Webinar
Preparing High-Quality NEPA Documents for Transportation Projects

Presented by the Center for Environmental Excellence by AASHTO

October 21, 2014
Welcome to the Webinar!

Shannon Eggleston  
Program Director for Environment  
AASHTO
Center for Environmental Excellence

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- Use our resources:
  - Weekly Website Updates
  - Broadcast Emails
  - Practitioner's Handbooks
  - Climate Change Webinars
  - Programmatic Agreement Library
  - Case Law Database (CLUE)
  - Transportation/Environment Research Database (TERI)
Practitioner’s Handbooks

- 01 Maintaining a Project File and Preparing an Administrative Record for a NEPA Study
- 02 Responding to Comments on an Environmental Impact Statement
- 03 Managing the NEPA Process for Toll Lanes and Toll Roads
- 04 Tracking Compliance with Environmental Commitments/Use of Environmental Monitors
- 05 Utilizing Community Advisory Committees for NEPA Studies
- 06 Consulting Under Section 106 of the National Historic Preservation Act
- 07 Defining the Purpose and Need and Determining the Range of Alternatives for Transportation Projects
- 08 Developing and Implementing an Environmental Management System in a State Department of Transportation (DOT)
- 09 Using the SAFETEA-LU Environmental Review Process (23 U.S.C. 139)
- 10 Using the Transportation Planning Process to Support the NEPA Process
- 11 Complying with Section 4(f) of the U.S. DOT Act
- 12 Assessing Indirect Effects and Cumulative Impacts under NEPA
- 13 Developing and Implementing a Stormwater Management Program in a Transportation Agency
- 14 Applying the Section 404(b)(1) Guidelines in Transportation Project Decision-Making
- 15 Preparing High-Quality NEPA Documents for Transportation Projects
### Review Panel for Practitioner’s Handbook

<table>
<thead>
<tr>
<th>Panelist</th>
<th>Agency/Organization</th>
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<tbody>
<tr>
<td>Lamar Smith</td>
<td>FHWA</td>
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<tr>
<td>Owen Lindauer</td>
<td>FHWA</td>
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<td>Tricia Harr</td>
<td>FHWA</td>
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<td>Dan Johnson</td>
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<td>Rob Ayres</td>
<td>FHWA</td>
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<tr>
<td>Carol Lee Roalkvam</td>
<td>Washington State DOT</td>
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<td>Gail D’Avino</td>
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<tr>
<td>Hal Kassoff</td>
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<td>Rose Morgan</td>
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<td>Jodi Heflin</td>
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<td>Stephanie Miller</td>
<td>ACEC – Parametrix</td>
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<td>John Page</td>
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Today’s Presentations

- Welcome
  - Shannon Eggleston, AASHTO

- FHWA Perspectives on NEPA Document Quality
  - Lamar Smith, FHWA Resource Center

- Overview of the Practitioner’s Handbook
  - Bill Malley, Perkins Coie LLP

- Examples of Effective Practices
  - Vanessa Henderson, Colorado DOT
  - Stephanie Miller, Parametrix
  - Darlene Weaver, Oregon DOT
  - Jodi Heflin, HNTB
Questions for the Panel?

- Due to the number of attendees, all attendees are muted during the webinar.
- You can submit a question for the panel at any time during the webinar.
  - Find the GotoWebinar control panel, on the right side of your screen.
  - Type your question in the "Questions" box.
  - Press "Send."
FHWA PERSPECTIVES

Lamar Smith, FHWA Resource Center
FHWA’s Every Day Counts Initiative

Implementing Quality Environmental Documentation (IQED)
Implementing Quality Environmental Documents

3 Core Principles:
- Tell the story of the project
- Keep the document brief
- Meet all legal requirements

Specific Focus on:
- Purpose and need
- Alternatives development and analysis
Move from traditional practices to more flexible and customized approaches to improve:

- The efficiency and effectiveness of the NEPA Process
- Project decision-making through appropriate consideration and documentation of NEPA compliance elements
- Communication with the public and resource agencies
IQED Implementation

- 31 state DOTs participating
- Training delivered to States on-going
- Technical Assistance
- Collection and Summary of Examples - AASHTO
- AASHTO Practitioner Handbook
- EDC-3 FHWA e-NEPA
  - Summits
  - Implementation
THE PRACTITIONER’S HANDBOOK

Bill Malley, Perkins Coie LLP
2006 ‘Green Book’ on NEPA Doc Quality

- Core Principles for Quality Documents
  - Tell the Story
  - Keep it Brief
  - Satisfy Legal Requirements

- Alternative Formats
  - Ability to depart from standard format in CEQ regs

- Legal Sufficiency
  - How to improve readability and meet legal sufficiency
Center Initiative on NEPA Document Quality

- **Goals**
  - Specific advice
  - Real-world examples
  - Not overly prescriptive
  - Cover smaller documents, not just big EISs
  - Include FHWA, FTA, AASHTO, and ACEC perspectives

- **Products**
  - Phase 1: Examples (Feb. 2014)
  - Phase 2: Practitioner’s Handbook (June 2014)
The Examples Document

- Excerpts from recent FHWA and FTA NEPA documents
- Organized by topic into 17 sections – e.g.,
  - Layout
  - Writing style
  - Document organization
- Each section includes 1-2 page summary, plus annotated examples.
Examples of Effective Techniques for Improving the Quality of Environmental Documents

Chapter 8. Visualizations

Visualizations help the reader to "see" what the project would look like in the real world. For many readers, visualizations will be among the most valuable parts of an EIS. Lengthy text and engineering drawings can be confusing; a visualization that shows what a project would like can be the picture that is worth 1000 words.

There are many visualization techniques that can be used in NEPA documents. Some common examples include:

- **Computer-generated 3-D renderings.** Transportation projects include complex structures that can be difficult to describe in text or to depict in two dimensions on plan sheets. Computer-generated renderings give the reader a better understanding of the size and configuration of the structure. For example, renderings shown in this chapter depict a multi-level underground transit station, a new light rail line located in the middle on an existing street, and the elements of a ferry terminal.

- **Photo simulations.** By inserting project elements into a photograph of the existing landscape, photo simulations can help to show how the project would alter the existing conditions. This approach can be especially useful in depicting the visual impacts of a project.

- **Cross-sections with artwork.** A cross-section drawing is a standard visual element in many NEPA documents for transportation projects. The value of a cross-section drawing can be enhanced by adding artwork that gives the reader a sense of context and scale. One of the examples in this chapter is a cross-section drawing that shows a bicyclist and pedestrians using a trail adjacent to a proposed transit line.

