

AASHTO PRACTITIONER'S HANDBOOK

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PREPARING HIGH-QUALITY NEPA DOCUMENTS FOR TRANSPORTATION PROJECTS

This handbook describes good practices for improving the quality of environmental documents prepared for transportation projects under the National Environmental Policy Act (NEPA).

Issues covered in this handbook include:

Before the NEPA Process

- Building the NEPA document team
- Planning the NEPA document
- Planning the NEPA document review process

Overall Document Quality

- Page layout
- Writing quality and style
- Document structure
- Navigation
- Summary and abstracts
- Presentation of data
- Figures
- Visualizations

■ Use of appendices

- References
- Electronic publication

Compliance with NEPA and Related Requirements

- Purpose and need
- Alternatives
- Methodologies
- Commitments
- Regulatory compliance and permitting
- Responses to comments on NEPA documents
- Changes during the NEPA process

The Center for Environmental Excellence by AASHTO produces the Practitioner's Handbooks. The Handbooks provide practical advice on a range of environmental issues that arise during the planning, development, construction, and operation of transportation projects.

Each Handbook is developed by the Center in cooperation with an advisory group that includes representatives of the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), state departments of transportation, and other agencies as appropriate. The advisory group for this handbook also included representatives of the consultant community.

The Handbooks are primarily intended for use by project managers and others who are responsible for coordinating compliance with a wide range of requirements. With their needs in mind, each Handbook includes:

- A background briefing;
- Key issues to consider; and
- Practical tips for achieving compliance.

In addition, key regulations, guidance materials, and sample documents for each Handbook are posted on the Center's web site at <http://environment.transportation.org>



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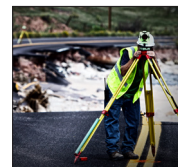


American Association of State Highway and Transportation Officials
Documents
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Overview



The purpose of this handbook is to help practitioners bridge the gap between the theory and practice of producing high-quality National Environmental Policy Act (NEPA) documents. In general, a high-quality NEPA document is one that:

- Is readily understandable by all audiences, including those without technical expertise
- Provides key information in an easy-to-navigate format
- Focuses on pertinent information and avoids unnecessary bulk
- Includes supporting technical information in appendices
- Meets all legal requirements

This handbook focuses on preparation of environmental impact statements (EISs) and environmental assessments (EAs), because those documents tend to be more complex and therefore present greater challenges in achieving both readability and legal sufficiency. Many of the tips in this handbook also apply to documented categorical exclusions (CEs).

This handbook is accompanied by a separate document, *Examples of Effective Techniques for Improving the Quality of Environmental Documents* (2014), which contains excerpts from recent NEPA documents issued by FHWA and FTA. The examples illustrate the techniques described in the Practical Tips section of this handbook.¹

Key Issues to Consider

Expectations for the NEPA Document

- What type of NEPA document will be prepared (EIS, EA, or CE)?
- Who are the audiences for the NEPA document and what are their expectations?
- Have the lead agencies provided any specific direction regarding the format or content of this document? Is there a strong commitment to preparing a high-quality document?
- Will another federal agency be adopting the document? Does that agency have specific requirements that need to be met by this document?
- Have the resource agencies provided input regarding the format and content of the document?
- Is it expected that there will be litigation challenging the document? Are there any legal sufficiency issues that will require special attention?
- What is the desired schedule for the NEPA process and project delivery?

¹ The examples document is available, along with this Practitioner's Handbook, on the Center for Environmental Excellence by AASHTO website at <http://environment.transportation.org>.

Organization and Format

- How will the main body of the document be organized? Will it follow the standard format in the Council on Environmental Quality (CEQ) regulations or a modified format—e.g., combining chapters?
- What page layout techniques will be used to enhance readability?
- Have the lead agencies provided specific direction regarding the format or organization of the document—e.g., set a page limit?
- Will the summary chapter be circulated as a stand-alone document?
- What documents, if any, will be incorporated by reference?
- Will the document include appendices, and if so, what technical reports, correspondence, or other documents will be included in the appendices?
- Will any technical reports be included in the project file but not in the appendices?
- What are the lead agencies' (and resources agencies') expectations about the level of detail in the main body vs. the appendices?
- In what formats will the document be published (paper, electronic, etc.)? Does the page layout work well in each of these publication formats?

