State Standards](https://at.mo.gov/it-access/documents/MOStateICTStandard12-2017.docx) and [Governing Laws](https://at.mo.gov/it-access/info-tech-access.html#GoverningLaws)) to increase accessibility for individuals with disabilities and to allow for screen reading using assistive devices. Section 508 compliance is required for submission to the National Transportation Library (NTL). All MoDOT Research Reports are submitted to NTL.

Best practices for accessibility include:

* **Creating an accessible report in Microsoft Word from the beginning** and not trying to remediate afterwards.
* Using the [accessibility checker in Word](https://support.office.com/en-us/article/Make-your-Word-documents-accessible-D9BF3683-87AC-47EA-B91A-78DCACB3C66D) to verify the Word file is as compliant as possible. This will minimize remediation required in [Adobe](https://helpx.adobe.com/acrobat/using/create-verify-pdf-accessibility.html) after the file is converted into a PDF.
* Checking accessibility using Adobe’s accessibility checker. The final report should pass without errors.
* Note: there is a known table error with the federally required Technical Report Documentation Page that is an allowed exception.

### Section 508 Resources

The following resources are available for understanding Section 508 requirements:

* The U.S. [General Services Administration](https://www.gsa.gov/) and [Access Board](https://www.access-board.gov/) have produced a [creating accessible digital documents](https://www.section508.gov/create/) webpage, developed for Adobe Acrobat Pro and Adobe Acrobat DC. This is a helpful page for many [tips and tricks](https://www.section508.gov/create/pdfs/), [training modules](https://www.section508.gov/create/pdfs/training-videos/), and [authoring guides](https://www.section508.gov/create/pdfs/authoring-guides/). Training videos are also available for making [Word documents](https://www.section508.gov/create/documents/training-videos/).
* Additionally, the Transportation Research and Connectivity Pooled Fund Study maintains a [Section 508 / Accessibility LibGuide](https://guides.ou.edu/c.php?g=1452726&p=10822233), which includes “[Section 508 Accessibility Guidance for Transportation Librarians and Research Program Managers](https://transportation.libguides.com/ld.php?content_id=72846293),” as well as many other topic-specific resources, which may be beneficial to researchers.

##### **Required**

* Insert captions using Microsoft’s formatting tools (via the Styles Pane) for every image, figure, or graphic and add brief descriptions in the ALT-TEXT field (which can be found by right-clicking on graphic).
* Use heading styles from the Styles Pane.
* For all formatting, use Microsoft’s embedded tools to ensure proper accessibility tags are applied.
* Avoid using color alone to ascribe meaning in a chart or table. Use appropriate [color contrast](https://dequeuniversity.com/rules/axe/3.2/color-contrast) in charts and tables.
* For tables, label the header row under Layout. Do not split or merge cells within a table since this makes it difficult for a screen reader to follow the intended order of how to “read” a table.
* Always verify the ALT-TEXT for every image. Auto-generated ALT-TEXT is often very poor or misleading and needs to be manually re-written. The PI is responsible for the accuracy of ALT-TEXT.

### **Preferred**

* Do not use text boxes or Word Art.
* Avoid adding objects like lines or arrows to images. If lines or arrows are necessary, mark them as “decorative” when adding ALT-TEXT.

For further instructions, see section on [Images, Photos, Charts and Tables](#_Images,_Photos,_Charts).

**IMPORTANT NOTE:** Do not do a “File > Save As” if using Microsoft Office 2013 or older during the [document revision process](#_Document_Revisions). All accessibility tags will be lost if the original Word file is saved as a .doc Word file. Instead, when saving the working file, make sure to select it to save as a .docx file.

Using different computer systems and alternating between the two (i.e., Windows vs. Mac) will also create formatting and accessibility errors. In particular, Mac does not convert from Word to PDF files well and often accessibility tags are lost or scrambled. If creating the Word .docx file in Mac, notify the MoDOT PM.

## Templates

The PI is expected to follow the report formatting guidelines in this document. Please use the [Section 508 compliant research report template](https://www.modot.org/media/53127) that matches the guidelines in this document.

Regardless of what template is used, MoDOT’s guidelines will still take precedence for copyright/disclaimer text, report length, line numbering, report deadlines, accessibility requirements and criteria for a report’s acceptance or rejection.

# Organization and Format

Submit the report in a single electronic file that includes the following sections. Please use the following sequential order as much as possible.