Developing visualizations will require involvement of team members with expertise in graphic design and may involve additional time and expense. If visualizations will be needed, it is important to allow for their development in the project schedule and budget.
The Practitioner’s Handbook

- Published in July 2014
- Developed with input from
  - FHWA and FTA
  - State DOTs
  - Consultants
- Organization parallels the Examples document
- Distills good practices
Overview of the Handbook

- **Key Issues to Consider**
  - Questions to consider as you plan your document

- **Background Briefing**
  - Key points from CEQ regulations and guidance
  - Three key principles from 2006 Green Book
  - State DOT resources

- **Practical Tips**
  - Recommended practices, grouped in three broad areas:
    - Preparing for the NEPA Process
    - Overall Document Quality – i.e., readability, succinctness
    - Demonstrating Compliance with Legal Requirements

- **Appendices**
  - Excerpts from CEQ regs and guidance
  - Reference materials used in developing Handbook
# The Handbook – Practical Tips

<table>
<thead>
<tr>
<th>Preparing for NEPA</th>
<th>Document Quality</th>
<th>Legal Compliance</th>
</tr>
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<tbody>
<tr>
<td>• Building the NEPA Document Team</td>
<td>• Page Layout</td>
<td>• Purpose and Need</td>
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<tr>
<td>• Developing a Plan for the NEPA Document</td>
<td>• Writing Quality</td>
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<tr>
<td>• Planning for the NEPA Document Review Process</td>
<td>• Document Structure</td>
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<tr>
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<td>• Summary/Abstracts</td>
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<tr>
<td>• Document Structure</td>
<td>• Presenting Data</td>
<td>• Responses to Comments</td>
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<td>• Navigation</td>
<td>• Figures</td>
<td>• Reevaluation, Supplementation</td>
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<tr>
<td>• Summary/Abstracts</td>
<td>• Visualizations</td>
<td></td>
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<tr>
<td>• Presenting Data</td>
<td>• Appendices and Technical Reports</td>
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</tr>
<tr>
<td>• Figures</td>
<td>• List of References</td>
<td></td>
</tr>
<tr>
<td>• Visualizations</td>
<td>• Electronic Publication</td>
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<tr>
<td>• Appendices and Technical Reports</td>
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<tr>
<td>• List of References</td>
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<tr>
<td>• Electronic Publication</td>
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A Few Key Points from the Handbook

- What “High-Quality” Means
- Direction from CEQ
- Useful State DOT Resources
- Importance of Preparation
- Document Structure
- Navigation
- Compliance with Other Laws
- Electronic Publication
What is a “High Quality” NEPA Document?

- Practitioner’s Handbook identifies 6 key ingredients:
  - Is readily understandable by all audiences
  - Easy to navigate
  - Focuses on pertinent information
  - Avoids unnecessary bulk
  - Includes supporting information in appendices
  - Meets all legal requirements

Quality includes readability and legal defensibility.
What CEQ Says about Document Quality

- Focus on significant issues
- Discuss issues in proportion to their significance
- Use a format that allows for clear presentation of the alternatives
- Identify methodologies used in the analysis
- Include explicit references to scientific sources used in analysis
- Provide “reasonable and proportionate” responses to comments
- Place technical discussions in appendices
- Incorporate by reference

“Environmental impact statements shall be written in plain language and may use appropriate graphics so that decisionmakers and the public can readily understand them.”

Source: 40 CFR 1502.8
Useful State DOT Resources

- Several State DOTs have developed manuals and other resources.
- Examples:
  - Washington State DOT, Reader-Friendly Toolkit
  - Caltrans, Annotated Outlines for EISs and EAs
  - Colorado DOT, NEPA Manual, 3rd Edition
  - Ohio DOT, NEPA Document Training
  - Oregon DOT, “NEPA Document Do’s and Don’ts”
Preparing for NEPA

Organizing the NEPA Document Team

- Include members with the skills to translate complex concepts into simple, clear writing & graphics.

Examples:
- “Lead editor”
- Technical writers
- Technical editors
- Graphic artists

“[T]here is an important role in the NEPA process for writers, editors, designers ... who can take complex technical analyses prepared by multiple authors and explain them clearly to readers who do not necessarily possess technical expertise.”

Handbook, p. 5.
Preparing for NEPA

Developing the Plan for the NEPA Document

- Consider expectations – who are your audiences?
- Develop an annotated outline that addresses:
  - Document organization
  - Level of detail in main body
  - Use of appendices
- Define “look and feel”
  - Style guide
  - Figure templates
  - Standard page layouts

“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.”
Preparing for NEPA

Developing a Plan for Reviewing the Document

- Every EIS is ‘written by committee’ – which can hurt readability
- Develop plan for resolving competing inputs:
  - Comment tracking
  - Comment resolution meetings
  - Small core team that knows the entire document

“While this [review] process generally is a source of consensus building ..., 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.”

“When a non-standard format is used, it is important to make sure that all of the required information is included and can be easily found. ... it may be helpful to include a table that correlates the document’s chapters to the elements required in the CEQ regulations.”

Navigation

- Ways to orient the reader in the document:
  - Reader’s guide
  - Roadmaps / overviews
  - TOC in each chapter
  - Section names in footers
  - Cross-references
  - Specific citations
  - List contents of CD/DVD

“One way to think about a navigational aid is to imagine a reader who opens the document at a random page and begins flipping through the document looking for a specific topic. Can that reader locate the information he or she is looking for?"

Handbook, p. 10
Demonstrating Compliance with Other Laws

- Regulatory Setting
  - Key requirements are summarized – e.g., 4(f).

- Terminology
  - Key terms are defined and used consistently

- Procedural Steps
  - Required consultation steps are documented, with key names and dates.

- Implications
  - “How this law affects the choice among alternatives”
  - E.g., LEDPA

“For major permits that have the potential to affect the choice among alternatives, it is a good practice to explain the interplay between the permitting process and the NEPA decision ...”
Handbook, p. 20
Electronic Publication

- **Page Format**
  - Consider ease of printing when determining standard page size.

- **Downloading Options**
  - Make it easy to download the entire document or individual chapters.

- **Searchability**
  - Ensure that PDFs are fully text-searchable where practicable.

- **Hyperlinks**
  - Include working hyperlinks where practicable.

“With the increasing reliance on electronic publication, any discussion of readability must also take into account the practical aspects of downloading, printing, and searching electronic versions of the document.”

Handbook, p. 15.
Additional Topics Covered in the Handbook

- Overall Doc. Quality
  - Page Layout
  - Writing Quality and Style
  - Abstracts
  - Presenting Data
  - Figures
  - Visuals
  - Appendices
  - References

- Documenting Compliance
  - Purpose and Need
  - Alternatives
  - Methodologies
  - Commitments/Mitigation
  - Responses to Comments
  - Documenting Changes
Case Studies

- **Colorado:**
  - Annotated Outlines
  - Presentation of Data

- **Washington State:**
  - Layout
  - Presentation of Data
  - Figure Design

- **Oregon:**
  - Ease of Navigation
  - Use of Color
  - Regulatory Compliance
  - Responses to Comments
  - Changes in Methodologies

- **Ohio:**
  - Clear Writing
  - Figures
  - Photos
EXAMPLES OF EFFECTIVE PRACTICES
Examples

- **Colorado**
  - Vanessa Henderson, Colorado DOT

- **Washington State**
  - Stephanie Miller, Parametrix

- **Oregon**
  - Darlene Weaver, Oregon DOT

- **Ohio**
  - Jodi Heflin, HNTB
Examples from Colorado

Presented by: Vanessa Henderson, Colorado DOT

http://www.coloradodot.info/programs/environmental/resources/forms
CDOT’s NEPA Document Templates

Example Table of Contents from CDOT’s EA Template.