Writing Quality and Style

- What steps will be taken to ensure quality writing and a consistent writing style in the NEPA document?
- At what point in the review cycle will writing quality be addressed, and who is responsible for this review?
- Will a “lead editor” (sometimes called an “editor-in-chief”) be assigned to manage the preparation of the NEPA document?
- Are there specific issues or processes that will be especially challenging to explain clearly—e.g., complex methodologies or legal requirements?
- Is there a need to assign a technical writer (in addition to the subject-matter experts) to assist in drafting or reviewing certain chapters or technical reports?

Graphics

- What kinds of graphics—charts, maps, photo-simulations, aerials—will be used in the document?
- Are there some issues that are especially important to convey visually, and what visual tools are best suited for those topics?
- What steps will be taken to ensure a consistent appearance for all graphics and maps? For example, will standard base maps and figure templates be developed?
- Will the team include a graphic designer, GIS specialist, or both to support this work?

Data

- For each major topic in the document, what data will be presented in the main body of the document? What data will be in an appendix or incorporated by reference?
- What technical reports will be prepared? Are there any major topics for which a supporting technical report will *not* be prepared?
- Where will data sources, methodologies, and other technical aspects of the data be explained? To what extent does this explanation need to be in the main volume?
- What kinds of data are important to the regulatory agencies that will be reviewing and commenting on the document? What can be done to ensure that their data needs are met?

NEPA Compliance

- What decisions need to be made by the lead agency (and by any other agencies that may adopt this NEPA document)? What information should be included in the NEPA document to support those decisions?
- What are the essential elements of the project's purpose and need, and how can those elements be communicated most clearly?
- What facts underlie the project's purpose and need? Is it possible to communicate those facts visually?
- What process was used to develop and screen alternatives? How can you tell the story of that process most effectively?
- What is important for the reader to know about the alternatives carried forward for detailed study? How can you best convey the key differences among those alternatives?
- What technical terms need to be explained in order for the reader to understand the impacts analysis? Where will those terms be introduced?
- What important commitments have been made, such as environmental mitigation commitments? How will those commitments be communicated to the reader?
- What important changes occurred during the NEPA process—e.g., changes in methodology, new alternatives, new data? Where will these changes be described in the final NEPA document?

Regulatory Issues and Permitting Processes

- What regulatory requirements and permitting processes need to be specifically discussed when comparing alternatives and describing project impacts in the NEPA document?
- How will the NEPA document demonstrate compliance with consultation requirements under other laws—for example, Section 106 of the National Historic Preservation Act?
- Are there any regulatory requirements that play an important role in the choice among the alternatives—for example, Section 4(f) of the U.S. Department of Transportation Act?
- Are there cross-cutting regulatory issues? For example, issues that involve a tension between different requirements, such as Section 4(f) and Section 404?
- What aspects of regulatory compliance are best documented in appendices?

Background Briefing

This section summarizes regulations, guidance, and other materials that provide direction regarding the organization, content, and readability of NEPA documents.

CEQ REGULATIONS AND GUIDANCE

The Council on Environmental Quality (CEQ) regulations and guidance identify a range of good practices for achieving readability and brevity in NEPA documents:²

- Focusing on significant issues
- Discussing issues in proportion to their significance
- Using a format that allows for clear presentation of the alternatives

2 CEQ, "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 46 Fed. Reg. 18026 (March 23, 1981); CEQ, "Final Guidance on Improving the Process for Preparing Efficient and Timely Environmental Reviews Under the National Environmental Policy Act," 77 Fed. Reg. 14473 (March 12, 2012).

