



FEDERAL RAILROAD ADMINISTRATION OFFICE OF RESEARCH AND DEVELOPMENT

Guidelines for Writing RESEARCH RESULTS Reports

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INTRODUCTION to *Research Results*

The Federal Railroad Administration (FRA) periodically produces brief, plain-language reports called Research Results (RR) reports that summarize the findings of research projects associated with railroad track and equipment safety. Designed for a nontechnical audience, the reports are four pages or approximately 1,250 words long and include photos or graphics.

Examples of Research Results can be viewed on the FRA Web site at: <http://www.fra.dot.gov/Page/P0361>

The following guidelines have been created to assist those tasked with writing RR reports for submission to FRA for review, approval, and publication on FRA's Web site.

FORMAT

You will notice that RR reports have a new, easy-to-read, two-column layout. Please include at least three images (high-resolution photographs, renderings, charts, or tables) to illustrate the subject matter, along with short captions for each. Refer to the template for additional guidance on format and layout. Contact Michelle Interiano, graphics specialist, at (202) 493-6345 or michelle.interiano.CTR@dot.gov with any questions.

Helpful Hints:

Reports that are longer than four pages will be returned to the author. Authors can check the number of words in any given section by highlighting the text, clicking on the Review tab in Microsoft Word Office 2007, and selecting the Word Count button.

Please note that any mention of contractors in the body of the document will be moved to the Acknowledgments section.

WRITING STYLE

For rules related to grammar, spelling, punctuation, and general form, FRA uses the U.S. Government Printing Office's (GPO) Style Manual as a guide. The latest edition (*GPO Style Manual 2008*) is available for purchase at GPO's Online Bookstore: <http://bookstore.gpo.gov/collections/gpo-style-manual.jsp>. It is also available free of charge on GPO's Web site: <http://www.gpoaccess.gov/stylemanual/browse.html>.

The writing style should be clear and straightforward. Avoid passive voice, long sentences, and jargon, in other words, "government-ese!" As stated in the new Federal Plain Language Guidelines for government writing, readers of our reports should be able to:

- Find what they need;
- Understand what they find; and
- Use what they find to meet their needs.



Helpful Hint:

To see how a plain-language approach can improve the readability of a document, compare the examples below.

Before:

The following enumerated summary is intended only to highlight certain information contained elsewhere in this report.

After:

This summary highlights information contained in the report.

Before:

Longitudinal rail stress (LRS) is caused by environmental temperature changes due to solar radiation and air convection in conjunction with the boundary constraints on continuous welded rail.

After:

Longitudinal rail stress (LRS) is caused by the effects of heat and wind on constrained continuous welded rail.

For more before-and-after plain language examples, visit <http://www.plainlanguage.gov>.

CONTENT

The following elements are part of each RR report:

TITLE

SUMMARY

BACKGROUND

OBJECTIVES

METHODS

FINDINGS

ACKNOWLEDGMENTS

REFERENCES

CONTACT

KEYWORDS

DISCLAIMER (required)



Figure 1. Report Page Layout

TITLE

RR reports are nontechnical summaries of research findings, not full technical reports. Therefore, the title need not be the same as the title for the related technical report. Instead, it should be more like a headline, giving the reader an idea of the report’s content.

SUMMARY

Ideally, the Summary section will begin much as a news story might, with a statement describing the research finding, followed by a synopsis of how the conclusion was reached. The summary is typically approximately 250–300 words and provides a description of:

- The result of the research project
- Who participated in the study
- The reason the project was needed or initiated
- A few sentences about the method used
- A brief restatement of conclusion reached

Below the summary section, there should be an image, graphic, or photo illustrating an important point described in the report. Don’t forget to include a caption with the image!



BACKGROUND

This section goes into greater detail about the impetus for the research project (e.g., in response to several accidents, or in response to a mandate for safer conditions), as well as what agency initiated, funded, and participated in the project. Please include any references to previous related work (e.g., technical reports, previous RR reports, etc.). Estimate 250 words for this section.

OBJECTIVES

This section should contain a brief description of the information researchers expected to discover at the end of project testing and inspection.

METHODS

Although the Methods section usually contains the most technical information in the report, it is important to remember that the audience for RR reports will range from members of Congress to interested laypersons reading the information on FRA’s Web site. Technical language and detail are appropriate as long as the content remains easily readable for a wide audience. This section is usually up to 300 words long and includes images to illustrate points related to the methods used in the study.

FINDINGS

This section contains a description of the results from the study. As the main section of the report, it can run up to 400 words. Graphs or photographs illustrating the results are generally included and encouraged. Remember that if several graphics are used in the report, text may need to be reduced in order to fit all the information onto 4 pages.

ACKNOWLEDGMENTS

The persons and organizations participating in or contributing to the success of the research project are given credit here. This section is usually one paragraph in length but can be longer if necessary.

REFERENCES

References are listed in this section. If the references are numbered, a bullet style is preferred. The technical writer/editor will ensure that the references appear in the appropriate style.



Figure 2. Acknowledgments, contact and key words example page layout.



CONTACT

Include the name, address, phone number, and email address of the FRA point of contact, generally the program manager submitting the RR report, and a second point of contact from any major collaborator involved in producing the report. The second point of contact is optional.

KEYWORDS

This section is meant to make the document more readily found on the Internet with search engines that look for recognizable text. Any keywords pertinent to the subject of the report can be listed in this section.

DISCLAIMER

A standard disclaimer statement should be included in the footer of the RR reports.

The disclaimer reads:

Notice and Disclaimer: This document is disseminated under the sponsorship of the United States Department of Transportation in the interest of information exchange. Any opinions, findings and conclusions, or recommendations expressed in this material do not necessarily reflect the views or policies of the United States Government, nor does mention of trade names, commercial products, or organizations imply endorsement by the United States Government. The United States Government assumes no liability for the content or use of the material contained in this document.

REPORT SUBMITTAL PROCEDURE

When the author has completed the report, it is reviewed and approved by the contracting manager, who then forwards the report to the appropriate program manager at FRA.

The program manager forwards the report to an FRA technical writer/editor for review. When the report is returned to the program manager, he or she approves it for the FRA sign-off cycle, or returns it to the contractor with comments or suggested changes. Any required changes are made by the FRA technical writer/editor, who then prepares the report for the FRA approval cycle.

The FRA technical writer/editor submits the report to the appropriate Division Chief, Director of R&D, and a Public Affairs representative for final review and sign-off. Upon successful completion of the approval cycle, the report is assigned a document number and forwarded to the graphics/media specialist for publication.

The graphics/media specialist tags the document for Section 508 compliance and uploads the report to the FRA Web site. Section 508 of the Rehabilitation Act requires that Federal agencies' electronic and information technology be accessible to people with disabilities. For information on Section 508, please visit <http://www.section508.gov/index.cfm?fuseAction=policies>.