NEPA Document Templates contain guidance throughout that is highlighted in yellow, which gets deleted as the templates get used.
CDOT’s NEPA Document Templates (continued)

- Writing Quality and Style
  - Q&A format
  - Plain, non-technical language
  - White space

- Presenting Data
  - Using tables that are easy to understand - Purpose and Need Summary; Impacts; Summary of Impacts and Mitigation; and Response to Comments Tables

- Appendices and Technical Reports
  - Provide specific cross-references to relevant content in the appendices
  - Provide a detailed list of the appendices (and other technical reports) in the main document
### Presenting Data – Using Tables That Are Easy to Understand

Table 1. 
Purpose and Need Summary for the No Action Alternative and Proposed Action

<table>
<thead>
<tr>
<th>Project Needs</th>
<th>No Action Alternative</th>
<th>Proposed Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadway Capacity/Mobility</td>
<td>Does not have adequate capacity to accommodate AM peak travel demand.</td>
<td>Provides added capacity to accommodate peak travel demand by adding a third lane in the eastbound direction.</td>
</tr>
<tr>
<td>Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Side-by-side comparison of alternatives.

Table 2. 
Environmental Impacts of the No Action Alternative and Proposed Action

<table>
<thead>
<tr>
<th>Resource</th>
<th>Context</th>
<th>No Action Alternative</th>
<th>Proposed Action</th>
<th>Mitigation Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality (INSERT APPENDIX NUMBER FOR TECH REPORT)</td>
<td>INSERT BRIEF CONTEXT DESCRIPTION – FOR EXAMPLE, PROJECT IN COUNTY THAT IS IN ATTAINMENT</td>
<td>Permanent Impacts: INSERT BRIEF PERMANENT IMPACTS INFORMATION (QUANTITATIVE WHENEVER POSSIBLE). DO NOT COMPARE TO PROPOSED ACTION. Temporary Impacts: INSERT BRIEF TEMPORARY IMPACTS (DUE TO CONSTRUCTION)</td>
<td>Permanent Impacts: INSERT BRIEF PERMANENT IMPACTS INFORMATION (QUANTITATIVE WHENEVER POSSIBLE). CAN BE COMPARED TO NO ACTION IF NECESSARY, BUT DATA IS PREFERRED SO THAT READER CAN SEE DIFFERENCES. Temporary Impacts: INSERT BRIEF TEMPORARY IMPACTS (DUE TO CONSTRUCTION)</td>
<td>INSERT NUMBER FROM TABLE 3</td>
</tr>
</tbody>
</table>

Only include necessary information.
This table is required for all CDOT EA/FONSI and EIS/ROD documents. These six columns get copied into a larger mitigation commitment tracking spreadsheet that is used once NEPA is complete.
Table X. Public and Agency Comments Received and Responses to Comments

<table>
<thead>
<tr>
<th>Comment</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>INSERT COMMENT INFO SUCH AS COMMENT NUMBER, SOURCE, NAME OF COMMENTER, ETC WITH COMMENT BELOW (IMAGE)</em></td>
<td><em>INSERT “RESPONSE TO COMMENT NUMBER” BASED ON COMMENT NUMBER FROM OTHER COLUMN AND THE RESPONSE</em></td>
</tr>
<tr>
<td>EXAMPLE – COMMENT #IND-1, RECEIVED BY EMAIL, JOHN DOE</td>
<td>EXAMPLE – RESPONSE TO COMMENT #IND-1</td>
</tr>
<tr>
<td>INSERT IMAGE OF COMMENT</td>
<td>INSERT RESPONSE</td>
</tr>
</tbody>
</table>

This table is generally used in all of CDOT’s EA/FONSI and EIS/ROD documents.

*Example from I-25 Through Pueblo FEIS.*
Examples from Washington State

Presented by: Stephanie Miller, Parametrix
Presentation Overview

- Document layout
- Data presentation
- Figure design
Layout – Basic Concepts

- Provide white space
- Adhere to a consistent “grid”
- Use headings to reinforce the narrative flow.

**Intelligent Transportation Systems (ITS)**

1. **What is the project?**
   This project would install ITS infrastructure at strategic locations to alleviate congestion, improve safety, and provide driver information. ITS encompass a broad range of technologies, including:
   - Variable Message Signs
   - Closed Circuit Television Cameras
   - Highway Advisory Radio (HAR)
   - Data Stations
   - Road/Weather Information Systems
   - Photo Detection Cameras
   The ITS project would also include a planning phase analysis to integrate these technologies into the region’s infrastructure. Final locations and configurations would be confirmed upon further analysis during this planning phase and final design. Examples of ITS are shown in Exhibit 3-6.

2. **What are the potential benefits and impacts of this project?**
   The ITS technologies can have an immediate benefit to traffic operations during congested times, including:
   - Warning motorists of bridge openings, train blockages, collisions, road construction, and severe traffic congestion; alerting them to alternative routes; and potentially reducing congestion and delays.
   - Reducing red-light violations at high accident intersections.
   - Providing information to local police and fire departments in the event of an accident or emergency in Aberdeen, Hoquiam, and Cosmopolis.

3. **What is the estimated project cost?**
   The estimated cost of this project is $9,000,000.
Chapter 4 DEVELOPING THE ALTERNATIVES

1. How were the alternatives developed?

Very few people question why the project is needed—we need a roadway and seawall that will be strong enough to withstand earthquakes and last another 50 to 100 years. The best way to do this is, however, a challenging question. The alternatives for replacing the Alaskan Way Viaduct and Seawall have been developed by the lead agencies (City, WSDOT, and FHWA) by evaluating information on transportation, urban design, engineering, and constructability. As the alternatives have evolved, the lead agencies have consulted with the public, citizen groups, elected officials, and other government agencies.

The alternatives were developed based on concepts that emerged from existing knowledge regarding the condition of the viaduct and seawall and a variety of widely held public opinions about the shape the project might take. Available engineering and technical information was applied to create early design and construction concepts. More study and new information led to discarding some ideas, looking for refinements in others, and opening the process to new ideas altogether. A Community Leadership Group has met many times to review and comment on alternatives as they emerged. The urgency of the project and high level of public interest naturally led to many opportunities for citizens to be involved. Primarily, this has been at open houses, but an extensive program of outreach and involvement to the public at-large has also been undertaken.

Throughout the process of developing the alternatives, the lead agencies have exercised professional engineering and planning judgment with the support of consulting experts. At times, screening tools have been applied to ensure careful, methodical evaluation of the ideas and possibilities suggested.

