Webinar

Preparing High-Quality NEPA Documents for Transportation Projects

Presented by the
Center for Environmental Excellence by AASHTO

October 21, 2014

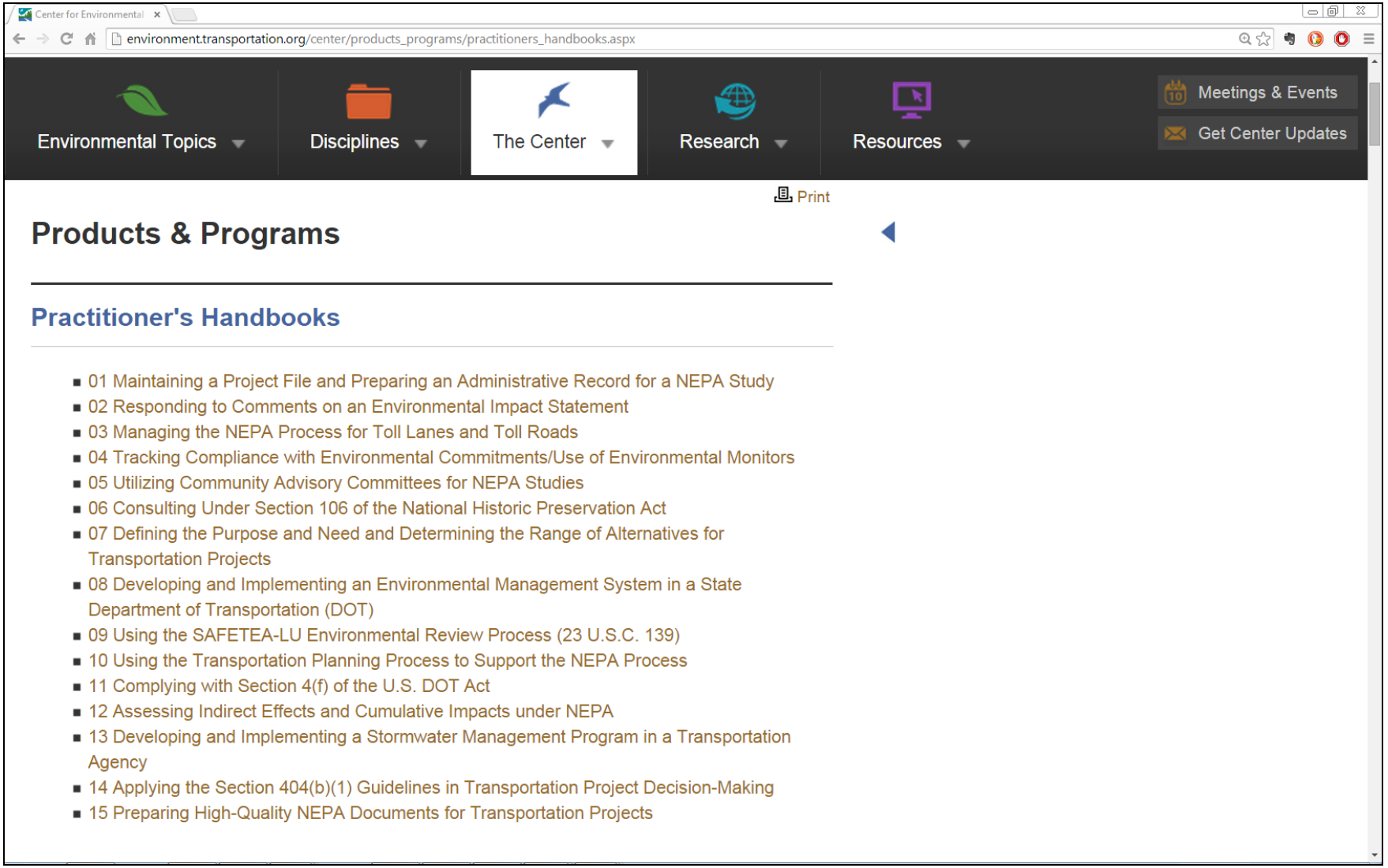
Welcome to the Webinar!

Shannon Eggleston
Program Director for Environment
AASHTO

Center for Environmental Excellence

- Visit our website:
  http://environment.transportation.org/
- 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



Review Panel for Practitioner's Handbook

Panelist	Agency/Organization
Lamar Smith	FHWA
Owen Lindauer	FHWA
Tricia Harr	FHWA
Dan Johnson	FHWA
Rob Ayres	FHWA
Carol Lee Roalkvam	Washington State DOT
Gail D'Avino	Georgia DOT
Hal Kassoff	ACEC - Parsons Brinckerhoff
Rose Morgan	ACEC – EMCS
Jodi Heflin	ACEC – HNTB
Stephanie Miller	ACEC – Parametrix
John Page	ACEC – Parsons Brinckerhoff

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)

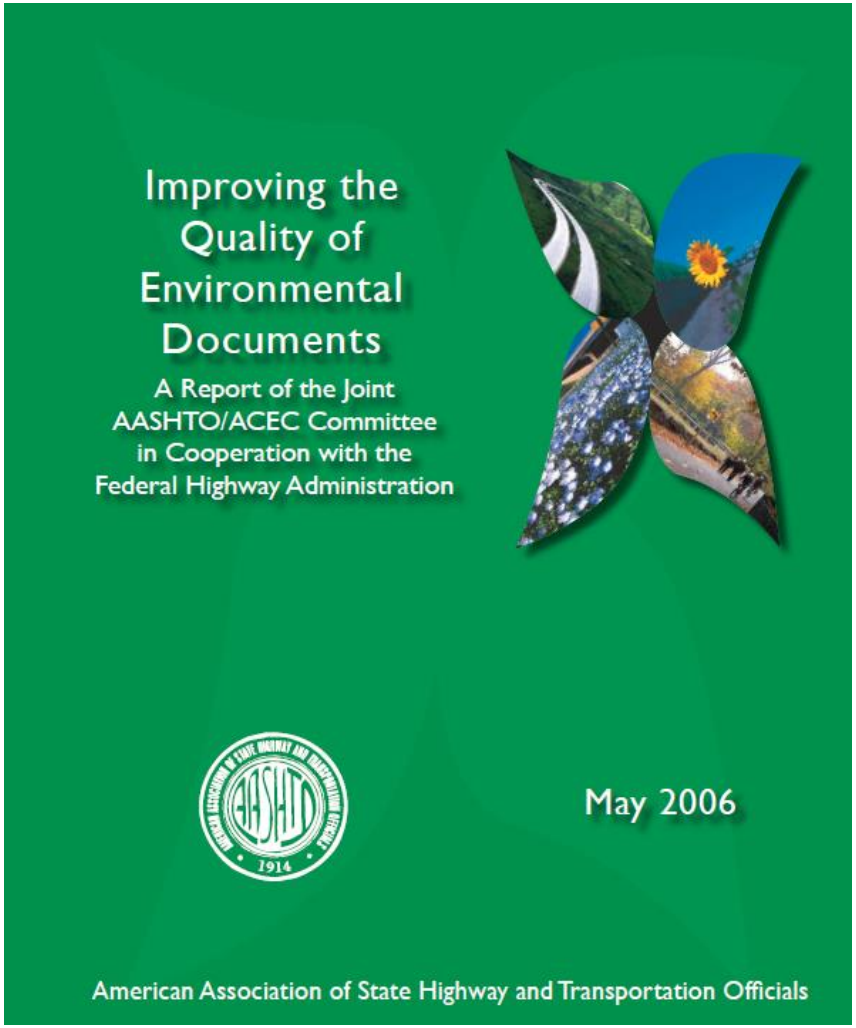
Implementing Quality Environmental Documents

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



Better Quality NEPA Documents

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

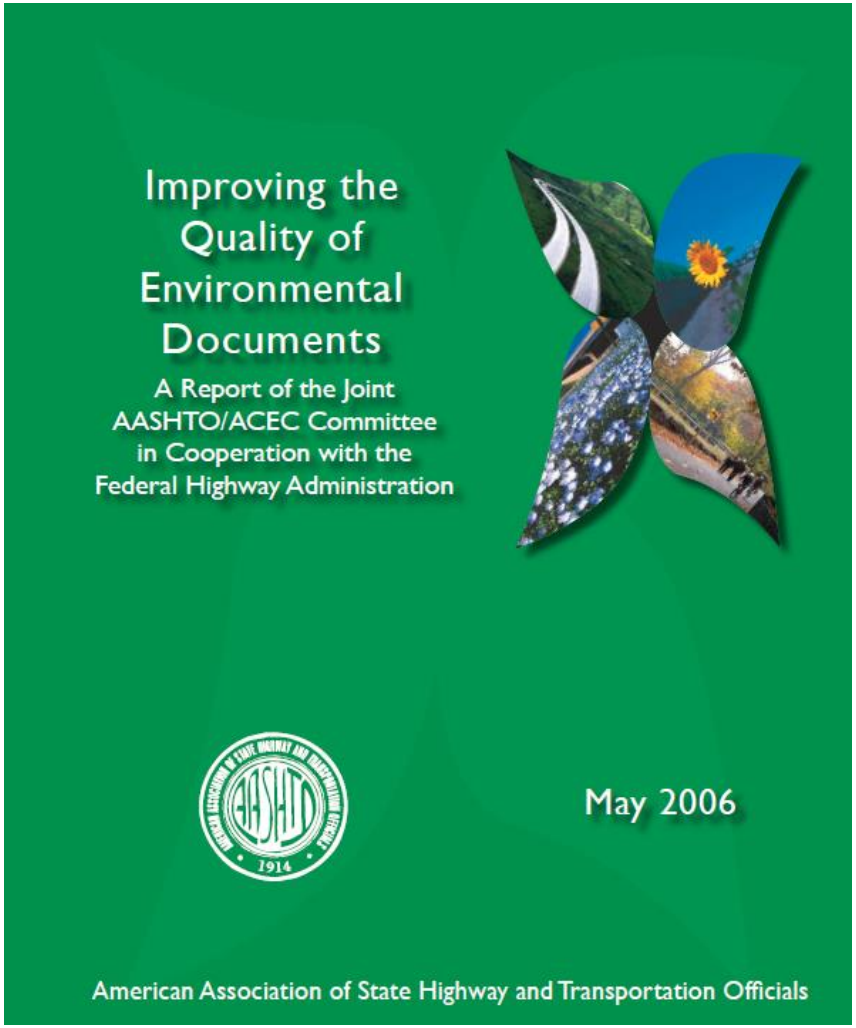
- 31 state DOTs participating
- Training delivered to States on-going
- Technical Assistance
- Collection and Summary of Examples - AASHTO
- AASHTO Practitioner Handbook
- EDC-3 FHWA e-NEPA
  - Summits
  - Implementation

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

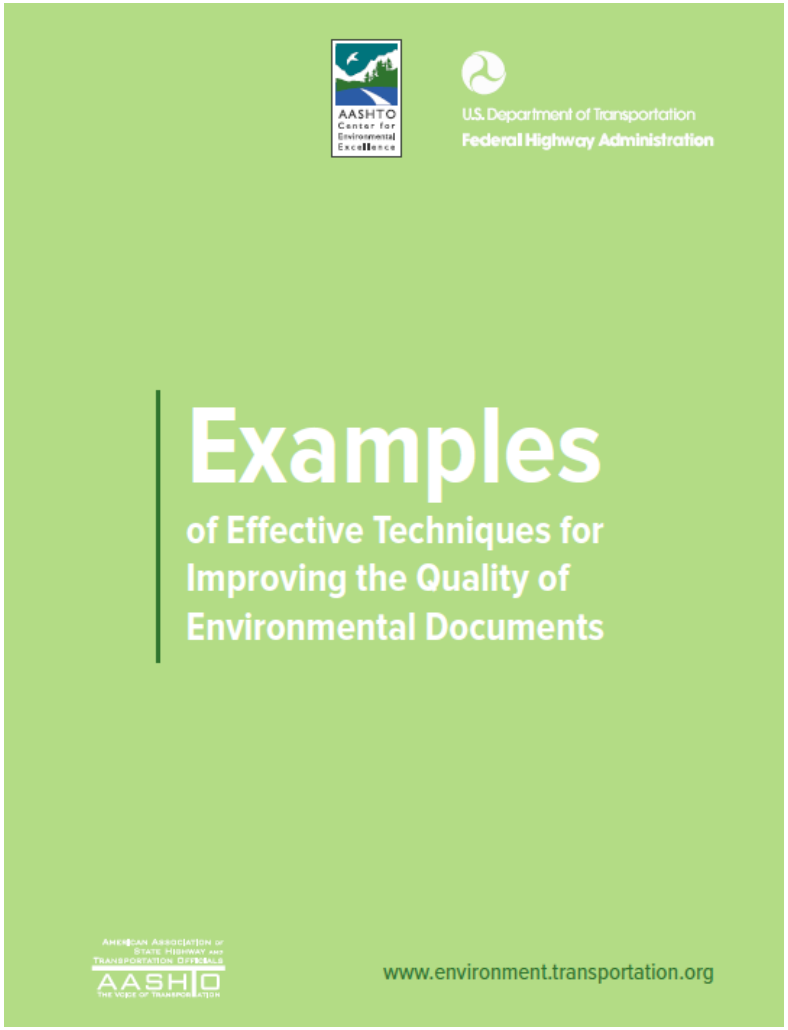


Center Initiative on NEPA Document Quality

- 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.



