

Final Report Instructions and Outline

Generally, the final tasks of conducting a research project are preparing the draft final report and publishing and distributing the final report. Normally, the final report is in the form of a formal written report. However, it may include a slide presentation, videotape, Power Point file, etc.

The acceptability of a final report is judged on three criteria:

- (1) fulfillment of research objectives;
- (2) adequacy of documentation;
- (3) clarity of presentation.

The final report must fully document the research work which was done. It should include convincing evidence to back up any conclusions and recommendations. Ideally, the user will have no lingering questions about the validity of the findings after reading the report. Thus, implementation can be done quickly and enthusiastically. There should be a short implementation section in the report which states clearly and concisely how the findings will be used and who will be responsible for the implementation.

The researcher should remember that even if a new device or process being studied is a failure, the research project itself is “successful”. Therefore, it is equally important to document the work completely. State clearly in the report, that the findings were not consistent with the hypothesis and disseminate the findings.

The potential users need to understand why the ideas were rejected. When the report is distributed to the research and user community, the unsuccessful ideas may not get repeated. All of this information contributes in the effort to perform the best work possible in Caltrans. Since much research is federally funded, it also optimizes the work of many other states.

Whether research findings were as anticipated or not, the projects may wind down with some questions unresolved or new questions generated. The final report should list any needed future research.

Some research report drafts, such as those on highway safety subjects, should be reviewed by the Legal Division. They sometimes suggest wording changes which do not change the meaning of conclusions or implementation statements, but help keep Caltrans out of trouble in legal cases. Some reports written thirty years ago are still used as evidence in legal cases.

Final Report Instructions and Outline

Each final report written by or for the Department should contain the elements listed below and in this order:

- 1.** Technical Report Documentation Page, (Form TR0003)
- 2.** Disclaimer Statement
- 3.** Cover Page
- 4.** Title Page
- 5.** Table of Contents
- 6.** Illustrations and Tables
- 7.** Disclosure Section
- 8.** Foreword, Preface, and/or Acknowledgments
- 9.** Introduction
 - a.** Overview of Report Contents
 - b.** Problem
 - c.** Objectives
 - d.** Scope
- 10.** Body of Report, Methodology/Technical Discussion
 - a.** Procedures
 - b.** Scope Description
 - c.** Problems
- 11.** Conclusions and Recommendations
- 12.** Deployment and Implementation (Section 6)
- 13.** Appendices
- 14.** References, Literature Cited, or Bibliography

Final Report Instructions and Outline

The content of the final report elements should contain:

1. **Technical Report Documentation Page**—(See Appendix 3-1, Technical Report Documentation Page Instructions of the DRISI Task Close Out Procedures at: http://onramp/newtech/Project_Management/Research_Project_Closing_Procedures/index.htm for instructions on how to complete the form.
2. **Disclaimer Statement**—Reports must include a disclaimer statement in or before the introduction. For research reports involving FHWA participation, the disclaimer statement shall say verbatim:

“The contents of this report reflect the views of the author(s) who is (are) responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the STATE OF CALIFORNIA or the FEDERAL HIGHWAY ADMINISTRATION. This report does not constitute a standard, specification, or regulation.”

3. **Cover Page**—Examples are available upon request from the Office of Pavement and Research Management.
4. **Title Page**—Examples are available upon request from the Office of Pavement and Research Management.
5. **Table of Contents**—An organized listing of important report sections in outline form, with beginning, but not inclusive, page numbers. Outline numberings or letterings, if any, are carried only before main items: Column heads (as “Chapter” or “Section” on the left, and “Page” on the right) and dot leaders may be used. At the beginning of the outline, a list of “Appendixes,” etc., may appear, with the heading centered but no dividing line above it.
6. **Illustrations and Tables**—“List of” is unnecessary, a list of main titles, all illustrations, except tables are called “Figures,” and may include drawings, diagrams, maps, charts, or graphs and photographs (which may be called “plates” if grouped on one page or printed singly on special paper.) Column heads “Figure” or “Table” on the left and “Page” are usually used. “Tables or Illustrations” may appear at the foot of the “Contents” or on a separate page in the front or end matter.

If there are many illustrations, number consecutively as they are referred to in the text as “Figure 1” (usually “Fig. 1”) below the illustration and preceding or above its title in initial caps.