2. How have the public and other interested agencies been involved in developing the alternatives?

In the early stages of the project, the Seattle Mayor and WSDOT Secretary of Transportation formed a Leadership Group of civic and business leaders to serve as a sounding board during project development. The volunteer group was invited to engage in an ongoing series of briefings and discussions about the project. The project team has shared with the Leadership Group details on the deteriorated condition of the viaduct and seawall. Many Leadership Group members have toured the viaduct and seawall to see close-up the poor condition of both facilities. The Leadership Group has helped the project team determine critical needs that must be met by the project and identify potential opportunities for improvement. In formal meetings and many informal conversations, members of the Leadership Group have made substantial contributions to the lead agencies’ understanding of public needs, concerns, and viewpoints. In turn, the lead agencies have explained the engineering and construction considerations that must be taken into account in the project.

Since the Nisqually earthquake, the public has taken a keen interest in the project. Hundreds of community meetings, focus groups, and public meetings have been conducted as ideas for the project have evolved. Each has given people interested in the project a chance to see the latest information, ask questions of agency representatives, and offer their opinions and ideas. The meetings have been well attended and marked by lively discussion.

Members of the public were invited to:

- Participate in initial EIS project scoping (June 2001).
- Provide feedback on the project scope, potential impacts, and possible design concepts (November 2001).
- Discuss the preliminary design concepts (February/March 2002).
- Discuss urban design issues related to the surface street designs for the central waterfront area (June 2002).
- Learn about the alternatives and costs (July 2002).
- Learn about the updated alternatives and costs (September/October 2003).

The project team has also met with business and neighborhood groups such as the Downtown Seattle Association (DSA), Chamber of Commerce, South Downtown (SODO) business group, and freight interests from the Ballard and Interbay areas. Each series of meetings had specific purposes to introduce people to the need for improvements, review engineering designs or concepts, and to gather feedback on possible alternatives.

As the alternatives have evolved, project staff members have sought out organizations and agencies that serve low-income, homeless, and minority communities along the corridor. In meetings with homeless shelters, food banks, job services, and clinics, staff members have shared information about the project and looked for ways to avoid or reduce impacts to these communities. These discussions will continue as planning and design move ahead.

This project will require a variety of environmental resource permits and approvals from local, state, and federal agencies. Time spent obtaining approvals can be lengthy and have the potential to affect the project schedule. The Resource Agency Leadership Forum (RALF) was organized in November
The second modification was to eliminate the nine viaduct bridges planned in Kachess Lake (Exhibit ES-7). As originally planned under Alternatives 2, 3, and 4, the new highway would be shifted away from its existing location in order to avoid the avalanche slopes near MP 58.1 and allow for a 75 mph design speed. Two long bridges (over 1,100 feet) would be built over Kachess Lake. Also, a 900-foot bridge would be constructed on the eastbound lanes near MP 58.6. The existing roadway at the avalanche chutes would be removed to create a large chut, allowing avalanches to pass beyond the bridges. The existing snowshed would be left in place. The VE team recommended that five viaduct bridges be eliminated, based on the findings from new technical studies conducted in 2006:

• Rock in the vicinity of the snowshed is stronger than was previously assumed, which would allow taller rock cuts.

• Avalanche modeling indicated that avalanche powder blue may cause whiteout conditions on the proposed viaduct, which would create safety problems.

• Constructing the viaduct bridges posed engineering problems that approach the level of final design, which could make the alternative impossible to build. The lake in this location is very deep with a steeply sloping bottom. Support structures for the bridge would be more than 170 feet tall in some locations.

• Bedrock on the lake bottom is of poor quality and is overlain by up to 10 feet of saturated soil.

• Access to the work area during construction would be limited by the narrow eastbound road shoulders and steep embankment slopes.

• The construction period is limited by the long winters and by rapidly fluctuating water levels in Kachess Lake.

Removing the viaduct bridges would require WSDOT to replace the existing snowshed at MP 58.1, which covers the two eastbound lanes. The snowshed is listed on the NRHP and removing it requires evaluation under Section 406 of the Transportation Act. This evaluation can be found in Chapter 5 of the Final EIS, Programmatic Section 406 Evaluation.
Alternative E

Alternative E would connect with SR 162 at Bridge Street in Orting. Bridge Street would be widened to 5 lanes and a new 4-lane bridge would be built over the Carbon River. This new alignment would continue as a 4-lane segment up the hill where it would connect with the Orting Plateau at 160th Street E., which would be widened to 3 lanes.

6 How do impacts to the built environment compare between the alternatives?

The built environment includes the social, economic, and cultural elements of the environment. Exhibit 1.3 and the text below show the elements of the environment studied in this Draft EIS and expected project impacts. Detailed information about each element of the environment studied is included in Chapter 3, Built Environment.

Exhibit 1.3
Summary of Impacts to the Built Environment

<table>
<thead>
<tr>
<th>Element Studied</th>
<th>Alternative D</th>
<th>Alternative E</th>
<th>Alternative F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic</td>
<td>See discussion below</td>
<td>See discussion below</td>
<td>See discussion below</td>
</tr>
<tr>
<td>Noise</td>
<td>Noise levels on 116th Street E near SR 162 are expected to increase by about 8 dBA over the 2000 Baseline, resulting in a noise level of 72 dBA.</td>
<td>Noise levels on Bridge Street are expected to increase by 10 to 13 dBA over the 2030 Baseline, resulting in a noise level of 69 to 72 dBA.</td>
<td>Noise levels on Bridge Street are expected to increase by 10 to 13 dBA over the 2030 Baseline, resulting in a noise level of 69 to 72 dBA.</td>
</tr>
<tr>
<td>Land Use</td>
<td></td>
<td></td>
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<tr>
<td>Farmlands Impacts</td>
<td>3.05 acres</td>
<td>8.20 acres</td>
<td>0 acres</td>
</tr>
<tr>
<td>Residential displacements</td>
<td>14</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Commercial displacements</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Other business impacts</td>
<td>No impacts expected</td>
<td>No impacts expected</td>
<td>No impacts expected</td>
</tr>
<tr>
<td>Public Services</td>
<td>No impacts expected</td>
<td>No impacts expected</td>
<td>No impacts expected</td>
</tr>
<tr>
<td>Parks and Recreation</td>
<td>No impacts expected</td>
<td>No impacts expected</td>
<td>No impacts expected</td>
</tr>
<tr>
<td>Archaeological Resources</td>
<td>Moderate to low probability of impacts</td>
<td>Moderate to low probability of impacts</td>
<td>Moderate to low probability of impacts</td>
</tr>
<tr>
<td>Historic Resources</td>
<td>Moderate to high probability of impacts</td>
<td>Moderate to high probability of impacts</td>
<td>Moderate to high probability of impacts</td>
</tr>
<tr>
<td>Visual Quality</td>
<td>See discussion below</td>
<td>See discussion below</td>
<td>See discussion below</td>
</tr>
<tr>
<td>Utilities</td>
<td>No impacts expected</td>
<td>No impacts expected</td>
<td>No impacts expected</td>
</tr>
</tbody>
</table>

Traffic Operations

Traffic volumes are expected to increase significantly by 2030, and even with the currently planned improvements in place, there will be substantial congestion on key corridors in the area. Any of the three build alternatives will greatly reduce overall delay, but there are differences in the amount of benefit, with Alternative B providing the most and Alternative E the least. There are also tradeoffs between build alternatives in terms of which existing corridors receive the most benefit.