The Examples Document

Center for Environmental Excellence by AASHTO
One Stop Source of Environmental Information for Transportation Professionals

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:

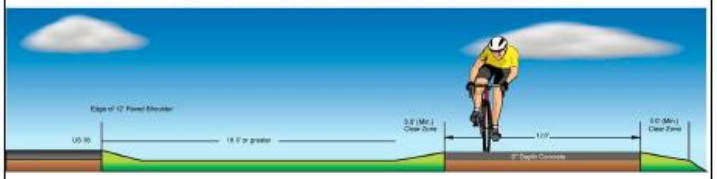
- *Computer-generated 3-D renderings.* Transportation projects include complex structures that can be difficult to describe in text or to depict in two dimensions on plan sheets. Computer-generated renderings give the reader a better understanding of the size and configuration of the structure. For example, 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.

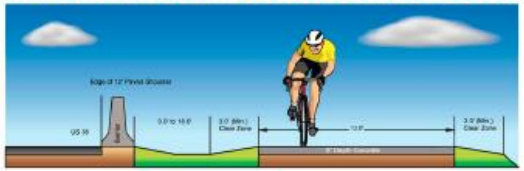
Techniques to note:
- cross-section drawings include artwork (e.g., landscape, pedestrians, bicyclists) to provide sense of scale and context

Figure 2.6-13: Bikeway Typical Section

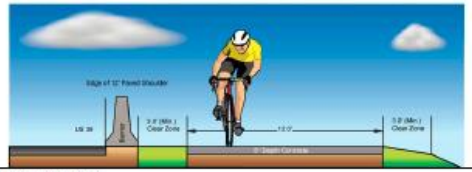
PATH WITH NO BARRIER SECTION



PATH WITH MODERATELY CONSTRAINED SECTION



PATH WITH CONSTRAINED SECTION



Source: US 36 Mobility Partnership, 2009.

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

Preparing for NEPA	Document Quality	Legal Compliance
• Building the NEPA Document Team • Developing a Plan for the NEPA Document • Planning for the NEPA Document Review Process	• Page Layout • Writing Quality • Document Structure • Navigation • Summary/Abstracts • Presenting Data • Figures • Visualizations • Appendices and Technical Reports • List of References • Electronic Publication	• Purpose and Need • Alternatives • Methodologies • Commitments • Regulatory Compliance • Responses to Comments • Reevaluation, Supplementation

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

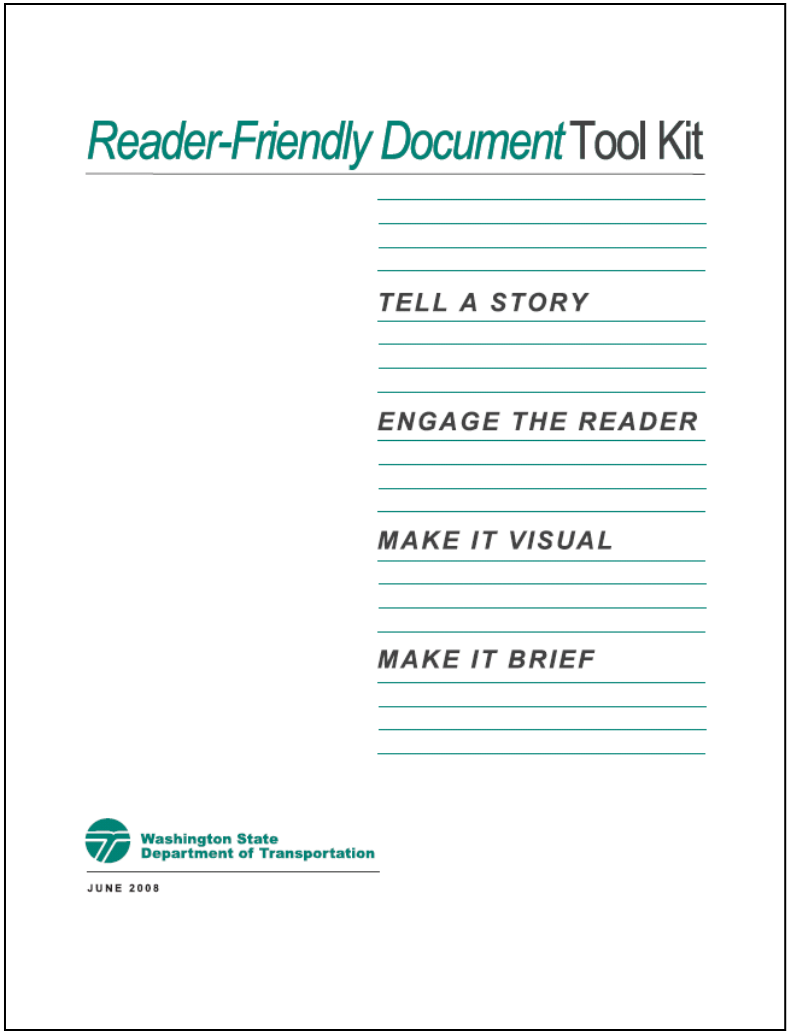
- Focus on significant issues
- Discuss issues in proportion to their significance
- Use a format that allows for clear presentation of the alternatives
- Identify methodologies used in the analysis
- Include explicit references to scientific sources used in analysis
- Provide “reasonable and proportionate” 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."

Handbook, p. 6.

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."

Handbook, p. 7.

Document Structure

- **Combining Chapters:**
  - Affected Environment and Environmental Impacts
- **Dividing Chapters:**
  - Alternatives Considered
  - Comparison of Alternatives
- **Adding Chapters:**
  - Transportation Issues
  - Mitigation
  - Cost/Funding
  - Project Phasing
  - Etc.

"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."

Handbook, p.10.

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

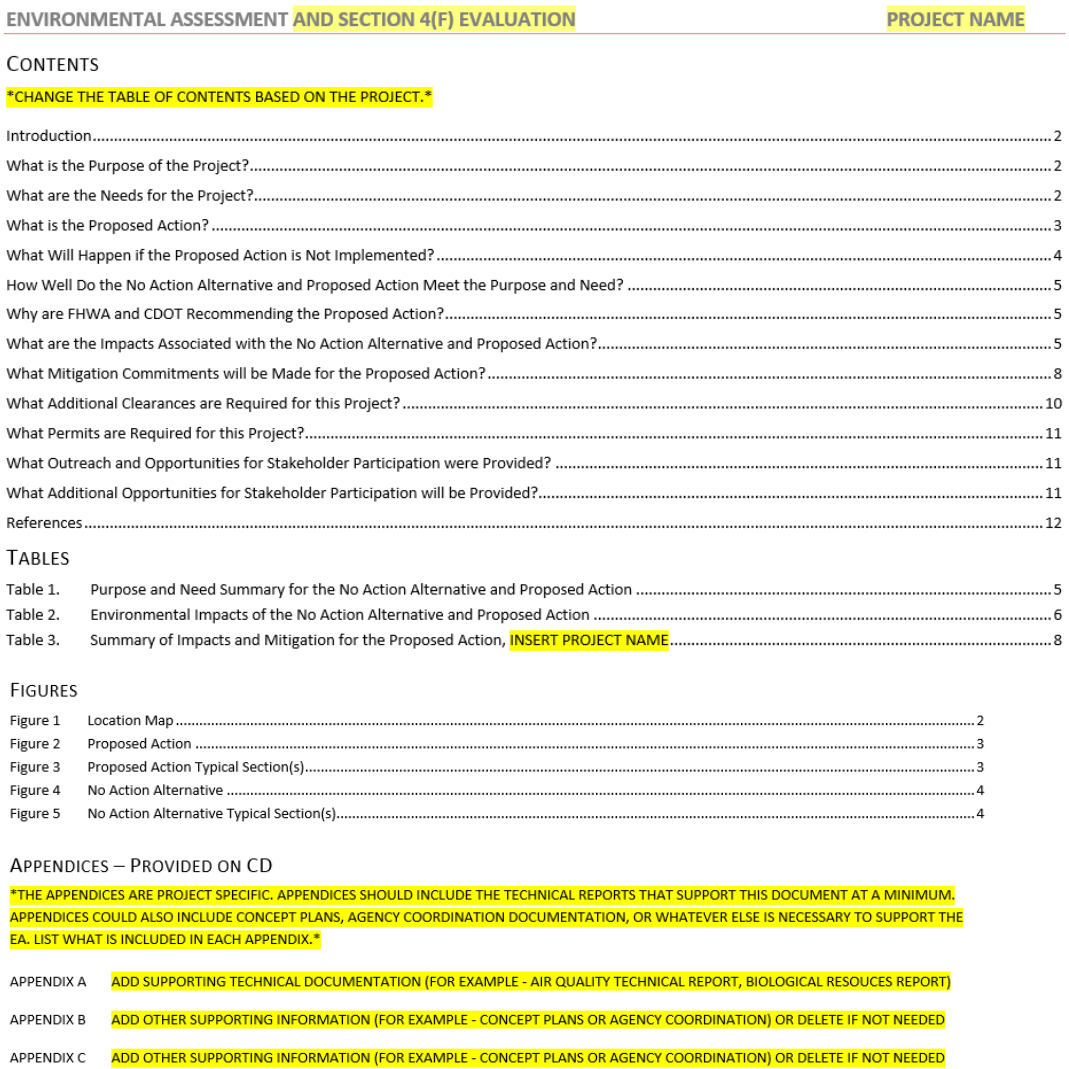
- Colorado
  - Vanessa Henderson, Colorado DOT
- Washington State
  - Stephanie Miller, Parametrix
- Oregon
  - Darlene Weaver, Oregon DOT
- Ohio
  - Jodi Heflin, HNTB

Examples from Colorado

Presented by: Vanessa Henderson, Colorado DOT

http://www.coloradodot.info/programs/environmental/resources/forms

CDOT's NEPA Document Templates



ENVIRONMENTAL ASSESSMENT AND SECTION 4(F) EVALUATION PROJECT NAME

CONTENTS

CHANGE THE TABLE OF CONTENTS BASED ON THE PROJECT.

TABLES

FIGURES

APPENDICES – PROVIDED ON CD

THE APPENDICES ARE PROJECT SPECIFIC. APPENDICES SHOULD INCLUDE THE TECHNICAL REPORTS THAT SUPPORT THIS DOCUMENT AT A MINIMUM. APPENDICES COULD ALSO INCLUDE CONCEPT PLANS, AGENCY COORDINATION DOCUMENTATION, OR WHATEVER ELSE IS NECESSARY TO SUPPORT THE EA. LIST WHAT IS INCLUDED IN EACH APPENDIX.

- 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

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

Side-by-side comparison of alternatives.

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

Resource	Context	No Action Alternative	Proposed Action	Mitigation Number
Air Quality (INSERT APPENDIX NUMBER FOR TECH REPORT)	INSERT BRIEF CONTEXT DESCRIPTION – FOR EXAMPLE, PROJECT IN X COUNTY THAT IS IN ATTAINMENT	**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)	**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)	INSERT NUMBER FROM TABLE 3

Only include necessary information.