* Report cover (MoDOT will create and add its own report cover)
* Technical Report Documentation Page (TRDP) – [template provided (which includes an abstract)](https://www.modot.org/information-researchers)
* Title page (this is usually the report title page that the PI creates)
* Copyright (text provided in [Section 508 Compliant Research Report Template](https://www.modot.org/media/53127))
* Disclaimer (text provided [Section 508 Compliant Research Report Template](https://www.modot.org/media/53127))
* Declaration of Generative Artificial Intelligence (AI), and AI-assisted technologies (text provided in [Section 508 Compliant Research Report Template](https://www.modot.org/media/53127))
* [Acknowledgments](https://www.modot.org/media/53127)
* Executive Summary
* Table of Contents
* [List or Table of Figures](https://support.office.com/en-us/article/insert-a-table-of-figures-c5ea59c5-487c-4fb2-bd48-e34dd57f0ec1) (if applicable)
* [List of Tables](https://support.office.com/en-us/article/insert-a-table-of-figures-c5ea59c5-487c-4fb2-bd48-e34dd57f0ec1) (if applicable)
* List of Abbreviations (if applicable)
* Body of Report
* References or Bibliography (if applicable)
* Appendices (if applicable, e.g. Appendix A, Appendix B, etc.)

## General Guidance

### Styles

In Microsoft Word, use the tools embedded in Microsoft to make formatting easier and also to ensure Section 508 compliance:

* Assign a quick style for each heading level throughout the report. Headings can be defined as section titles, chapter titles or subchapter titles. This will allow a reader to navigate more easily through the report using the [navigation pane](https://support.office.com/en-us/article/Use-the-Navigation-pane-in-Word-394787BE-BCA7-459B-894E-3F8511515E55).
* As a best practice, use automatic numbering for [headings](https://support.office.com/en-gb/article/number-your-headings-ce24e028-4cb4-4d4a-bf25-fb2c61fc6585), [tables and figures](https://support.office.com/en-us/article/Add-format-or-delete-captions-in-Word-82FA82A4-F0F3-438F-A422-34BB5CEF9C81) using quick styles in Microsoft Word.
* Use heading styles in order, e.g. H1, H2, H3, etc.
* Include appropriate paragraph spacing before and after as part of the style instead of using hard returns. This includes styles for figures and tables.
* Start each new chapter or appendix on a new page.
* Avoid [widows or orphans](https://support.office.com/en-us/article/Line-and-page-breaks-419441D0-0963-4CFE-A79F-57C83B92E5AE) whenever possible.

### Length

The maximum length for single-spaced reports is **100 pages** (not including appendices). Supplementary information should be included in one or more appendices. Any exceptions to the maximum length must be approved by the PM.

### Font Size and Type

Use a **12 point** font such as Calibri (which is used in these guidelines) or Arial throughout the report. Text should be left aligned.

### Spacing

Use single line spacing for the body text. Paragraphs should use double line spacing (or be separated by at least 12 point spacing if using 12 point font size). Set this up using [paragraph spacing](https://support.office.com/en-us/article/change-spacing-between-paragraphs-ee4c7016-7cb8-405e-90a1-6601e657f3ce) for body text. Do not use hard returns for “line spacing” in between paragraphs.

Do not indent the first word of a paragraph..

### Margins

A minimum of 1 inch is preferred on all margins.

### Page Numbering

* Center page numbers at the bottom of the page.
* Use Arabic numbers starting with the body of the report. Use lower-case Roman numerals for front matter.
* Start new numbering with appendices (e.g. [A-1, A-2, etc. for Appendix A and B-1, B-2, etc. for Appendix B](https://support.microsoft.com/en-us/help/290953/how-to-number-chapters-appendixes-and-pages-in-documents-that-contain)).
* Although it is counted, do not number the title page or the TRDP.
* Use [section breaks](https://support.office.com/en-us/article/insert-a-section-break-eef20fd8-e38c-4ba6-a027-e503bdf8375c) to handle the change in numbering from front matter to the body of the report to the appendices.
* Follow the page numbering conventions as used in the Section 508 compliant template.

### Abbreviations and Acronyms

Consider including a separate list of abbreviations in the report if there are a large number of them. Even if including such a list, any abbreviations or acronyms should 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.

### Measurements

The usage of measurement units (when appropriate) should be consistent throughout the document. English (U.S.) units should be used unless a test method specifies metric.

### Mathematical Notations and Equations

Follow standard practice, including the following:

* Define variables in the report even though the variables may appear in an abbreviations or acronyms list.
* Do not create equations using Word’s equations editor. Equations created using this program are not accessible and therefore are not Section 508 compliant.
* **Preferred**: create equations using regular text if possible or insert the equation as an image and use ALT-TEXT to describe the equation.

### Images, Photos, Charts and Tables

See [[Accessibility](#_Accessibility)](https://www.modot.org/media/53127) for thorough guidance, but also consider:

* Images, photos, charts and tables should be formatted as [wrapping “in line”](https://support.office.com/en-us/article/Wrap-Text-in-Word-BDBBE1FE-C089-4B5C-B85C-43997DA64A12).
* Each figure should have a caption using the embedded Microsoft’s style tools, which will ensure it is included in the List of Figures and/or Tables.
* For, images, photos and charts, a brief explanatory description in the ALT-TEXT field is required. The ALT-TEXT description should not repeat the caption but give a visual description that augments the caption.
* Figure captions and table titles must be formatted consistently throughout the report using Microsoft’s style tools. All figures and tables should be included as close as possible to their callout in the text.