7. **Disclosure Section**—(for outside research under contract) A disclosure statement must be included in all published interim and final reports prepared for Caltrans by the contractor. The purpose of the statement is to identify the number and dollar amounts of all contracts or subcontracts in excess of \$5,000 relating to the preparation of the report.

The contractor is free to copyright material, including interim reports and final reports, developed under the contract with the provision that the Department and the FHWA

Final Report Instructions and Outline

reserve a royalty-free, non-exclusive and irrevocable license to reproduce, publish or otherwise use, and to authorize others to use, the work for government purposes.

8. **Foreword, Preface and Acknowledgments**—Each should be placed on a separate page, or the last two may be combined. More impersonal than, and usually replaces, a letter of transmittal. These items are normally presented as part of the front matter but could be placed in the end matter. (Financial support is acknowledged as “This work was supported by . . .”)

9. **Introduction:**

- a. First, introduce the report by clearly identifying the exact subject being considered and how the final report is organized.
- b. Next, identify the problem that led to the research project and how it relates to prior research and to other current research.
- c. Then indicate the research project’s objectives, as shown in the research proposal and any later supplements, and briefly summarize how the research findings respond to each specific research objective.
- d. Lastly, relate the significance of the research findings to the overall operations of the Department.

Keep the introduction brief and concise. This section should not contain details of any state-of-the-art survey, test procedure, or mathematical analysis.

10. **Body of Report:**

- a. In general, the body of the report should contain a statement of the research procedure(s) in sufficient detail to permit the research to be replicated.
- b. Also include a description of the scope of work, a detailed statement of any data, how it was analyzed, and a summary of the analyses. The data may be in an appendix or not presented.
- c. Any problems encountered during the progress of the research should be described in the body of the report.

Also include a discussion of the meaning of the relationships observed or derived from the research.

11. **Conclusions and Recommendations**—As appropriate, provide detailed quantitative statements of those relationships that were found to exist. Also provide a description of the tests used for significance and the degree of confidence one may have in the stated findings.

12. **Deployment and Implementation**—This statement should point out any immediate practical application of the research findings. It should be prepared cooperatively by the principal investigator and the co-principal investigator(s) from potential implementing offices. Also, it should provide answers to such questions as the following:

Final Report Instructions and Outline

Did the findings warrant or aid:

- a. the application of new procedures?
- b. the issuance of new specifications, standards or designs?
- c. the use of new materials?
- d. the development of new equipment?
- e. the rejection of a proposed new procedure?
- f. a determination that no problem exists?
- g. other positive benefits?
- h. no conclusions, but suggest other research needed, and why?

Include a recommended procedure for implementation, and describe the methods used to translate the research product into implementable form. Describe any potential benefits to be derived from implementing the research findings. Such potential benefits should be in terms of savings in time, money, and lives; increased safety; better service; improved aesthetics; improved environment; increased energy efficiency; enhanced capability of solving transportation problems that may become available to the engineering, planning or related professions; and other user and nonuser benefits. When savings can be expressed in terms of dollar amounts, estimate the first year savings, and the subsequent average annual savings anticipated upon application of the research results.

If the findings are positive, but not suitable for immediate application, indicate the extent of additional work needed to produce results suitable for implementation; e.g., testing for verification, combining, correlating and interpreting additional research, etc.

If significant implementation is proposed that could be profitably shared or an implementation plan will be prepared, such information should be included. For more information, see Section 6, Deployment and Implementation.

13. **Appendices**—The supplementary material titled and identified A, B, C; or 1, 2, 3; or I, II, III if Roman numerals have not been used for chapters. Appendices include information such as supporting data, substantiation of evidence, documentation, charts, photographs, and other details referred to in the text (usually by footnotes) not appropriate for the body of the report.
14. **References, Literature Cited, or Bibliography**—A list of books or other authoritative writings that have been cited (“called out”) in the text as “stated by Lee (1968, p.12),” or “(Ref. 6),” or just “(3),” and which have not been carried in footnotes or listed at the end of each chapter. They may be arranged here alphabetically, or numerically to correspond to their citation numbers in the text.

A bibliography is a listing of pertinent or consulted literature, usually un-cited in the report text. The list may be divided according to subject or type of writing.