Presenting Data – Using Tables That Are Easy to Understand (continued)

Table 3. Summary of Impacts and Mitigation for the Proposed Action, INSERT PROJECT NAME

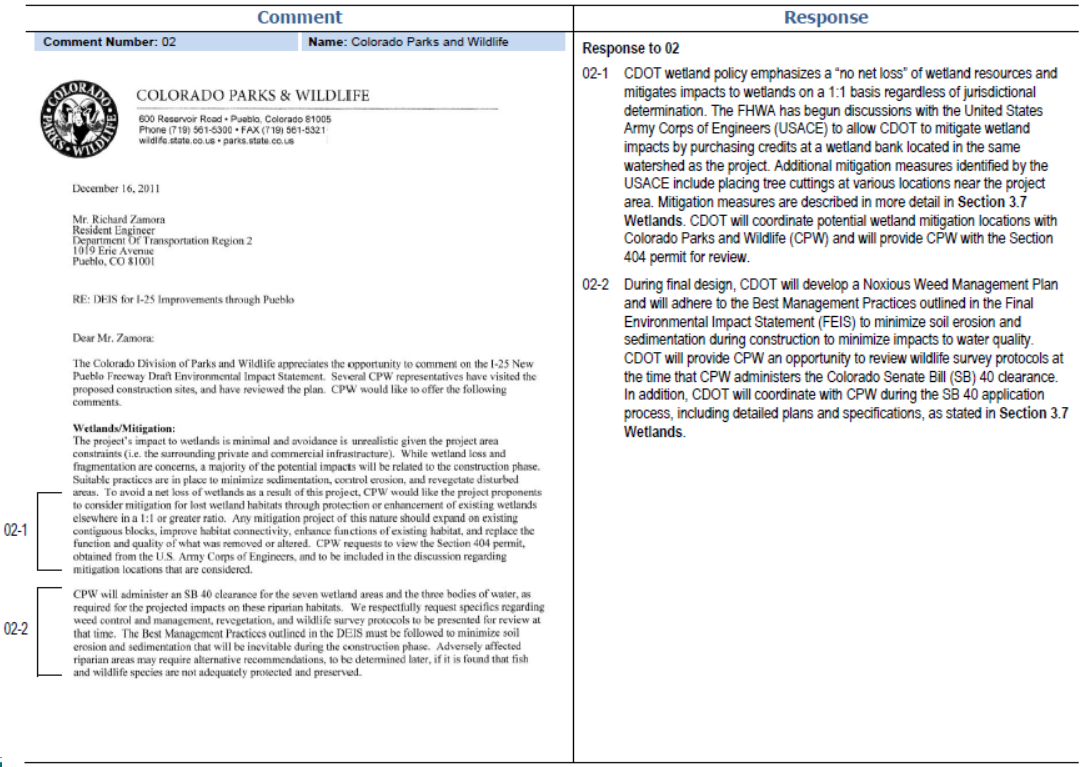
#	Mitigation Category	Impact	Mitigation Commitment From Source Document	Responsible Branch	Timing/Phase that Mitigation will be Implemented
1	Air Quality	INSERT IMPACT – THERE MUST BE AN IMPACT LISTED IN THE PREVIOUS TABLE IF THERE'S A MITIGATION. FOR EXAMPLE, INCREASED DUST DURING CONSTRUCTION.	INSERT MITIGATION – FOR EXAMPLE, USE DUST SUPPRESSION METHODS DURING CONSTRUCTION SUCH AS WETTING DISTURBED AREAS. NOTE: MITIGATION COMMITMENT LANGUAGE CAN BE A SUMMARY OF WHAT IS OUTLINED IN THE TECHNICAL REPORTS.	LIST WHO IN CDOT IS RESPONSIBLE – DESIGN, CONSTRUCTION, ROW, ENVIRONMENTAL, ETC. IT IS ULTIMATELY CDOT'S RESPONSIBILITY TO ENSURE ALL MITIGATION COMMITMENTS HAVE BEEN COMPLETED	THIS COULD INCLUDE PHASES SUCH AS DESIGN, ROW ACQUISITION, PRE-CONSTRUCTION (E.G., FOR SURVEYS), CONSTRUCTION, POST-CONSTRUCTION, (E.G., FOR PERMIT CLOSE-OUTS, ETC.)

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.

Presenting Data – Using Tables That Are Easy to Understand (continued)

Table X. Public and Agency Comments Received and Responses to Comments

Comment	Response
INSERT COMMENT INFO SUCH AS COMMENT NUMBER, SOURCE, NAME OF COMMENTER, ETC WITH COMMENT BELOW (IMAGE) EXAMPLE – COMMENT #IND-1, RECEIVED BY EMAIL, JOHN DOE INSERT IMAGE OF COMMENT	*INSERT "RESPONSE TO COMMENT NUMBER" BASED ON COMMENT NUMBER FROM OTHER COLUMN AND THE RESPONSE* EXAMPLE – RESPONSE TO COMMENT #IND-1 INSERT RESPONSE



Comment

Comment Number: 02 **Name:** Colorado Parks and Wildlife

COLORADO PARKS & WILDLIFE

600 Reservoir Road • Pueblo, Colorado 81005
Phone (719) 561-5300 • FAX (719) 561-5321
wildlife.state.co.us • parks.state.co.us

December 16, 2011

Mr. Richard Zamora
Resident Engineer
Department Of Transportation Region 2
1019 Erie Avenue
Pueblo, CO 81001

RE: DEIS for I-25 Improvements through Pueblo

Dear Mr. Zamora:

The Colorado Division of Parks and Wildlife appreciates the opportunity to comment on the I-25 New Pueblo Freeway Draft Environmental Impact Statement. Several CPW representatives have visited the proposed construction sites, and have reviewed the plan. CPW would like to offer the following comments.

Wetlands/Mitigation:
The project's impact to wetlands is minimal and avoidance is unrealistic given the project area constraints (i.e. the surrounding private and commercial infrastructure). While wetland loss and fragmentation are concerns, a majority of the potential impacts will be related to the construction phase. Suitable practices are in place to minimize sedimentation, control erosion, and revegetate disturbed areas. To avoid a net loss of wetlands as a result of this project, CPW would like the project proponents to consider mitigation for lost wetland habitats through protection or enhancement of existing wetlands elsewhere in a 1:1 or greater ratio. Any mitigation project of this nature should expand on existing contiguous blocks, improve habitat connectivity, enhance functions of existing habitat, and replace the function and quality of what was removed or altered. CPW requests to view the Section 404 permit, obtained from the U.S. Army Corps of Engineers, and to be included in the discussion regarding mitigation locations that are considered.

02-1

CPW will administer an SB 40 clearance for the seven wetland areas and the three bodies of water, as required for the projected impacts on these riparian habitats. We respectfully request specifics regarding weed control and management, revegetation, and wildlife survey protocols to be presented for review at that time. The Best Management Practices outlined in the DEIS must be followed to minimize soil erosion and sedimentation that will be inevitable during the construction phase. Adversely affected riparian areas may require alternative recommendations, to be determined later, if it is found that fish and wildlife species are not adequately protected and preserved.

02-2

Response

Response to 02

02-1 CDOT wetland policy emphasizes a "no net loss" of wetland resources and mitigates impacts to wetlands on a 1:1 basis regardless of jurisdictional determination. The FHWA has begun discussions with the United States Army Corps of Engineers (USACE) to allow CDOT to mitigate wetland impacts by purchasing credits at a wetland bank located in the same watershed as the project. Additional mitigation measures identified by the USACE include placing tree cuttings at various locations near the project area. Mitigation measures are described in more detail in **Section 3.7 Wetlands**. CDOT will coordinate potential wetland mitigation locations with Colorado Parks and Wildlife (CPW) and will provide CPW with the Section 404 permit for review.

02-2 During final design, CDOT will develop a Noxious Weed Management Plan and will adhere to the Best Management Practices outlined in the Final Environmental Impact Statement (FEIS) to minimize soil erosion and sedimentation during construction to minimize impacts to water quality. CDOT will provide CPW an opportunity to review wildlife survey protocols at the time that CPW administers the Colorado Senate Bill (SB) 40 clearance. In addition, CDOT will coordinate with CPW during the SB 40 application process, including detailed plans and specifications, as stated in **Section 3.7 Wetlands**.

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

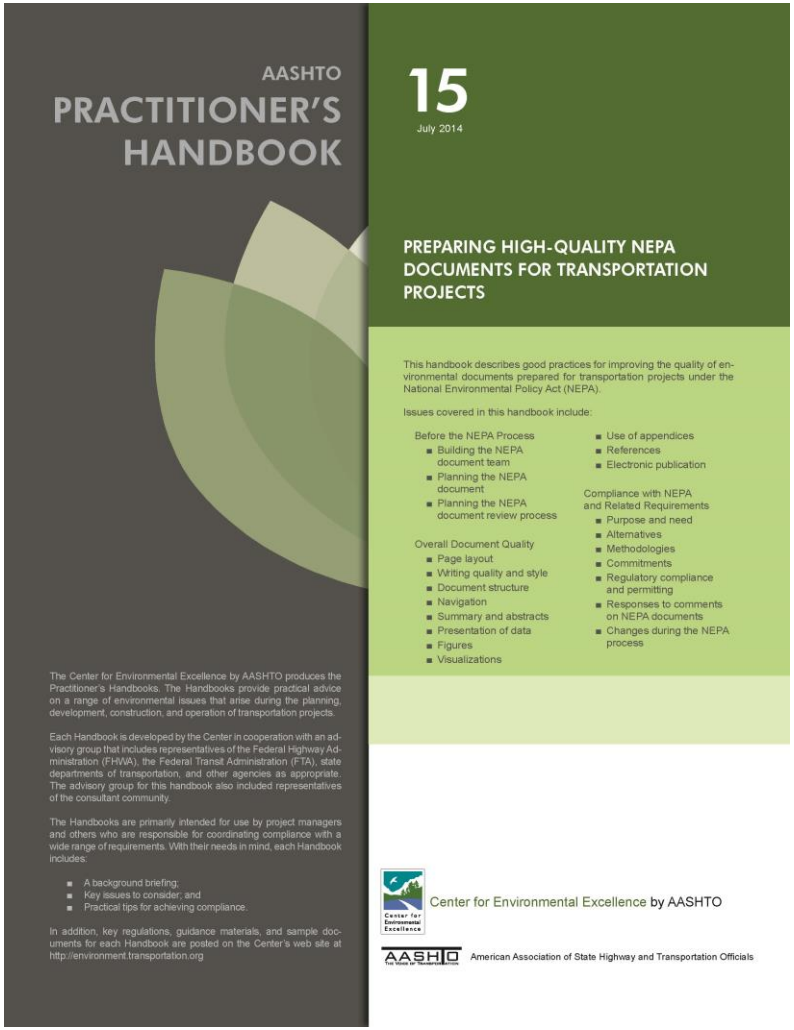
*Example from I-25 Through Pueblo FEIS.

Examples from Washington State

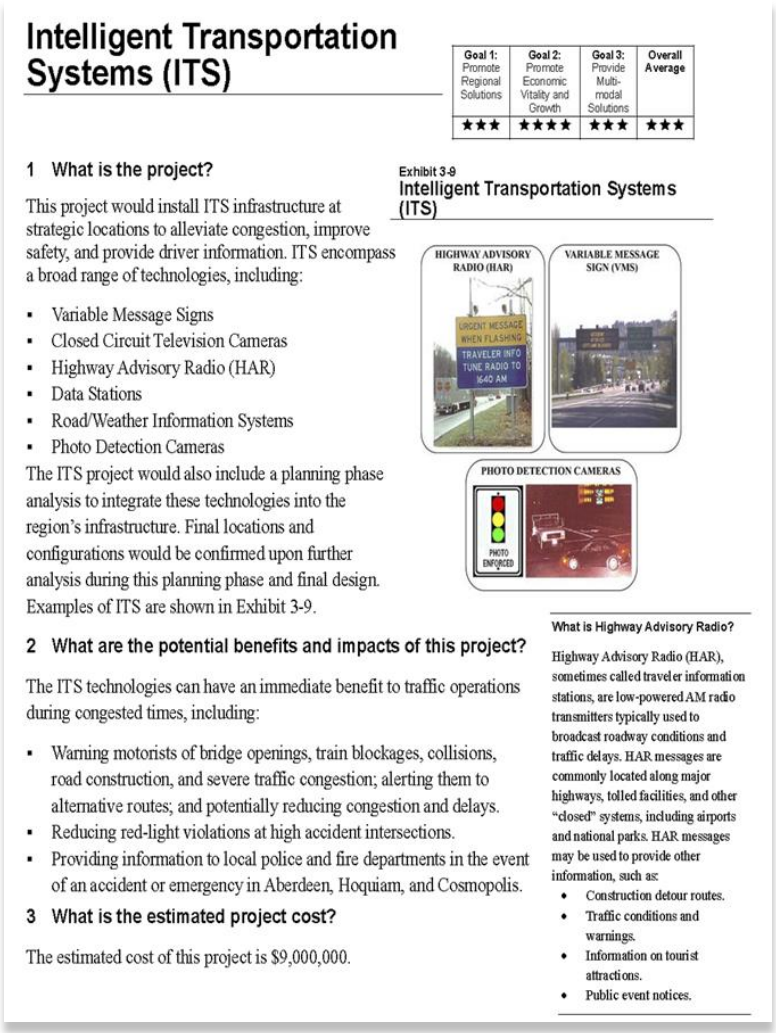
Presented by: Stephanie Miller, Parametrix

Presentation Overview

- Document layout
- Data presentation
- Figure design



Layout – Basic Concepts



Intelligent Transportation Systems (ITS)

Goal 1: Promote Regional Solutions	Goal 2: Promote Economic Vitality and Growth	Goal 3: Provide Multi-modal Solutions	Overall Average
★★★	★★★★	★★★	★★★

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 3-9.