Visual Quality

Any of the build alternatives would change the views from the Puyallup Valley floor, in that no roadway currently exists in these locations. However, as shown in the photo on the right, there is already substantial residential development underway, and these new homes and roadways can be seen from throughout the study area.
### Exhibit 5-15. 2030 Corridor Travel Times

<table>
<thead>
<tr>
<th>Southbound</th>
<th>2002 Existing</th>
<th>2030 Existing Facility</th>
<th>2030 Rebuild</th>
<th>2030 Aerial</th>
<th>2030 Tunnel</th>
<th>2030 Bypass Tunnel</th>
<th>2030 Surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>A urora Bridge - Spokane Street</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Ballard Bridge - SR 519</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td>(Stadium Area)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A urora Bridge - Seattle Downtown</td>
<td>15</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>19</td>
</tr>
<tr>
<td>Seattle Downtown - Spokane Street</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Northbound</th>
<th>2002 Existing</th>
<th>2030 Existing Facility</th>
<th>2030 Rebuild</th>
<th>2030 Aerial</th>
<th>2030 Tunnel</th>
<th>2030 Bypass Tunnel</th>
<th>2030 Surface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spokane Street - A urora Bridge</td>
<td>9</td>
<td>12</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>13</td>
<td>33</td>
</tr>
<tr>
<td>SR 519 (Stadium Area) - Ballard Bridge</td>
<td>16</td>
<td>19</td>
<td>16</td>
<td>15</td>
<td>18</td>
<td>18</td>
<td>27</td>
</tr>
<tr>
<td>Seattle Downtown - A urora Bridge</td>
<td>12</td>
<td>12</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>Spokane Street - Seattle Downtown</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>10</td>
<td>20</td>
</tr>
</tbody>
</table>

* Estimate of travel times shown in minutes.
Presenting Data – Bar Charts

These bar charts show the same information as the tables, only it is easier to show differences and similarities between alternatives.

Readers can draw their own conclusions.
Presenting Data to Improve Understanding

Exhibit 5-26. Congested Intersections by Sub-area

<table>
<thead>
<tr>
<th></th>
<th>2012 Existing</th>
<th>2030 Existing Facility</th>
<th>Rebuild</th>
<th>Aerial</th>
<th>Tunnel</th>
<th>Bridges</th>
<th>Surface</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2012 Existing</td>
<td>2030 Existing Facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Highly Congested</td>
<td></td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Moderately Congested</td>
<td></td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Congested Intersections</td>
<td></td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Central</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Highly Congested</td>
<td></td>
<td>7</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Moderately Congested</td>
<td></td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Congested Intersections</td>
<td></td>
<td>7</td>
<td>8</td>
<td>7</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>North</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waterfront</td>
<td>Highly Congested</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Moderately Congested</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Congested Intersections</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>North</td>
<td>Highly Congested</td>
<td></td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Moderately Congested</td>
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<td>0</td>
<td>0</td>
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<td>Congested Intersections</td>
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<td>3</td>
<td>5</td>
<td>5</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>Highly Congested</td>
<td></td>
<td>10</td>
<td>10</td>
<td>13</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Moderately Congested</td>
<td></td>
<td>0</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Congested Intersections</td>
<td></td>
<td>10</td>
<td>15</td>
<td>15</td>
<td>18</td>
<td>16</td>
</tr>
</tbody>
</table>

This map shows the spatial pattern in the data.

This table lacks spatial context.
Presenting Data to Summarize Information

Noise Levels for Each Alternative

Tunnel Noise Calculations at Spring Street

<table>
<thead>
<tr>
<th>Location</th>
<th>Distance</th>
<th>Tunnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>10’ East of AWV</td>
<td>340</td>
<td>66.5</td>
</tr>
<tr>
<td>20’ East of AWV</td>
<td>350</td>
<td>65.4</td>
</tr>
<tr>
<td>30’ East of AWV</td>
<td>360</td>
<td>64.7</td>
</tr>
<tr>
<td>40’ East of AWV</td>
<td>370</td>
<td>64.4</td>
</tr>
<tr>
<td>50’ East of AWV</td>
<td>380</td>
<td>64.1</td>
</tr>
<tr>
<td>60’ East of AWV</td>
<td>390</td>
<td>63.8</td>
</tr>
<tr>
<td>70’ East of AWV</td>
<td>400</td>
<td>63.6</td>
</tr>
<tr>
<td>80’ East of AWV</td>
<td>410</td>
<td>63.5</td>
</tr>
<tr>
<td>90’ East of AWV</td>
<td>420</td>
<td>63.3</td>
</tr>
<tr>
<td>100’ East of AWV</td>
<td>430</td>
<td>63.2</td>
</tr>
<tr>
<td>125’ East of AWV</td>
<td>455</td>
<td>63.3</td>
</tr>
<tr>
<td>150’ East of AWV</td>
<td>480</td>
<td>64.6</td>
</tr>
<tr>
<td>175’ East of AWV</td>
<td>505</td>
<td>66.7</td>
</tr>
<tr>
<td>10’ West of AWV</td>
<td>190</td>
<td>62.6</td>
</tr>
<tr>
<td>20’ West of AWV</td>
<td>180</td>
<td>61.9</td>
</tr>
<tr>
<td>30’ West of AWV</td>
<td>170</td>
<td>61.3</td>
</tr>
<tr>
<td>40’ West of AWV</td>
<td>160</td>
<td>60.7</td>
</tr>
<tr>
<td>50’ West of AWV</td>
<td>150</td>
<td>60.3</td>
</tr>
<tr>
<td>60’ West of AWV</td>
<td>140</td>
<td>60.0</td>
</tr>
<tr>
<td>70’ West of AWV</td>
<td>130</td>
<td>59.7</td>
</tr>
<tr>
<td>80’ West of AWV</td>
<td>120</td>
<td>59.4</td>
</tr>
<tr>
<td>90’ West of AWV</td>
<td>110</td>
<td>59.1</td>
</tr>
<tr>
<td>100’ West of AWV</td>
<td>100</td>
<td>58.9</td>
</tr>
<tr>
<td>125’ West of AWV</td>
<td>75</td>
<td>58.5</td>
</tr>
<tr>
<td>150’ West of AWV</td>
<td>50</td>
<td>58.2</td>
</tr>
<tr>
<td>175’ West of AWV</td>
<td>25</td>
<td>57.8</td>
</tr>
<tr>
<td>200’ West of AWV</td>
<td>0</td>
<td>57.8</td>
</tr>
</tbody>
</table>