- Identifying the methodologies used in the analysis
- Including explicit references to scientific sources used in the analysis
- Providing “reasonable and proportionate” responses to comments
- Placing technical discussions in appendices
- Incorporating by reference

Attachment 1 to this handbook includes excerpts from the CEQ regulations and CEQ guidance documents discussed in this section.

FHWA AND STATE DOT GUIDANCE

In 2006, FHWA issued a memorandum encouraging efforts to improve the quality of NEPA documents. The 2006 memorandum embraced the recommendations included in a report prepared by FHWA, AASHTO, and the American Council of Engineering Companies (ACEC), *Improving the Quality of Environmental Documents*.³ This report identified three core principles to guide the preparation of high-quality NEPA documents:

- **Tell the Story:** Tell the story of the project so that the reader can easily understand the purpose and need for the project, how each alternative would meet the project goals, and the strengths and weaknesses associated with each alternative.
- **Keep It Brief:** Keep the document as brief as possible, using clear, concise writing; an easy-to-use format; effective graphics and visual elements; discussion of issues and impacts in proportion to their significance; and an appendix for supporting information.
- **Meet Legal Requirements:** Ensure that the document meets all legal requirements in a way that is easy to follow for regulators, technical reviewers, and courts.

Several state DOTs contributed to the *Improving the Quality of Environmental Documents* publication and have issued their own guidance or training documents that incorporate and build upon recommendations in this book, including the following:

- The Washington State Department of Transportation developed the *Reader-Friendly Toolkit*, a comprehensive manual that provides specific suggestions on issues such as page layout, figures, clear writing, and appendices.
- The California Department of Transportation has developed annotated outlines for use in preparing EAs and EISs. The outlines are required to be used for federal-aid highway projects in California. The outlines include a standard format and chapter organization; they also provide specific instructions for the content that should be included in each chapter and in major sections within those chapters.
- The Colorado Department of Transportation has issued a manual that provides detailed instructions for preparing all types of NEPA documents. The NEPA manual includes guidance on quality assurance/quality control (QA/QC) procedures for use by agency staff in reviewing CEs, EAs, and EISs.
- The Ohio Department of Transportation has developed training on the preparation of quality environmental documents for both in-house staff and consultants.
- The Oregon Department of Transportation and FHWA’s Oregon Division Office jointly produced a memorandum, “*NEPA Document Dos and Don’ts, 2nd Edition*,” which includes tips for NEPA document preparers on issues such as readability, formatting, figures and tables, and terminology, as well as tips on each of the standard chapters in an EIS. The Oregon Department of Transportation also has developed an EIS template based on California’s annotated outlines.

3 FHWA, AASHTO, and ACEC, “Improving the Quality of Environmental Documents” (2006).

4 Preparing High-Quality NEPA Documents for Transportation Projects

In 2012, as part of its Every Day Counts program, FHWA initiated a collaborative effort with state DOTs and the consultant community to broaden the implementation of good practices for preparing high-quality NEPA documents. This effort is known as Implementing Quality Environmental Documents. To date, this effort has focused primarily on good practices for preparing purpose and need statements and alternatives analyses.

Attachment 2 to this handbook includes a bibliography that lists the guidance documents and other materials discussed in this section.

Practical Tips

This section of the handbook describes good practices for achieving quality NEPA documents. These tips are organized into three groups:

- **Preparing for the NEPA Process.** These tips focus on steps that can be taken before the NEPA process begins, in order to lay the foundation for preparing a high-quality NEPA document. These tips involve building the NEPA team, planning the NEPA document, and establishing the internal review process for the NEPA document.
- **Overall Document Quality.** These tips focus on the characteristics of a high-quality NEPA document without regard to specific compliance requirements. They address issues such as page layout, writing style, and graphics.
- **Compliance with NEPA and Related Requirements.** These tips focus on compliance with specific requirements in NEPA and other environmental laws. They address issues such as purpose and need, alternatives analysis, methodologies, mitigation, commitments, and responding to comments.