Exhibit 3-9
Intelligent Transportation Systems (ITS)

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.

What is Highway Advisory Radio?

Highway Advisory Radio (HAR), sometimes called traveler information stations, are low-powered AM radio transmitters typically used to broadcast roadway conditions and traffic delays. HAR messages are commonly located along major highways, tolled facilities, and other "closed" systems, including airports and national parks. HAR messages may be used to provide other information, such as:

- Construction detour routes.
- Traffic conditions and warnings.
- Information on tourist attractions.
- Public event notices.

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

Layout

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.

Regarding SR 99:

"This is a critical state road. Delay in replacing it puts our economy and public safety at risk. The viaduct is moving with or without our help. The only question is which will move next, the legislature or the viaduct."

Greg Nickels, Seattle Mayor

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.

How the public has been involved:

- 15 public meetings and community open houses
- Two workshops to discuss flexible transportation concepts
- Discussions with community groups at more than 140 community meetings and community interviews
- Meetings with businesses along the corridor
- Newsletters and brochures, including project fact sheets translated into four languages
- Press releases
- Project website
- Email list and project hotline
- Information displays at libraries and community centers

Additional information about public outreach is contained in Appendix A, Agency and Public Coordination.

Since the Nisqually earthquake, the public has taken a keen interest in the project. Hundreds have contributed valuable ideas and feedback as the alternatives have been developed. Public meetings and open houses 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 and project staff, 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, to 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

Layout

Exhibit ES-6
The IDT's Recommendations at Individual CEAs

CEA	Recommended Preferred Alternative
Gold Creek	Option A
Rocky Run Creek	Option A
Wolfe Creek	Option A
Resort Creek	Option D
Townsend Creek	Option A Modified
Price/Noble Creeks	Option D
Bonnie Creek	Option A
Swamp Creek	Option B Modified
Toll Creek	Options A/B Modified
Cedar Creek	Option A Modified
Telephone Creek	Option A Modified
Hudson Creek	Option A
Easton Hill	Option A
Kachess River	Option D

The IDT's recommendations and each option's details are shown on Exhibit ES-4.

How did FHWA and WSDOT modify the project after the Preferred Alternative was identified?

After the lead agencies identified the Preferred Alternative, WSDOT conducted additional technical studies to support more detailed design work. These included studies of geotechnical (soil and rock) conditions, avalanches, and construction methods. The information from these studies were analyzed by a multi-agency value engineering (VE) team. The VE team recommended two modifications to the range of alternatives.

Value Engineering is a systematic application of recognized techniques by a multidisciplinary team to identify the function of a product or service and the lowest life cycle cost without sacrificing safety, necessary quality, or environmental attributes.

The first modification would reduce the design speed of the new highway. The original design speed for all of the build alternatives varied between 65 and 75 miles per hour (mph) for the entire 15-mile corridor. The VE team recommended that the design speed be reduced to 65 mph for the western six miles of the corridor along Keechelus Lake, and 70 mph for the remainder of the corridor. This recommendation was based on physical constraints of the site, including the sharp curves along Keechelus Lake, the narrow highway alignment between the rock slopes and the lake, and consistancy with design speeds east and west of the project area.

What is design speed and how does it vary from the posted highway speed limits?

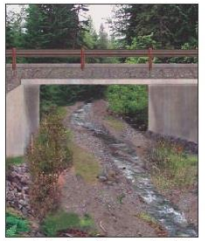
The design speed of a road is the maximum speed at which a motor vehicle can be operated safely on that road in perfect conditions. The posted speed limit is the maximum speed allowed by law for vehicles.

The second modification was to eliminate the large viaduct bridges planned in Keechelus 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 Keechelus Lake. Also, a 600-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 chute, allowing avalanches to pass beneath the bridges. The existing snowshed would be left in place. The VE team recommended that these viaduct bridges be eliminated, based on the findings from new technical studies conducted in 2006:

What are "logical termini"?

The FHWA defines logical termini as (1) rational beginning and end points for a transportation project, and (2) rational beginning and end points for review of environmental impacts.

- 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 blast may cause white-out conditions on the proposed viaduct, which would create safety problems.
- Constructing the viaduct bridges presented engineering problems that approach the level of fatal flaws, 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 80 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 Keechelus Lake.



Larger bridge to provide passage by wildlife habitat. (Design Visualization)

Perched culvert at Resort Creek outlet.

Removing the viaduct bridges would require WSDOT to replace the existing snowshed at MP 58.1, which covers the two westbound lanes. The snowshed is listed on the NRHP, and removing it requires evaluation under Section 4(f) of the Transportation Act. This evaluation can be found in Chapter 5 of the Final EIS, *Programmatic Section 4(f) Evaluation.*

Layout

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 shows 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.

Built Environment

Additional information on the Built Environment can be found in Chapter 3.

Exhibit 1-3
Summary of Impacts to the Built Environment

Element Studied	Alternative B	Alternative D	Alternative E
Traffic	See discussion below	See discussion below	See discussion below
Noise	Noise levels on 116th Street E near SR 162 are expected to increase by about 18 dBA over the 2030 Baseline, resulting in a noise level of 72 dBA.	Noise levels along 128th Street E. near SR 162 are expected to increase by about 8 dBA over the 2030 Baseline, resulting in a noise level of 73 dBA.	Noise levels on Bridge Street are expected to increase by 9 to 13 dBA over the 2030 Baseline, resulting in a noise level of 68 to 72 dBA.
Land Use			
Farmlands impacts	3.05 acres	6.20 acres	0 acres
Residential displacements	14	8	10
Commercial displacements	1	0	1
Other business impacts	Could impact a gravel pit	No impacts expected	No impacts expected
Public Services	No impacts expected	No impacts expected	No impacts expected
Parks and Recreation	No impacts expected	No impacts expected	No impacts expected
Archaeological Resources	Moderate to low probability of impacts	Moderate to low probability of impacts	Moderate to low probability of impacts
Historic Resources	Moderate to high probability of impacts	Moderate to high probability of impacts	Moderate to high probability of impacts
Visual Quality	See discussion below	See discussion below	See discussion below
Utilities	No impacts expected	No impacts expected, a bridge must be built to protect a water transmission line.	No impacts expected

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 alternative 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.

Looking east across the Puyallup Valley, a substantial amount of development has already replaced previously forested areas.

Presenting Data – Bar Charts

Exhibit 5-15. 2030 Corridor Travel Times

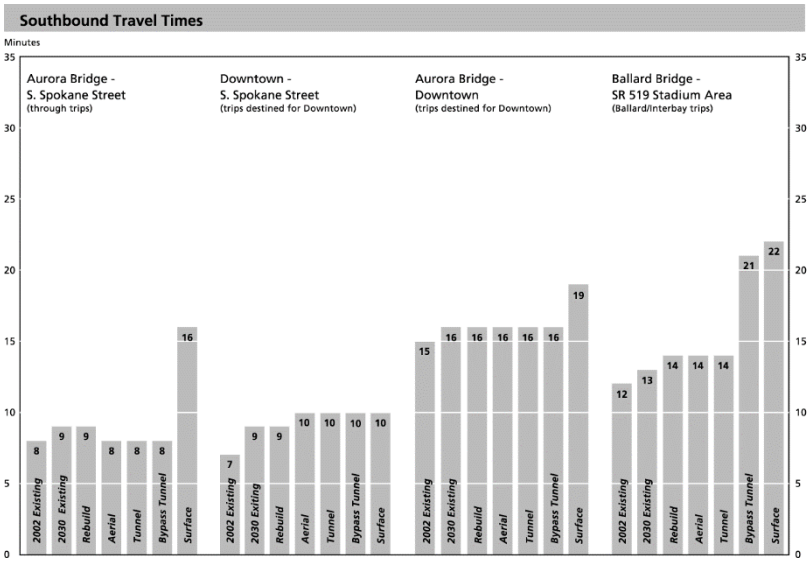
Southbound	2002 Existing	2030 Existing Facility	2030 Rebuild	2030 Aerial	2030 Tunnel	2030 Bypass Tunnel	2030 Surface
A urora Bridge - Spokane Street	8	9	9	8	8	8	16
Ballard Bridge - SR 519 (Stadium Area)	12	13	14	14	14	21	22
A urora Bridge - Seattle Downtown	15	16	16	16	16	16	19
Seattle Downtown - Spokane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

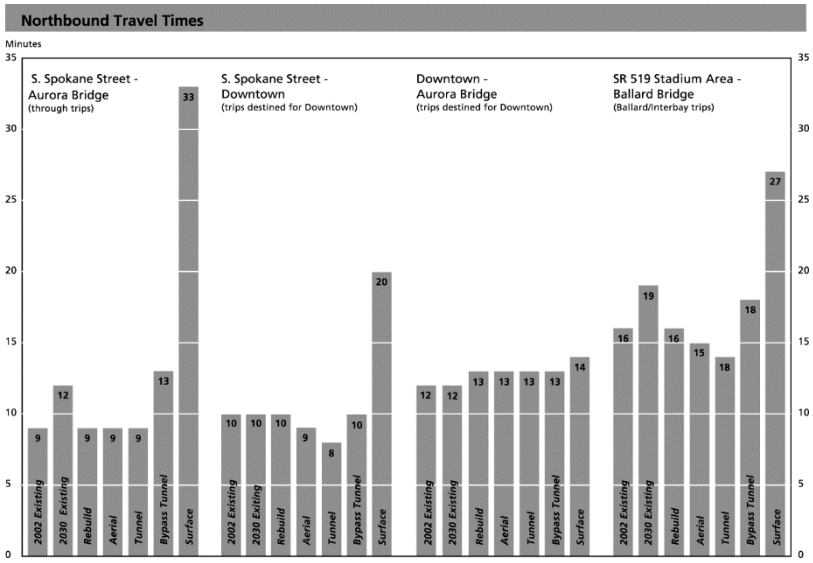
Northbound	2002 Existing	2030 Existing Facility	2030 Rebuild	2030 Aerial	2030 Tunnel	2030 Bypass Tunnel	2030 Surface
Spokane Street - A urora Bridge	9	12	9	9	9	13	33
SR 519 (Stadium Area) - Ballard Bridge	16	19	16	15	18	18	27
Seattle Downtown - A urora Bridge	12	12	13	13	13	13	14
Spokane Street - Seattle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

* Estimate d trav el times show n in minutes.

Typical Data Table

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.

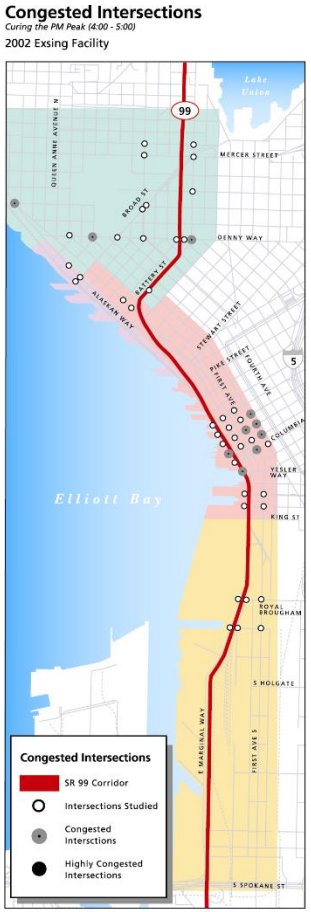
Readers can draw their own conclusions.