These graphs are showing how loud traffic would be at various distances from Alaskan Way. If you were standing where the X is, the noise level would be about 72 dBA. This is similar to the noise you would hear standing 3 feet from a blender.
Presenting Data to Summarize Information
Presenting Data to Summarize Information

### Alternatives Construction Chart
**Timeline Assumes Full Project Funding**

<table>
<thead>
<tr>
<th>Year</th>
<th>Stage</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rebuild - 24 months</td>
<td>Rebuild Seawall, Construct grade SR 99 from S. Hagge to S. King, Complete west half of ramps to SR 99, Start rebuild of Viaduct</td>
</tr>
<tr>
<td>2</td>
<td>Rebuild - 54 months</td>
<td>Rebuild Seawall, Complete rebuild of the Viaduct and ramps from S. Hagge to S. King, Start rebuild of Viaduct</td>
</tr>
<tr>
<td>3</td>
<td>Aerial - 36 months</td>
<td>Complete aerial structure from S. Hagge to S. Royal Broughams, Rebuild Seawall, Construct temporary Viaduct along waterfront, Establish grade Sr. St. Charles and construct temporary tunnels, Addien Meerim Livestock</td>
</tr>
<tr>
<td>4</td>
<td>Tunnel - 36 months</td>
<td>Rebuild Seawall! In areas where tunnel does not fit Seawall, Establish Broadway Street Detour and construct temporary tunnels, Build southbound tunnel with ramps from Union to Virginia, Addien Meerim Livestock, Start southbound tunnel construction from S. King to S. Hagge, Start building west half of ramps to SR 99</td>
</tr>
<tr>
<td>5</td>
<td>Bypass Tunnel - 24 months</td>
<td>Rebuild Seawall, Establish Broadway Street Detour and construct temporary tunnels, Addien Meerim Livestock, Start Bypass Tunnel construction, Start building west half of ramps to SR 99</td>
</tr>
<tr>
<td>6</td>
<td>Bypass Tunnel - 30 months</td>
<td>Rebuild Seawall, Establish Broadway Street Detour and construct temporary tunnels, Addien Meerim Livestock, Start Bypass Tunnel construction, Start building west half of ramps to SR 99</td>
</tr>
<tr>
<td>7</td>
<td>Tunnel - 36 months</td>
<td>Rebuild Seawall, Complete rebuild of the Viaduct and ramps from S. Hagge to S. King, Start rebuild of Viaduct</td>
</tr>
<tr>
<td>8</td>
<td>Aerial - 48 months</td>
<td>Complete relocation of utilities, Rebuild Alabam Way surface street, Route traffic to final configurations</td>
</tr>
<tr>
<td>9</td>
<td>Tunnel - 36 months</td>
<td>Rebuild Seawall, Complete rebuild of the Viaduct and ramps from S. Hagge to S. King, Start rebuild of Viaduct</td>
</tr>
<tr>
<td>10</td>
<td>Aerial - 30 months</td>
<td>Complete relocation of utilities, Rebuild Alabam Way surface street, Route traffic to final configurations</td>
</tr>
<tr>
<td>11</td>
<td>Tunnel - 36 months</td>
<td>Rebuild Seawall, Complete rebuild of the Viaduct and ramps from S. Hagge to S. King, Start rebuild of Viaduct</td>
</tr>
<tr>
<td>12</td>
<td>Aerial - 30 months</td>
<td>Complete relocation of utilities, Rebuild Alabam Way surface street, Route traffic to final configurations</td>
</tr>
<tr>
<td>13</td>
<td>Tunnel - 36 months</td>
<td>Rebuild Seawall, Complete rebuild of the Viaduct and ramps from S. Hagge to S. King, Start rebuild of Viaduct</td>
</tr>
<tr>
<td>14</td>
<td>Aerial - 30 months</td>
<td>Complete relocation of utilities, Rebuild Alabam Way surface street, Route traffic to final configurations</td>
</tr>
</tbody>
</table>

---

**Note:** All alternatives have similar activities but different durations. Includes Stages Two - Five.
Figures

- This provides a detailed graphic and definitions explaining technical terms.
- This graphic does a good job showing the tradeoffs between alternatives.
Oregon 62: I-5 to Dutton Road Final EIS and Record of Decision
May 2013

Presented by: Darlene Weaver,
Oregon DOT
Overall Document Quality

Document Structure and Navigation – “How to Use This Document”

HOW TO USE THIS DOCUMENT

In this FEIS:

- Text from the DEIS that remains substantially unchanged from the DEIS, including minor edits, such as corrections of typos and numerical errors and rewording to clarify meaning, is printed in black.
- New text is printed in burnt orange, which is the color of this text.
- Figures from the DEIS are reprinted. Where the content of a DEIS figure has changed, such as to show a change in design or impacts, the DEIS figure is immediately followed by a new figure with the same figure number, but with “FES” added.
- Where impact numbers or text in a table have changed because of a change in design or impacts, the numbers or text from the DEIS remain in the table and the new numbers or text are added in burnt orange immediately below the original numbers or text in the DEIS.
- The DEIS text on mitigation measures is retained, followed by the mitigation measure commitments that are incorporated into the action.

The FEIS contains new numbers and text because of changes from the DEIS in the roadway projects expected to be built under the No Build Alternative, in the design and impacts of the Preferred Alternative, and in information and circumstances. The design of the alternative and the design options that were not identified as the Preferred Alternative have not been changed and the FEIS does not contain changes to those impacts.
Overall Document Quality

Document Structure and Navigation – DEIS and FEIS Figures side-to-side
## Document Structure and Navigation – Tables include orange font with footnote when numerical impacts have changed

**Table 3.9-1 Number of Stream Crossings by Build Alternative and Design Option**

<table>
<thead>
<tr>
<th>Creek</th>
<th>SD Alternative</th>
<th></th>
<th></th>
<th>DI Alternative</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Design Option A</td>
<td>Design Option B</td>
<td>Design Option C (Preferred Alternative)</td>
<td>Design Option A</td>
<td>Design Option B</td>
<td>Design Option C</td>
</tr>
<tr>
<td></td>
<td>New</td>
<td>Replace</td>
<td>New</td>
<td>Replace</td>
<td>New</td>
<td>Replace</td>
</tr>
<tr>
<td>Bear</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Lone Pine</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<td>Upton</td>
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<td>1</td>
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<td>South Swanson</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>North Swanson</td>
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<td>0</td>
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<td>South Jack</td>
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<td>2</td>
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<td>2</td>
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<td>1²</td>
</tr>
<tr>
<td>North Jack</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Tributary to Cable Reservoir</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>South tributary to Little Butte Creek</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>North tributary to Little Butte Creek</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Crossings</strong></td>
<td>14</td>
<td>9</td>
<td>14</td>
<td>9</td>
<td>14</td>
<td>10</td>
</tr>
</tbody>
</table>