As noted above, this handbook is accompanied by a separate document, *Examples of Effective Techniques for Improving the Quality of Environmental Documents* (2014). The examples illustrate the techniques described in the Parts B and C of the Practical Tips section of this handbook.

A. PREPARING FOR THE NEPA PROCESS

1 | Building the NEPA Document Team

The preparation of a NEPA document involves synthesizing the results of technical work from many disciplines into a single document that is understandable by a wide range of readers. Thus, there is an important role in the NEPA process not only for the technical experts who prepare individual discipline reports, but also for writers, editors, designers, and project managers—those who can take complex technical analyses prepared by multiple authors and explain them clearly to readers who do not necessarily possess technical expertise.

For relatively straightforward documents, including most CEs and many EAs, the NEPA document team will be relatively small. For more complex EAs, and for most EISs, the NEPA team is more likely to include members with specialized skills in document preparation. For complex studies, it is often useful to include one or more of the following specialists:

- **Lead editor.** The lead editor coordinates the development, drafting, and review of the entire document, including supporting technical reports. Ideally, the lead editor will be involved from initiation to completion of the document and will have an in-depth knowledge of the entire document. For large projects, the lead editor role is distinct from the role of project manager; for smaller projects, the roles may be combined.⁴
- **Technical writers and editors.** Technical writers translate technical analyses into plain English; they also help to ensure consistency in writing quality and style across the entire document, so that the document speaks with a single “voice.” Technical editors also contribute to achieving a clear and consistent writing style, while also combing the docu-

⁴ Other names are used to describe this position are “environmental lead,” “editor-in-chief,” and “principal editor.”

ments to eliminate inconsistencies and errors. One of the most valuable roles of technical editors is to eliminate excess bulk by making the writing more succinct and by shifting technical detail to appendices.

- **Graphic artists and designers.** Graphic artists and designers find ways to tell the story visually—through content-rich graphics, effective integration of figures and text, easy-to-use navigational aids, and a consistent appearance for the entire document.
- **Legal counsel.** For projects that face the potential for legal challenges or delays in the permitting process, or that otherwise involve complex legal issues, it is useful to incorporate legal counsel into the project team. Involving legal counsel as part of the team as soon as the potential for legal challenges becomes apparent allows legal issues to be identified and addressed in real time, rather than after the document is produced.

2 | Planning the NEPA Document

Preparing a high-quality NEPA document requires careful planning, even before the NEPA process begins. The planning process should involve consideration of basic questions such as the type of NEPA document that will be prepared; the issues that are likely to be most complex or challenging; the data that will need to be collected; the important audiences; and the organization and format that will be used for the NEPA document.

In addition to those issues, it is important to develop a plan for the document itself. Developing a clear plan for the document can help all members of the team to work more efficiently, by reducing the time needed to meld documents produced by different authors into a single, coherent document.

Developing a plan for the NEPA document may include:

- **Annotated outline.** An annotated outline is simply an outline that includes brief descriptions of the information that should be included in each section of the document. Developing an annotated outline will prompt discussion within the project team about issues such as document structure, level of detail, page format, and other aspects of document quality. In this way, an annotated outline can help to establish shared expectations among team members at the outset of the NEPA process.
- **Style guide.** A style guide promotes consistency by establishing conventions regarding commonly used words, writing tense, acronyms, citation formats, fonts, headings, and other elements of the NEPA document. A style guide is typically prepared early in the process and then is updated as needed while drafting of the document is under way. The style guide can be used to:
 - Establish key terms and acronyms—for example, whether to use “Corps” or “USACOE” when referring to the U.S. Army Corps of Engineers.
 - Establish standard terminology used in the document—for example, the exact names of the alternatives and/or options being evaluated in the document.
 - Establish conventions for describing alternatives and impacts—for example, should authors describe the project from north to south, or south to north?
 - Establish guidelines for use of terms such as “would,” “could,” “will,” and “may.”
- **Templates for tables and figures (including base maps).** Templates establish the standard appearance of the tables and figures that will be used in the document. These templates are the equivalent of a style guide for graphics. Creating templates early in the process helps to establish good practices regarding clarity and readability and ensure that those practices are applied consistently throughout the NEPA document. Developing templates also helps save time and money by reducing the time spent revising tables and figures during the editing process.
- **Standard page layout.** The standard page layout involves issues such as font size and type, use of white space (size of margins), heading styles, use of color, and many other details that collectively give the document its appearance. (See Practical Tips, B.1, “Page Layout.”) Addressing these issues early in the process helps ensure consistency and gives drafters a toolkit of options for enhancing readability, such as the use of sidebars to explain technical terms and to highlight important conclusions.