Presenting Data to Improve Understanding

Exhibit 5-26. Congested Intersections by Sub-area

	Street	2002 Existing	2030 Existing Facility	Rebuild	Aerial	Tunnel	Bypass Tunnel	Surface
South	*Moderately Congested*	0	0	3	3	3	3	2
	Highly Congested	0	2	0		0	0	0
	Congested Intersections	0	2	3	3	3	3	2
Central	*Moderately Congested*	7	5	5	5	4	3	7
	Highly Congested	0	3	2	2	1	2	7
	Congested Intersections	7	8	7	7	5	5	14
North Waterfront	*Moderately Congested*	0	0	0	0	1	1	0
	Highly Congested	0	0	0	0	0	0	0
	Congested Intersections	0	0	0	0	1	1	0
North	*Moderately Congested*	3	5	5	7	7	7	6
	Highly Congested	0	0	0	1	0	0	1
	Congested Intersections	3	5	5	8	7	7	7
Total	*Moderately Congested*	10	10	13	15	15	14	15
	Highly Congested	0	5	2	3	1	2	8
	Congested Intersections	10	15	15	18	16	16	23

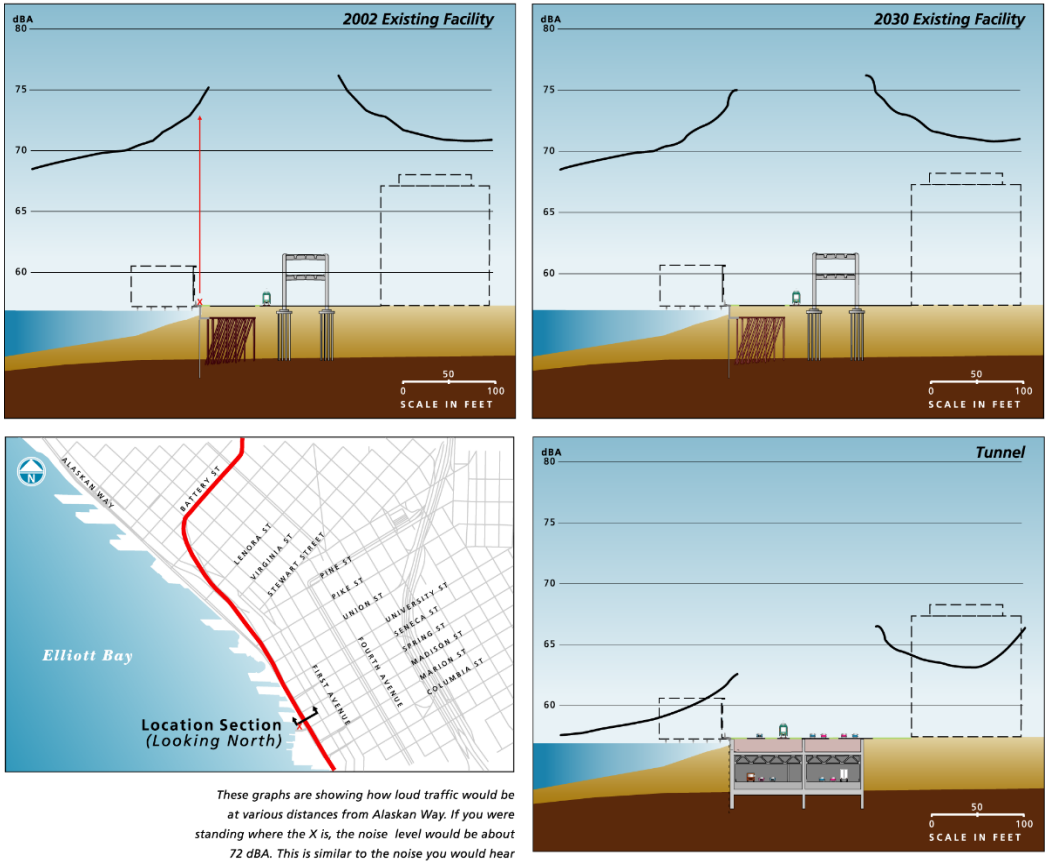
This table lacks spatial context.



This map shows the spatial pattern in the data.

Presenting Data to Summarize Information

Noise Levels for Each Alternative

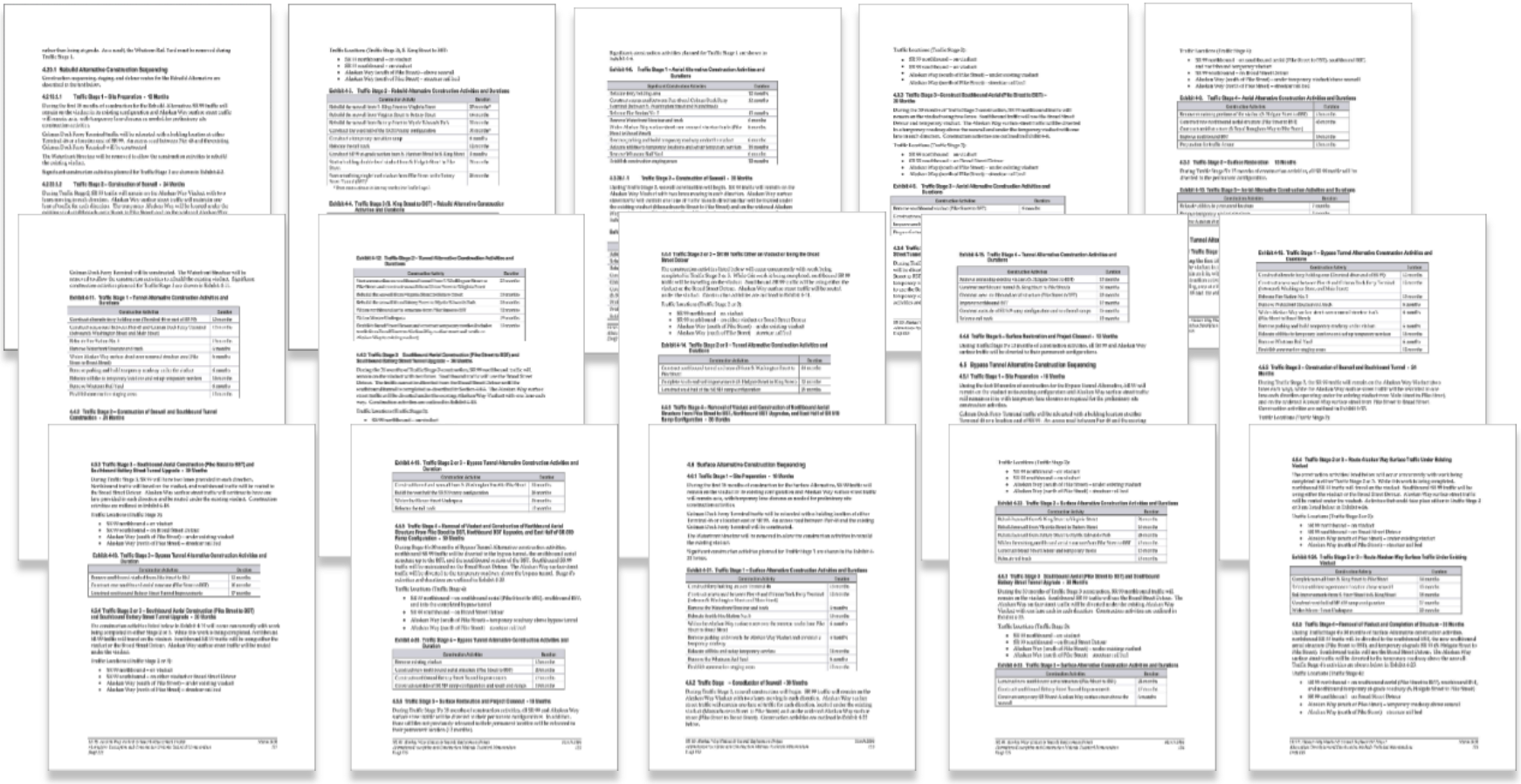


These graphs are showing how loud traffic would be at various distances from Alaskan Way. If you were standing where the X is, the noise level would be about 72 dBA. This is similar to the noise you would hear standing 3 feet from a blender.

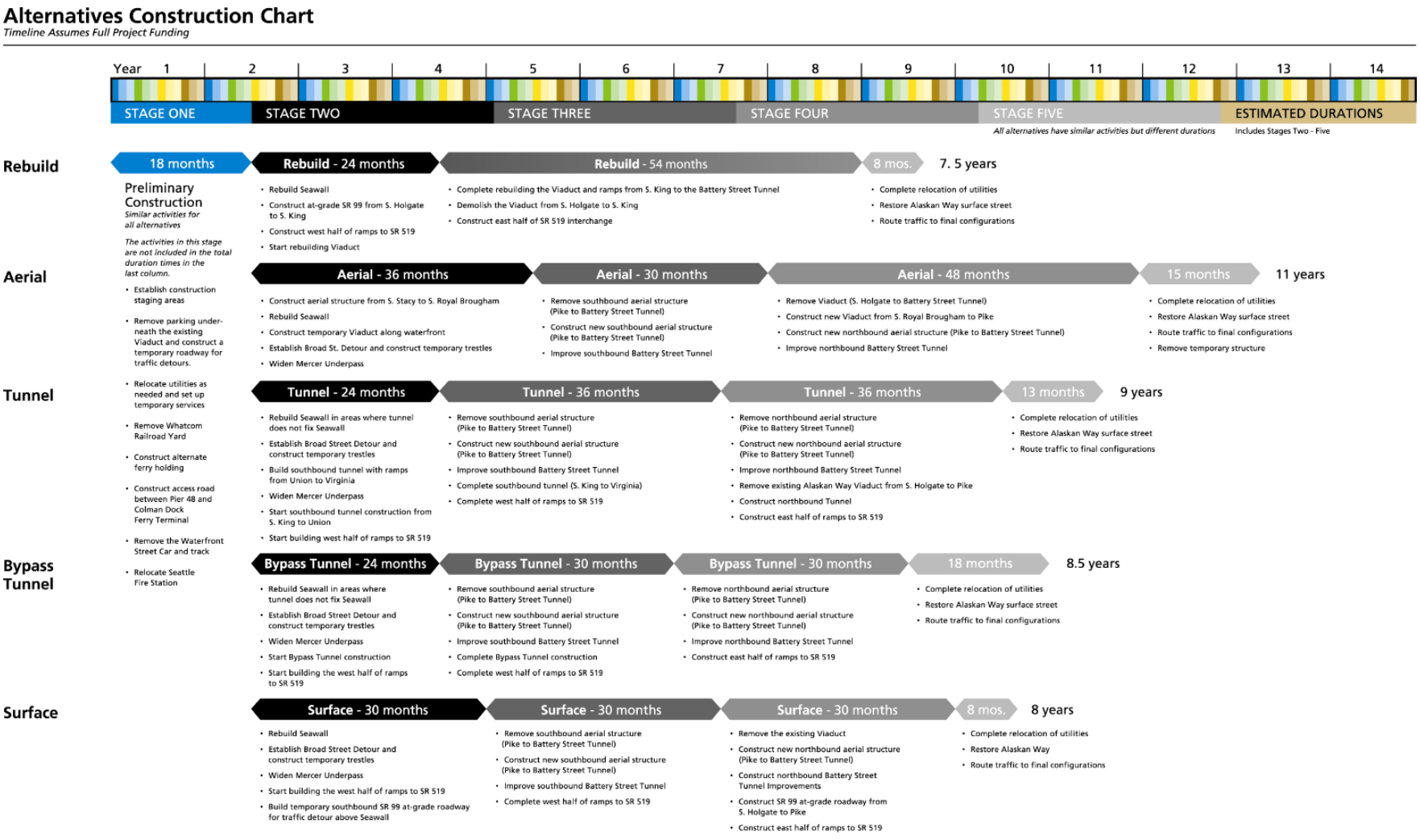
Tunnel Noise Calculations at Spring Street

Location	distance	tunnel
10 feet East of AWV	340	66.5
20' East of AWV	350	65.4
30' East of AWV	360	64.7
40' East of AWV	370	64.4
50' East of AWV	380	64.1
60' East of AWV	390	63.8
70' East of AWV	400	63.6
80' East of AWV	410	63.5
90' East of AWV	420	63.3
100' East of AWV	430	63.2
125' East of AWV	455	63.3
150' East of AWV	480	64.6
175' East of AWV	505	66.7
10' West of AWV	190	62.6
20' West of AWV	180	61.9
30' West of AWV	170	61.3
40' West of AWV	160	60.7
50' West of AWV	150	60.3
60' West of AWV	140	60.0
70' West of AWV	130	59.7
80' West of AWV	120	59.4
90' West of AWV	110	59.1
100' West of AWV	100	58.9
125' West of AWV	75	58.5
150' West of AWV	50	58.2
175' West of AWV	25	57.8
200' West of AWV	0	57.6