*¹One new stream crossing removed due to removal of airport access roadways from project.*

*²One replacement stream crossing removed due to removal of Justice/Gregory connector road from project.*
Overall Document Quality

Document Structure and Navigation – Table of Contents at beginning of chapter; References organized by chapter

Chapter 2 Content
2.1 Description of Alternatives
  2.1.1 No Build Alternative
  2.1.2 Build Alternatives
  2.1.3 Transportation System Management, Transportation Demand Management, and Mass Transit Alternatives
  2.1.4 JTA Phase
  2.2 Screening Criteria and Evaluation Measures
  2.3 Alternatives Considered but Eliminated from Further Consideration
  2.4 Comparison of Alternatives
  2.5 Identification of a Recommended Alternative and of the Preferred Alternative (SD Alternative with Design Option C)
    2.5.1 Identification of the Recommended Alternative (SD Alternative with Design Option C)
    2.5.2 Identification of the Preferred Alternative (SD Alternative with Design Option C)
    2.5.3 Identification of the SD Alternative with Design Option C as the Environmentally Preferred Alternative
  2.6 Permits and Approvals Needed

Alternatives

This chapter first describes the alternatives the DEIS analyzed. It then describes other alternatives considered but eliminated from further consideration and the basis for eliminating them. The end of the chapter identifies permits and approvals needed.

2.1 Description of Alternatives
## Compliance w/NEPA and Related Requirements

Regulatory compliance and permitting – Including key dates and events

### Table 7-3 ESA Consultation and Related Activities

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 4, 2004</td>
<td>Agency scoping meeting for proposed project and site visit</td>
<td>ODOT, FHWA</td>
</tr>
<tr>
<td>October 6, 2010</td>
<td>Pre-consultation meeting to discuss project vernal pool impacts. BA format,</td>
<td>ODOT, USFWS</td>
</tr>
<tr>
<td></td>
<td>assessment methodology. First direction about forthcoming Programmatic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biological Opinion (PBO) from USFWS. The PBO was concerned about vernal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>pool fairy shrimp (<em>Branchinecta lynchi</em> (fairy shrimp or VPFs)); Cook’s</td>
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<td></td>
<td>Lomatium (<em>Lomatium cookei</em> (Lomatium)); and large-flowered woolly</td>
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<td>meadowfoam (<em>Limnanthes tocass</em> ssp. <em>grandiflora</em>) (meadowfoam). Collect-</td>
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<td>ively, these species are referred to as the listed vernal pool species. The</td>
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<td></td>
<td>PBO is targeted for the vernal pool complexes of Jackson County, Oregon.</td>
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</tr>
<tr>
<td>December 21, 2010</td>
<td>Aquatic Resources BA submitted to NMFS from FHWA</td>
<td>ODOT, FHWA, NMFS</td>
</tr>
<tr>
<td>January 25, 2011</td>
<td>USFWS issued Jackson County PBO for Vernal Pool Conservation Strategy</td>
<td>USFWS, ODFW</td>
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<td></td>
<td>(FWS Reference Number 13420-2011-F-0064) as described in October 6, 2010</td>
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<td>entry above.</td>
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<tr>
<td>December 22, 2011</td>
<td>Terrestrial BA submitted to USFWS from FHWA</td>
<td>ODOT, FHWA, USFWS</td>
</tr>
<tr>
<td>December 13-14, 2011</td>
<td>Pre-application meeting at ODOT Region 3 Tech Center for the JTA Phase</td>
<td>ODOT, ODFW, USFWS</td>
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<td></td>
<td>of the OR 62: I-5 to Dutton Road Project and the Fern Valley Interchange</td>
<td>Corps, DSL</td>
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<td></td>
<td>Project.</td>
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</tr>
<tr>
<td>March 20, 2013</td>
<td>Biological Opinion received from NMFS</td>
<td>ODOT, FHWA, NMFS</td>
</tr>
<tr>
<td>March 26, 2013</td>
<td>Biological Opinion received from USFWS</td>
<td>ODOT</td>
</tr>
</tbody>
</table>
Responses to Comments – Annotating comment letters with cross-references to relevant responses
Compliance w/NEPA and Related Requirements

Changes during NEPA process - Explaining changes to guidance and implications of those changes; additional analysis conducted since DEIS

A 2012 update of the FHWA interim guidance regarding MSATs states that the EPA model forecasts “significantly higher diesel PM emissions, especially for lower speeds,” compared to the previous model (FHWA 2012). MSAT emissions nationwide are projected to decline more rapidly under EPA’s new model, since it incorporates regulations that were not in place at the time that the previous model was developed.

The additional travel lanes contemplated as part of the project alternatives will have the effect of moving some traffic closer to nearby homes, schools, and businesses; therefore, under each alternative there may be localized areas where ambient conditions of MSATs could be higher under certain build alternatives than the No Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the additional turn lanes at some intersections and along the Bypass routes under the build alternatives. However, as discussed above, the magnitude and duration of these potential increases compared to the No Build Alternative cannot be accurately quantified due to the inherent deficiencies of current models. In sum, when a highway is widened and, as a result, moves closer to receptors, the localized level of MSAT emissions for the build alternative could be higher relative to the No Build Alternative; however, this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSATs will be lower in locations where traffic shifts away from them (such as on the existing Highway 62 route under the build alternatives). However, on a regional basis, EPA’s vehicle and fuel regulations, coupled with fleet turnover, will, over time, cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

Additional analysis conducted since the publication of the DEIS indicates that the Preferred Alternative will reduce exposure to MSATs in two ways. First, the Preferred Alternative will divert traffic from existing OR 62 and other parallel routes, especially Biddle Road, Table Rock Road and Foothills Road. More residential uses are located along Biddle Road, Table Rock Road and Foothills Road than along the bypass and many more commercial uses are located along...
Compliance w/NEPA and Related Requirements

Changes during NEPA process – Changes in methodology

The methodology used to calculate indirect impacts to vernal pool fairy shrimp designated critical habitat was modified by the USFWS in March 2013. The revised method was employed to refine impact numbers reported in the 2011 Biological Assessment submitted by FHWA to USFWS. The original methodology for calculating indirect impacts to critical habitat looked only at areas where the project boundaries overlapped the critical habitat polygons. Under the revised methodology, indirect impacts are considered only for impacts where the 250-foot project buffer overlaps delineated vernal pool complexes (delineated vernal pool basin plus the 100-foot upland buffer) that occur within critical habitat polygons. Consequently, the impact values have decreased from those reported in the DEIS. Under the revised assessment methodology, there are no anticipated indirect impacts to vernal pool fairy shrimp critical habitat from the preferred alternative. Table 3.13-5 includes the revised acreage impacts associated with the Preferred Alternative.

Plant Species and Habitat

The DI Alternative would have the same indirect impacts on Cook’s lomatium and large-flowered woolly meadowfoam designated critical habitat as the SD Alternative.