3 | Planning the Review Process for the NEPA Document

Environmental documents typically undergo many rounds of review by multiple reviewers. For large and complex EIS projects, the document becomes an efficient means for a project development team to communicate details about the project as new information is developed and project decisions and conclusions are proposed. As such, the document content necessarily evolves over time as a project development team reaches consensus on important decisions and conclusions. While this process generally is a source of consensus building and strengthens the document, it can have the unintended effect of introducing inconsistencies or even errors as the NEPA team seeks to satisfy the comments of different reviewers with different perspectives.

To help keep the review process on track, it is useful to think about the following issues and, especially for complex projects, address them in a quality control plan:

- **Communication between project leadership and NEPA document team.** Decisions made by project leadership can require adjustments in approach to the NEPA document, and information developed for the NEPA document can require adjustments in approach to the project. Thus, regular communication with project leadership is essential to avoid wasted effort by the NEPA team and delays in production of the NEPA document.
- **Document review schedule.** The production of an EA or EIS, especially a large EIS, involves overlapping reviews of multiple chapters and technical reports. In addition to preparing an overall project schedule, it is helpful to prepare a document review schedule that lists the assignments and timeframes for reviews of chapters and discipline reports, so that all team members are aware of their roles and deadlines.
- **Staged reviews of discipline reports.** It is a good practice to stage the reviews of discipline reports that support the analysis in the NEPA document. With a staged review, the draft discipline reports are initially reviewed before the NEPA document chapters are drafted and then are reviewed again after the NEPA document chapters are nearly complete in order to ensure consistency between the NEPA document and the discipline reports.
- **Tracking lead agency reviewers' comments and how they were addressed.** The document team should have a system for tracking the comments submitted by lead agency reviewers (e.g., FHWA and state DOT staff) and documenting how they were addressed.
 - One option is to prepare matrices that list comments from lead agency reviewers and explain how they were resolved. Comment–response matrices help to reduce the risk that reviewers' comments will be overlooked; they also provide a useful tool for identifying common issues in reviewers' comments and for resolving conflicting comments. The main drawback of this approach is that the matrices can be time-consuming to prepare and maintain.
 - Another option is to use the track–changes feature in Word for reviewers to enter comments and for authors to respond to those comments. This approach generally is less time-consuming than preparing comment–response matrices. The main drawback of this approach is that it can be more difficult to keep track of the comments received and how they were resolved.

Where practical, comments received from lead agency reviewers should be maintained in a central location, such as a secure website accessible to members of the project team. This repository also can be used to maintain copies of each version of a document that was circulated to the lead agencies for review.

- **Seeking input from cooperating and participating agencies during preparation of the NEPA document.** Cooperating agencies often are given the opportunity to review a draft of the entire NEPA document before the document is published. Even when that is not done, it can be useful to share specific portions of the NEPA document with cooperating agencies (or other participating agencies) prior to publication. Seeking agency input prior to publication takes time, and is not always feasible, but it can help to improve the overall quality of the document and reduce the risk of receiving negative comments on the published document.
- **Creating a “core team” to resolve comments.** When there are many reviewers, or there are divergent views among reviewers, it is especially important to have a rigorous system for resolving conflicting or unclear reviewers' comments. One effective approach is to create a core team—ideally, a half-dozen individuals or less—who meet regularly to review and resolve difficult questions raised by reviewers' comments.