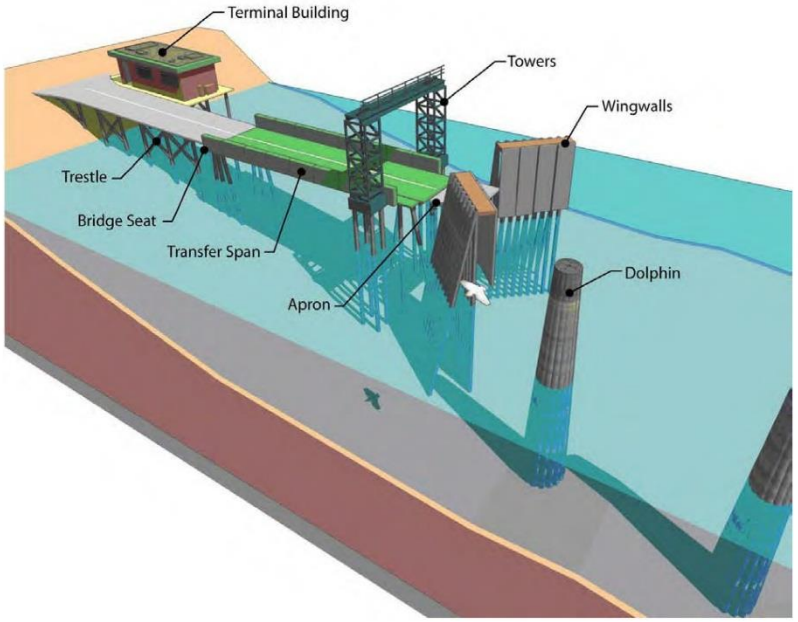
Presenting Data to Summarize Information



Presenting Data to Summarize Information



Figures



Key parts of a typical ferry terminal

fixed dolphin – an assembly of steel piles or concrete drilled shafts supporting a concrete cap and a fendering system.

floating dolphin – concrete or wooden barge structures located offshore clad with a perimeter fendering system and anchored to the seabed; used to help guide the ferry into the slip.

wingwall – an assembly of steel piles or concrete drilled shafts supporting a steel or concrete cap and a fendering system to guide and stop the ferry at its loading and unloading position.

tower – currently used to house and support the cable and counter weight system that supports, raises, and lowers the outboard end of the transfer span. (The tower system will be replaced by hydraulic lifts regardless of the alternative chosen.)

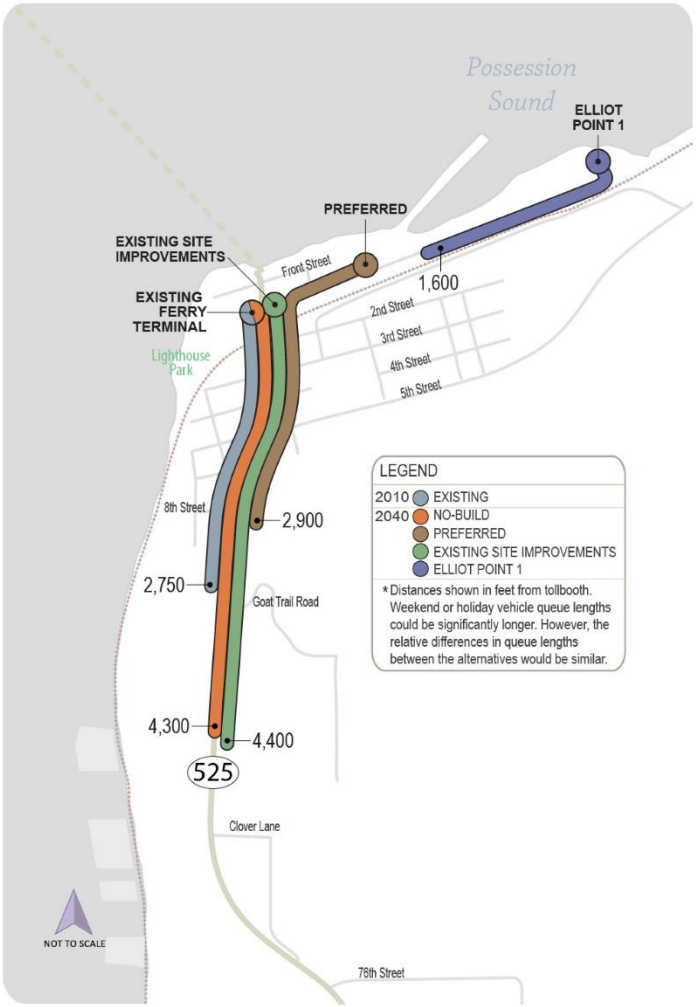
apron – adjustable ramp at the end of the transfer span that accommodates varying water heights.

transfer span – movable bridge that allows the vehicles and pedestrians access on and off the ferry; it is the link between the ferry and the trestle.

trestle and bridge seat – over-water stationary pile-supported bridge structure that serves as a connection between land and the nearshore end of the transfer span for both vehicle and pedestrian traffic (pedestrians do not use the trestle if overhead passenger loading is available).

- This provides a detailed graphic and definitions explaining technical terms.

Figures



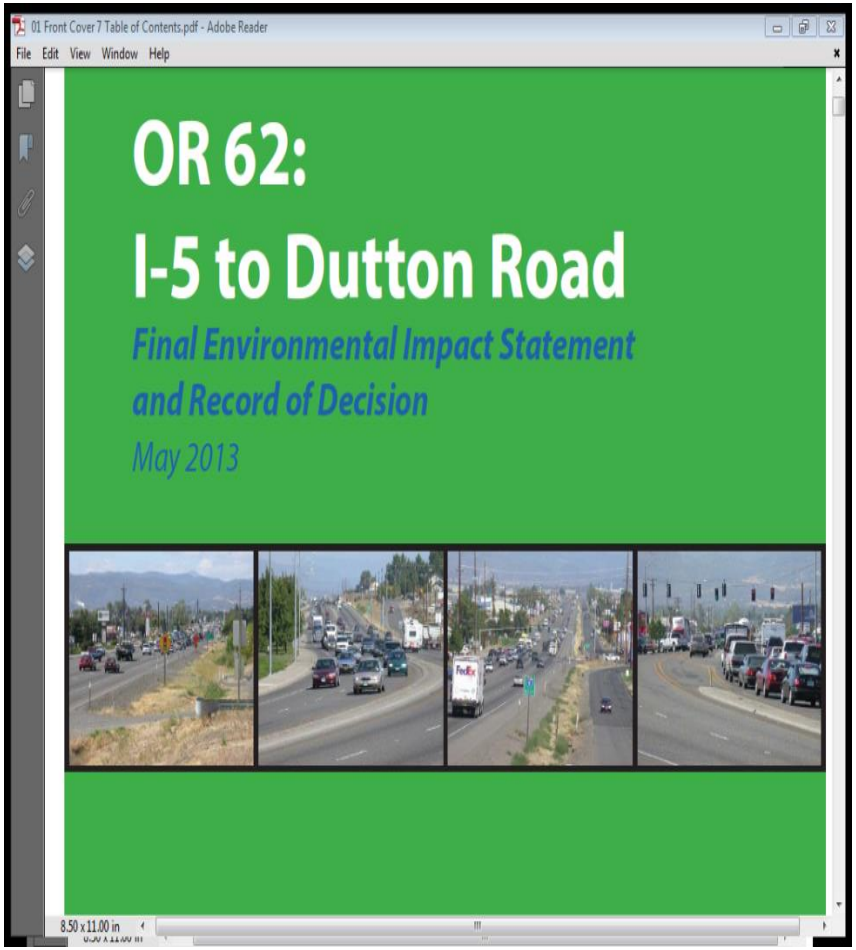
- This graphic does a good job showing the tradeoffs between alternatives.

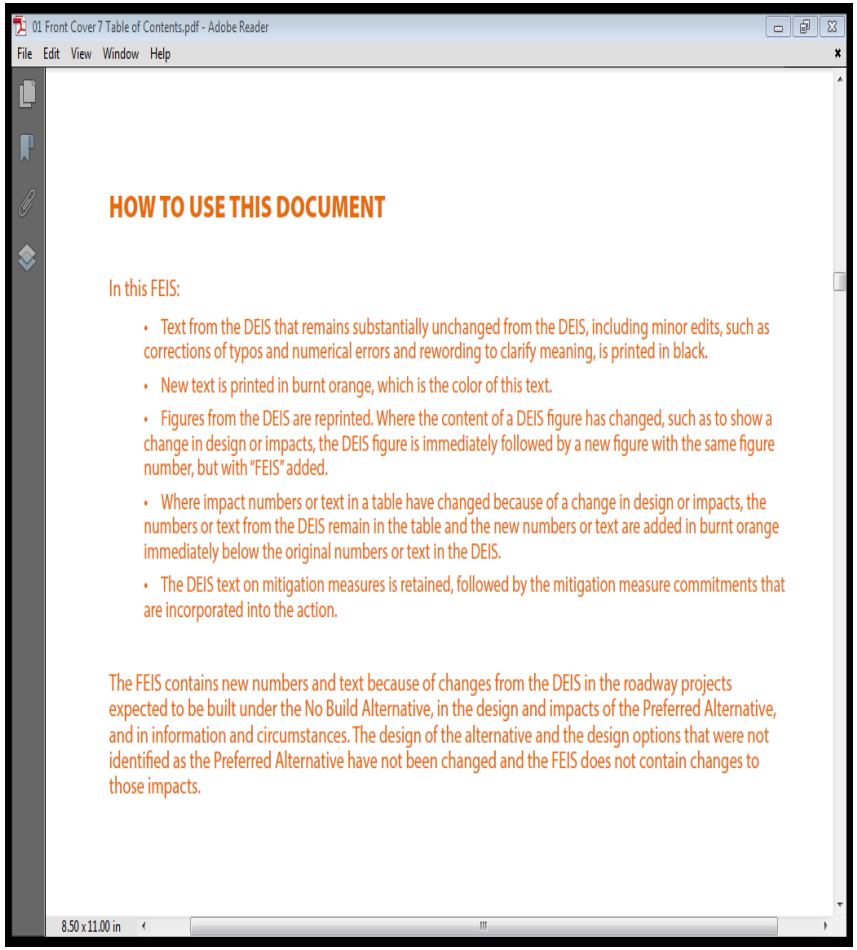
Oregon 62: I-5 to Dutton Road Final EIS and Record of Decision
May 2013

Presented by: Darlene Weaver,
Oregon DOT

Overall Document Quality

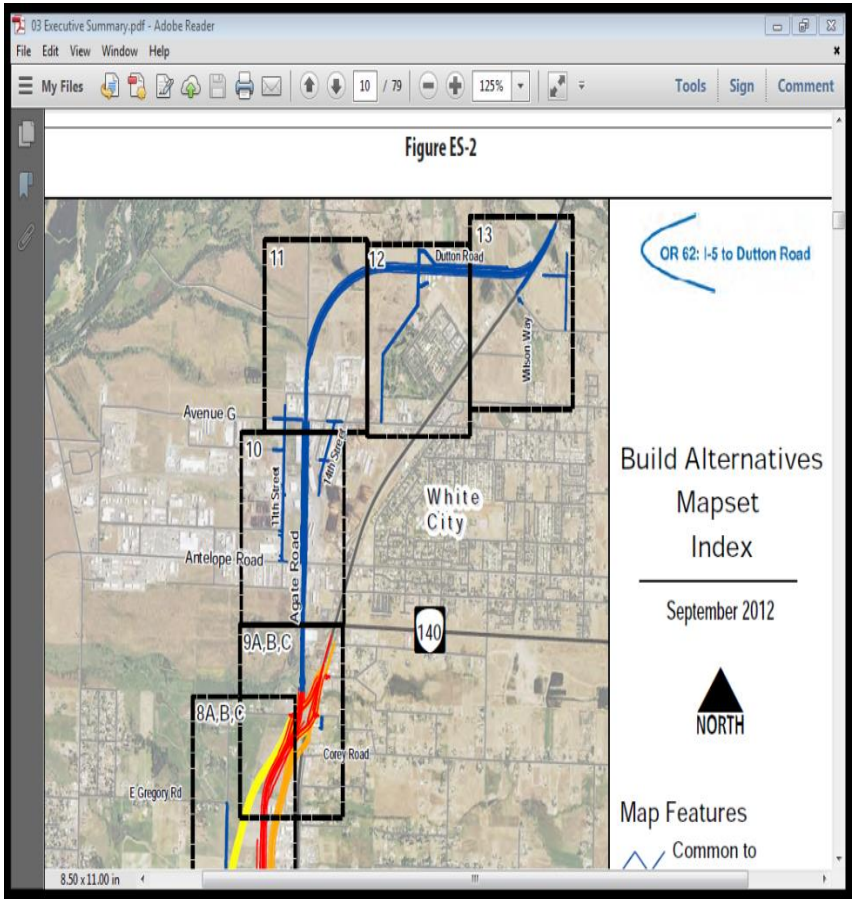
Document Structure and Navigation – “How to Use This Document”