The methodology used to calculate indirect impacts to critical habitat for Cook’s lomatium and large-flowered woolly meadowfoam was modified by the USFWS in March 2013. Under the revised assessment methodology, indirect impacts to Cook’s lomatium critical habitat decreased by 6.6 acres, to a total of 47 acres. Indirect impacts to large-flowered woolly meadowfoam critical habitat decreased by 28.5 acres, to a total of 0.3 acre. Impacts to individuals of the species have not changed from those reported in the DEIS. Table 3.13-5 includes the revised acreage impacts associated with the Preferred Alternative.
Cleveland Opportunity Corridor Project

Presented by: Jodi Heflin, HNTB
Cleveland Opportunity Corridor Project
Quality Writing

- Requires careful planning
- Collaborative process
- Iterative process
- Requires time
Simple Figures

The project includes three eastbound through-lanes between I-490 and East 93rd Street. In general, the roadway will have two through-lanes between East 93rd Street and Chester Avenue, but the roadway between Frank Avenue and Euclid Avenue will include a third eastbound through-lane. Left- and right-turn lanes will also be added at many of the intersections (Figure 1-2).

The boulevard will include a low, grassy median between East 55th Street and Quincy Avenue. However, the grassy median and tree lawns will not be included on the bridges. The proposed boulevard will also include a walking/biking path on the south side of the roadway and a sidewalk on the north side. See Figure 1-3 on pages 1-3 and 1-4 for examples of what the proposed boulevard will look like.

The Ohio Department of Transportation (ODOT) is managing the Cleveland Opportunity Corridor project on behalf of the Federal Highway Administration (FHWA). ODOT is working closely with the City of Cleveland and the Greater Cleveland Partnership (GCP) as these groups develop their vision for future land use and economic development in southeast Cleveland, including the Opportunity Corridor study area. Several other public and private activities are focused on growth and development of the study area, including the City of Cleveland’s brownfields study, which is funded by the U.S. Environmental Protection Agency (EPA). The planning and design of the Cleveland Opportunity Corridor is being coordinated with these activities, as needed.

**Figure 1-2: Cleveland Opportunity Corridor Proposed General Alignment**

- **Legend**:
  - Proposed Boulevard
  - General Alignment
  - Traffic Signal
  - Bridges Over Proposed Boulevard
  - Bridges on Proposed Boulevard
  - Number of Travel Lanes
  - Study Area

- **BEGIN PROJECT**: 77
- **END PROJECT**: 490

**WHO IS DEVELOPING THE PROJECT?**

- **West Section**: Located between I-77 and East 75th Street. Includes the East 55th Street/I-490 intersection.
- **Central Section**: Located between East 75th Street and Quincy Avenue.
- **East Section**: Located along East 105th Street from Quincy Avenue to Chester Avenue.

Three alternatives were studied in each of these sections.

As part of the Opportunity Corridor Conceptual Alternatives Study, several alternatives were removed from further study. Five alternatives were recommended for more study: two in the West Section, two in the Central Section and one in the East Section. The alternatives in each of the sections could be combined with one another to form one complete build alternative for the Cleveland Opportunity Corridor. By combining the section alternatives in as many ways as possible, the Opportunity Corridor Conceptual Alternatives Study recommended four ways of improving the entire project corridor.

The conceptual alternatives were presented to the public during a series of large, open-house and neighborhood meetings in October 2010. Details about those meetings can be found in Chapter 5 of this DEIS. After the October 2010 meetings, two specific parts of the alternatives were studied in more detail:

- **West Section**: One alternative would include an "at-grade" or "stair grade" with traffic lights at I-490 and East 55th Street. The other alternative would be a bridge over East 55th Street at I-490 and the proposed boulevard. A short new roadway or "quad lane" (Figure 3-2, page 3-3) would be built near East 59th Street to route traffic between East 55th Street and the proposed boulevard.

- **Central Section**: One alternative would create a series of turns along Woodland Avenue to continue travel in an east-west direction. This would result in a gap along Woodland Avenue, called the discontinuity of Woodland Avenue (Figure 3-4). The other alternative would maintain Woodland Avenue as a continuous roadway with no gaps (Figure 3-5).

Two reports summarize the results of these studies: Early Analysis of West Alternatives (March...
Illustrative Photographs

Chapter 4 ENVIRONMENTAL RESOURCES and IMPACTS

WHAT IS THE PURPOSE OF THIS CHAPTER?

This chapter describes the human and natural resources within the study area. This chapter also discusses the potential impacts and benefits of the project on these resources, as well as ways to reduce or avoid impacts. Building the Cleveland Opportunity Corridor project would use many different resources such as land, construction worker labor, and materials such as concrete and steel. In most cases, these resources cannot be fully recovered once they are used. However, there is no shortage of any of these items, and using them to build the project would not change their availability for other uses.

The information in this chapter is based upon the documents1 listed in Figure 4-2 on page 4-2. These reports are included on the CD included with this Draft Environmental Impact Statement (DEIS). The sections that follow give basic information about the existing resources and the potential impacts and benefits of the project.

WHAT TOPICS ARE DISCUSSED IN DETAIL IN THIS CHAPTER?

The study area is in the City of Cleveland. It is urban and does not have any major natural resources such as wetlands, streams or surface water bodies (Figure 4-1). Also, about 0.01 acres in the northeast corner of the East 105th Street-Chester Avenue intersection (Figure 4-28) would be used for the new boulevard and taken from the Wade Park Historic District and the 4th Church of Christian Scientists. This land, which is located in the southwest corner of the Historic District, is needed to meet current design standards. Chester Avenue is a federally designated truck route, so, at least one 12-foot lane must be provided in both directions. Currently, the widths of the travel lanes on Chester Avenue near East 105th Street range from 8 feet to 9 feet.

Also, about 0.01 acres in the northeast corner of the East 105th Street-Chester Avenue intersection (Figure 4-29) would be used for the new boulevard and taken from the Wade Park Historic District and the 4th Church of Christian Scientists. This land, which is located in the southwest corner of the Historic District, is needed to meet current design standards. Chester Avenue is a federally designated truck route, so, at least one 12-foot lane must be provided in both directions. Currently, the widths of the travel lanes on Chester Avenue near East 105th Street range from 8 feet to 9 feet.

The project would also increase the area provided for turning vehicles in the northeast corner of the East 105th Street-Chester Avenue intersection, allowing westbound traffic to more easily make the turn to northbound East 105th Street. Currently, larger vehicles and trucks could drive over the curb and sidewalks because the turn is too tight, which also creates a safety concern for pedestrians. The project would increase the turning area...
Q&A with the Panel

- **Moderator:**
  - Jenny O’Connell, AASHTO

- **Panelists:**
  - Lamar Smith, FHWA
  - Bill Malley, Perkins Coie
  - Vanessa Henderson, Colorado DOT
  - Stephanie Miller, Parametrix
  - Darlene Weaver, Oregon DOT
  - Jodi Heflin, HNTB

Please submit your comments in the text box within the control panel.