#### Preferred:

* Figure captions should appear below figures.
* Table titles appear above tables. See [[examples](#_Figure_and_Table)](https://www.modot.org/media/53127).
* Do not use lay out figures and captions side-by-side.
* Use the Insert Table feature in Word. In the layout ribbon, mark the header row as “Repeat Header Rows.” Tables should be editable and not inserted as screenshots.
* Avoid using color alone to ascribe meaning in a chart or table. If color is necessary, use appropriate [color contrast](https://dequeuniversity.com/rules/axe/3.2/color-contrast) in charts and tables.
* Embed any graphics in the report. Use a high enough resolution such as 200-300 dpi (particularly for screenshots) so that images are readable and not blurry.
* **IMPORTANT NOTE**: Appropriate PPE is required for all staff working on-site for MoDOT construction or maintenance projects. Therefore, there should not be any photos of staff without appropriate PPE. Anyone on site without PPE will be prohibited from being part of future projects or site visits.

#### Additional Considerations:

* Do not use text boxes or Word Art.
* Avoid adding objects like lines or arrows. If the PI uses them, make sure they have ALT-TEXT or are marked decorative.
* Use only simple tables; do not create tables with split or merged cells since these will not be read properly by assistive technology.

# Document Distribution and Revisions

The MoDOT Librarian assigns a MoDOT research report number, finalizes the technical report documentation page, produces a PDF (retaining as much accessibility as possible), adds metadata to the PDF, publishes the report on the [Research Publications website](https://www.modot.org/research-publications), sends notification of publication to NTL, TRB, FHWA and other organizations as mandated by the FHWA, and updates the TRB RIP record. The report publication is announced on the MoDOT Research home page under Recent Reports and is announced on the [Report Announcements blog](https://modotresearchreports.blogspot.com/).

**IMPORTANT NOTE:** The National Transportation Library may reject a research report for ingestion in its repository if it is not Section 508 compliant. All final reports must be Section 508 compliant.

# Help and Support

Although the Research Section can answer questions regarding the report guidance provided herein, more in-depth step-by-step instructions on how to use Microsoft Word and other software may be best answered by local experts at a University Writing Center or whoever handles writing, editing, or publications support within the department or organization.

**REVISION LOG**

Originally published 20 August 2018

Revisions 27 December 2018:

* Avoid using complex tables. Avoid splitting table cells.
* Use before and after paragraph spacing as part of a style instead of using hard returns. Keep figure captions with figures and table titles with tables.
* Figures and tables don’t have to be left-aligned.
* Use heading styles in order (H1, H2, H3, etc.)
* Equations created using Word’s equations editor are not accessible. Try to use regular text to create equations if possible.
* The National Transportation Library will now reject document submissions to its repository if they are not Section 508 compliant.

Revisions 11 June 2019:

* Avoid adding objects like lines or arrows.
* Avoid using color alone to ascribe meaning in a chart or table. Use appropriate [color contrast](https://dequeuniversity.com/rules/axe/3.2/color-contrast) in charts and tables.
* Avoid splitting or merging cells within a table.
* Do not use tables to layout figures and captions side by side.

Revisions 8 September 2022:

* Link checks.
* General language cleanup.
* Expansion of “Accessibility” section.

Revisions 17 August 2023:

* Added 508 compliance guide from Transportation Research and Connectivity Pooled Fund Study.

Revisions 5 December 2023:

* Added 508 compliant template and information from Transportation Research and Connectivity Pooled Fund Study.

Revisions 16 April 2024:

* Added information regarding issues with incompatible systems and returned reports.

Revisions 24 February 2025:

* Updated the disclaimer statement.

Revisions 1 August 2025:

* General formatting and wording changes throughout the document.
* **Draft** final report submitted four (4) months prior to the end of the project contract.
* Section 508 compliant research report template is expected.
* The **final report** should be submitted as a Microsoft Word document approximately **two (2) months** prior to the end of the project contract
* A Declaration of Generative Artificial Intelligence (AI), and AI-assisted technologies is required in all final reports.
* Reports should be single spaced. Page requirements for double spaced reports have been deleted.
* Do not create equations using Word’s equations editor. Equations created using this program are not accessible and therefore are not Section 508 compliant.
* **Important NOTE**: Appropriate PPE is required for all staff working on-site for MoDOT construction or maintenance projects. Therefore, there should not be any photos of staff without appropriate PPE. Anyone on site without PPE will be prohibited from future projects or site visits
* Do not use text boxes or Word Art.
* Moved section-by-section guidance to the Section 508 Compliant Report Template.