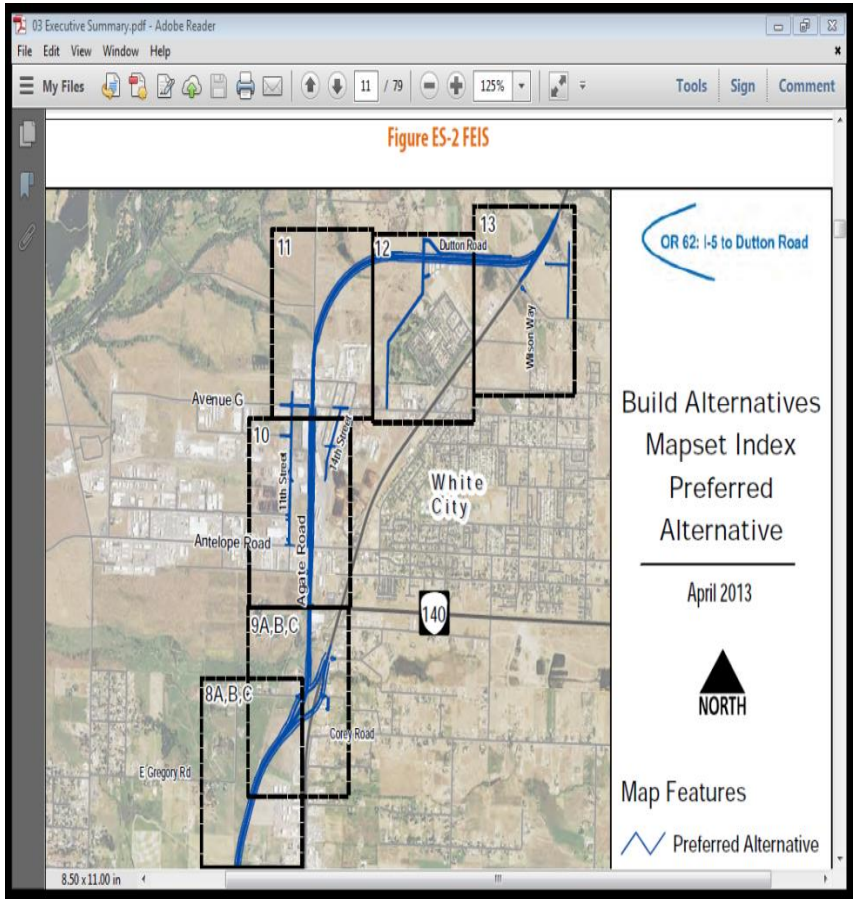




Overall Document Quality

Document Structure and Navigation – DEIS and FEIS Figures side-to-side





Overall Document Quality

Document Structure and Navigation – Tables include orange font with footnote when numerical impacts have changed

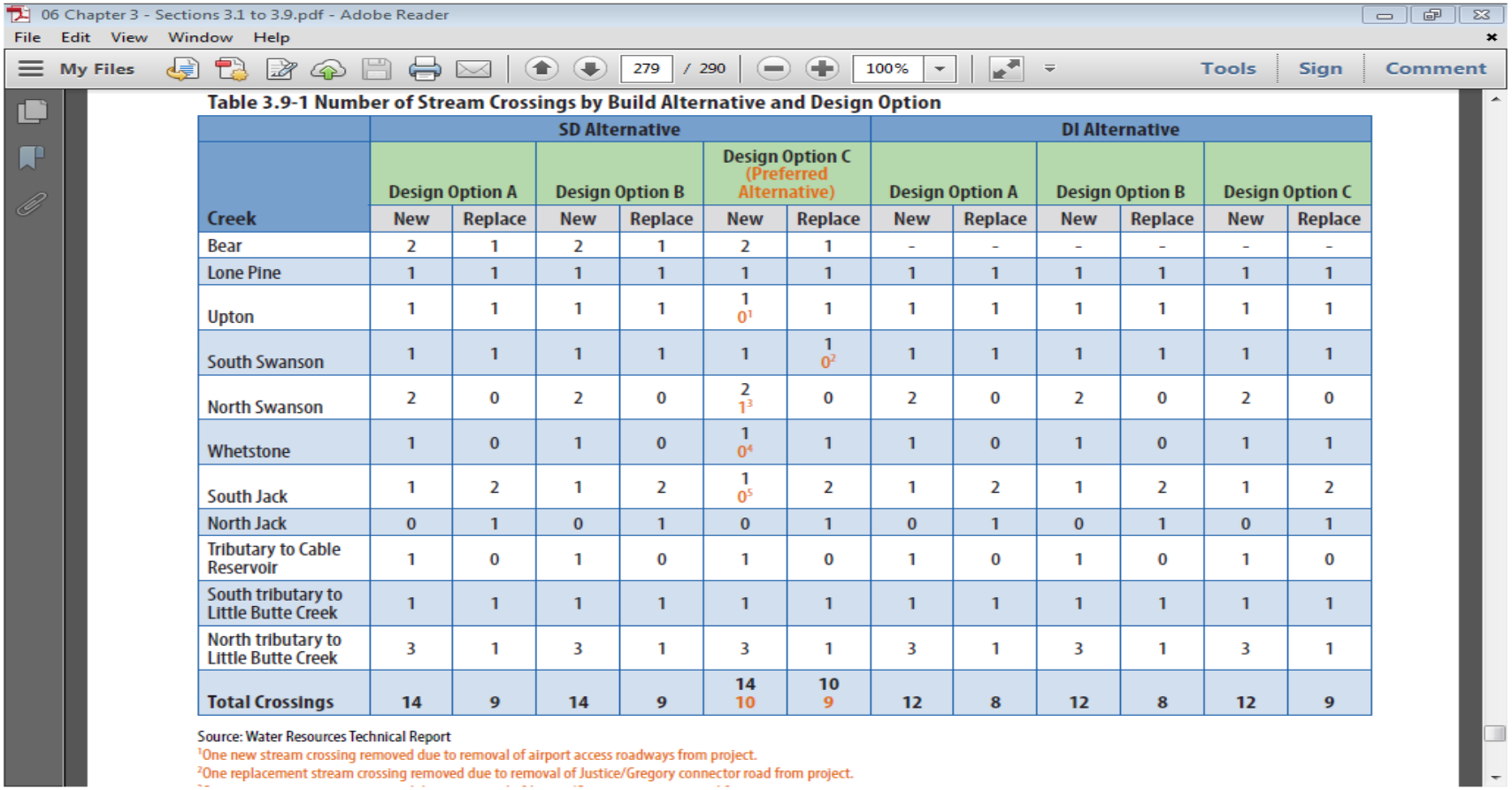


Table 3.9-1 Number of Stream Crossings by Build Alternative and Design Option

	SD Alternative						DI Alternative					
	Design Option A		Design Option B		Design Option C (Preferred Alternative)		Design Option A		Design Option B		Design Option C	
Creek	New	Replace	New	Replace	New	Replace	New	Replace	New	Replace	New	Replace
Bear	2	1	2	1	2	1	-	-	-	-	-	-
Lone Pine	1	1	1	1	1	1	1	1	1	1	1	1
Upton	1	1	1	1	1 0[1]	1	1	1	1	1	1	1
South Swanson	1	1	1	1	1	1 0[2]	1	1	1	1	1	1
North Swanson	2	0	2	0	2 1[3]	0	2	0	2	0	2	0
Whetstone	1	0	1	0	1 0[4]	1	1	0	1	0	1	1
South Jack	1	2	1	2	1 0[5]	2	1	2	1	2	1	2
North Jack	0	1	0	1	0	1	0	1	0	1	0	1
Tributary to Cable Reservoir	1	0	1	0	1	0	1	0	1	0	1	0
South tributary to Little Butte Creek	1	1	1	1	1	1	1	1	1	1	1	1
North tributary to Little Butte Creek	3	1	3	1	3	1	3	1	3	1	3	1
Total Crossings	**14**	**9**	**14**	**9**	**14** **10**	**10** **9**	**12**	**8**	**12**	**8**	**12**	**9**

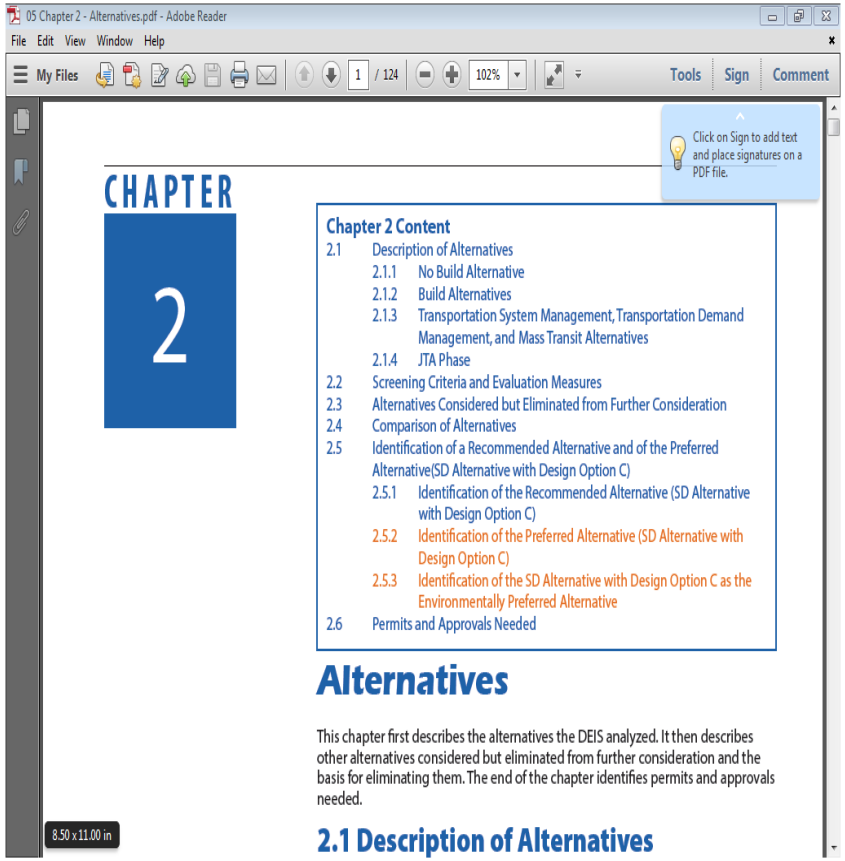
Source: Water Resources Technical Report

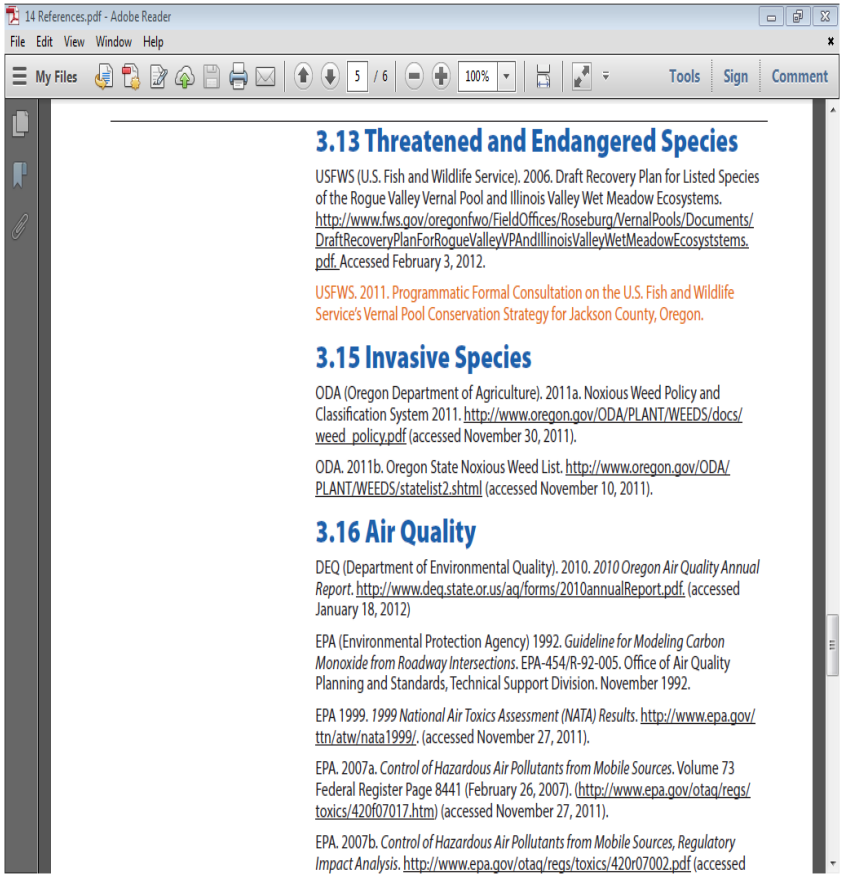
[1]One new stream crossing removed due to removal of airport access roadways from project.

[2]One replacement stream crossing removed due to removal of Justice/Gregory connector road from project.

Overall Document Quality

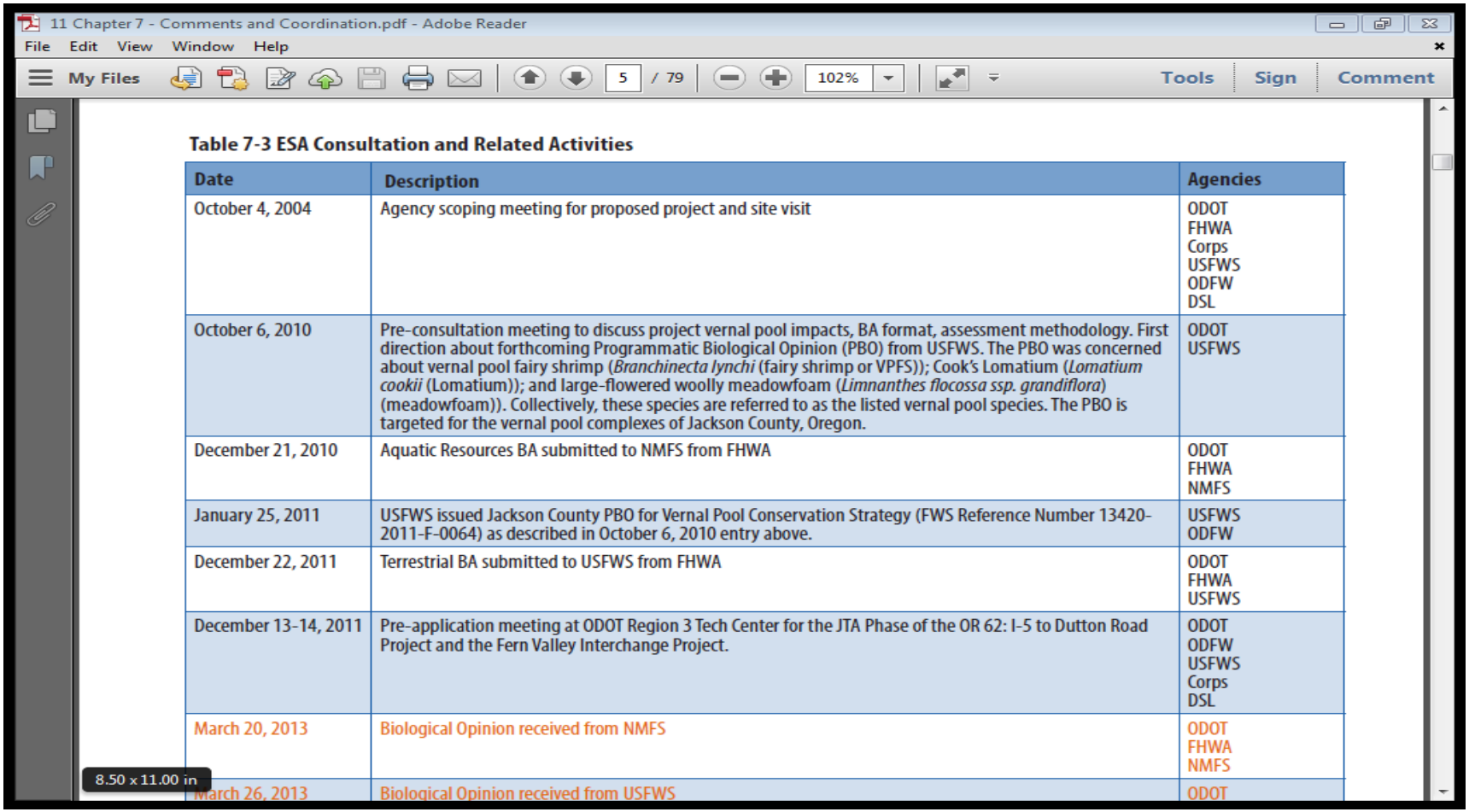
Document Structure and Navigation – Table of Contents at beginning of chapter; References organized by chapter





Compliance w/NEPA and Related Requirements

Regulatory compliance and permitting – Including key dates and events



11 Chapter 7 - Comments and Coordination.pdf - Adobe Reader

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Table 7-3 ESA Consultation and Related Activities

Date	Description	Agencies
October 4, 2004	Agency scoping meeting for proposed project and site visit	ODOT FHWA Corps USFWS ODFW DSL
October 6, 2010	Pre-consultation meeting to discuss project vernal pool impacts, BA format, assessment methodology. First direction about forthcoming Programmatic Biological Opinion (PBO) from USFWS. The PBO was concerned about vernal pool fairy shrimp (*Branchinecta lynchi* (fairy shrimp or VPFS)); Cook's Lomatium (*Lomatium cookii* (Lomatium)); and large-flowered woolly meadowfoam (*Limnanthes flocossa ssp. grandiflora*) (meadowfoam)). Collectively, these species are referred to as the listed vernal pool species. The PBO is targeted for the vernal pool complexes of Jackson County, Oregon.	ODOT USFWS
December 21, 2010	Aquatic Resources BA submitted to NMFS from FHWA	ODOT FHWA NMFS
January 25, 2011	USFWS issued Jackson County PBO for Vernal Pool Conservation Strategy (FWS Reference Number 13420-2011-F-0064) as described in October 6, 2010 entry above.	USFWS ODFW
December 22, 2011	Terrestrial BA submitted to USFWS from FHWA	ODOT FHWA USFWS
December 13-14, 2011	Pre-application meeting at ODOT Region 3 Tech Center for the JTA Phase of the OR 62: I-5 to Dutton Road Project and the Fern Valley Interchange Project.	ODOT ODFW USFWS Corps DSL
March 20, 2013	Biological Opinion received from NMFS	ODOT FHWA NMFS
March 26, 2013	Biological Opinion received from USFWS	ODOT

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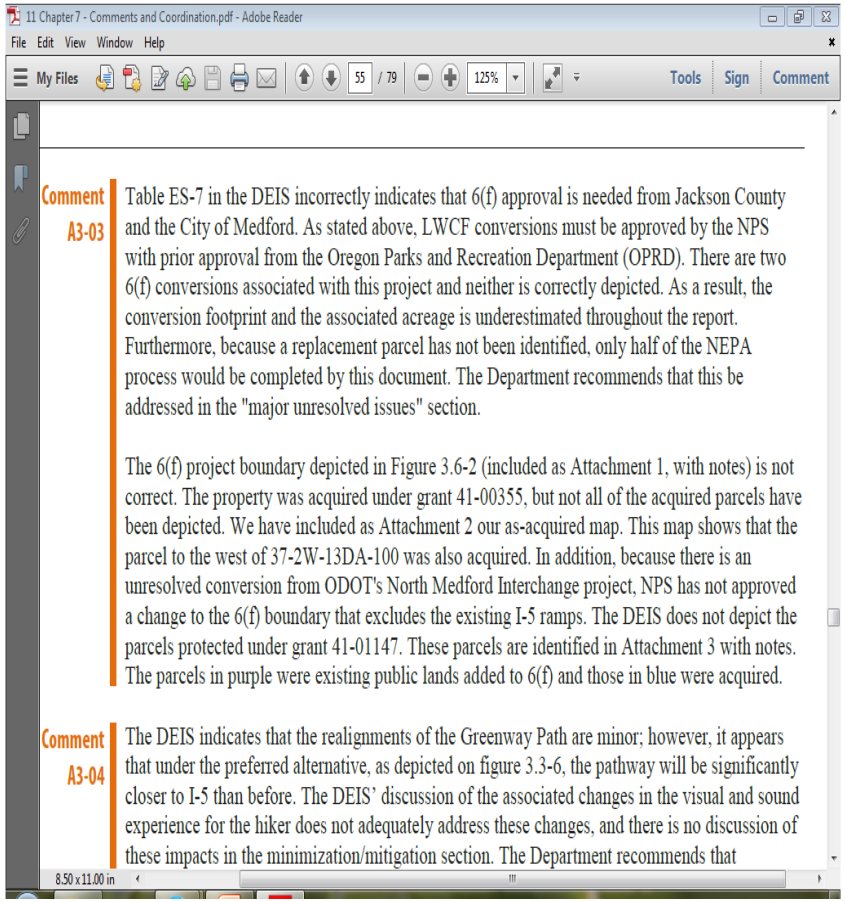
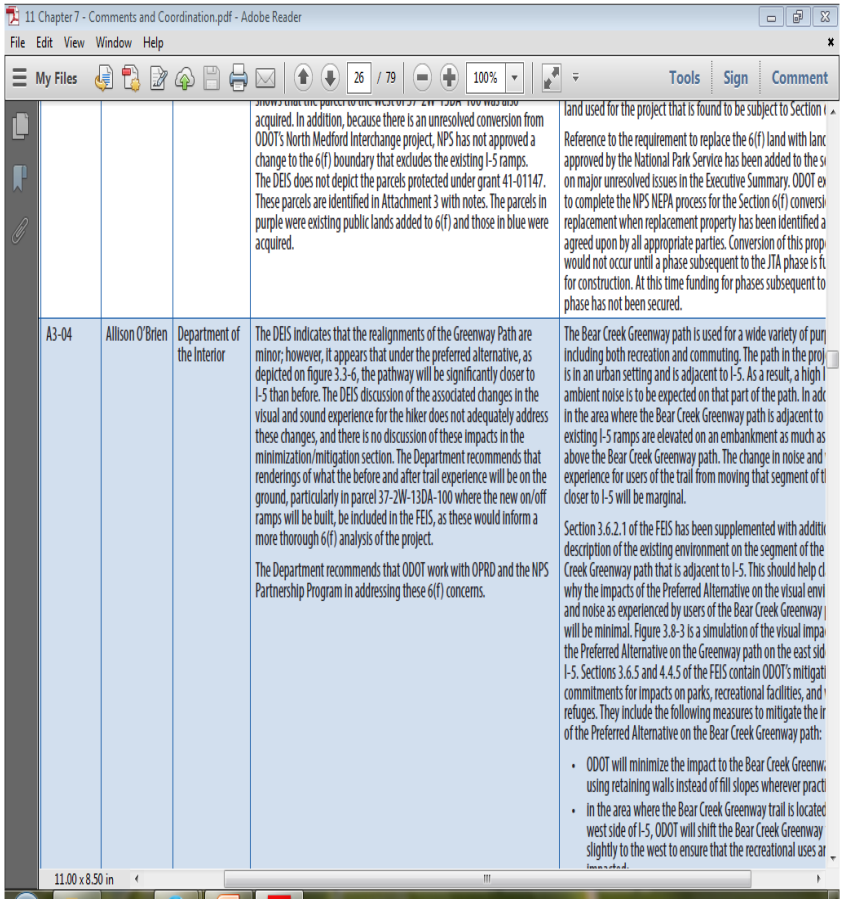
Compliance w/NEPA and Related Requirements

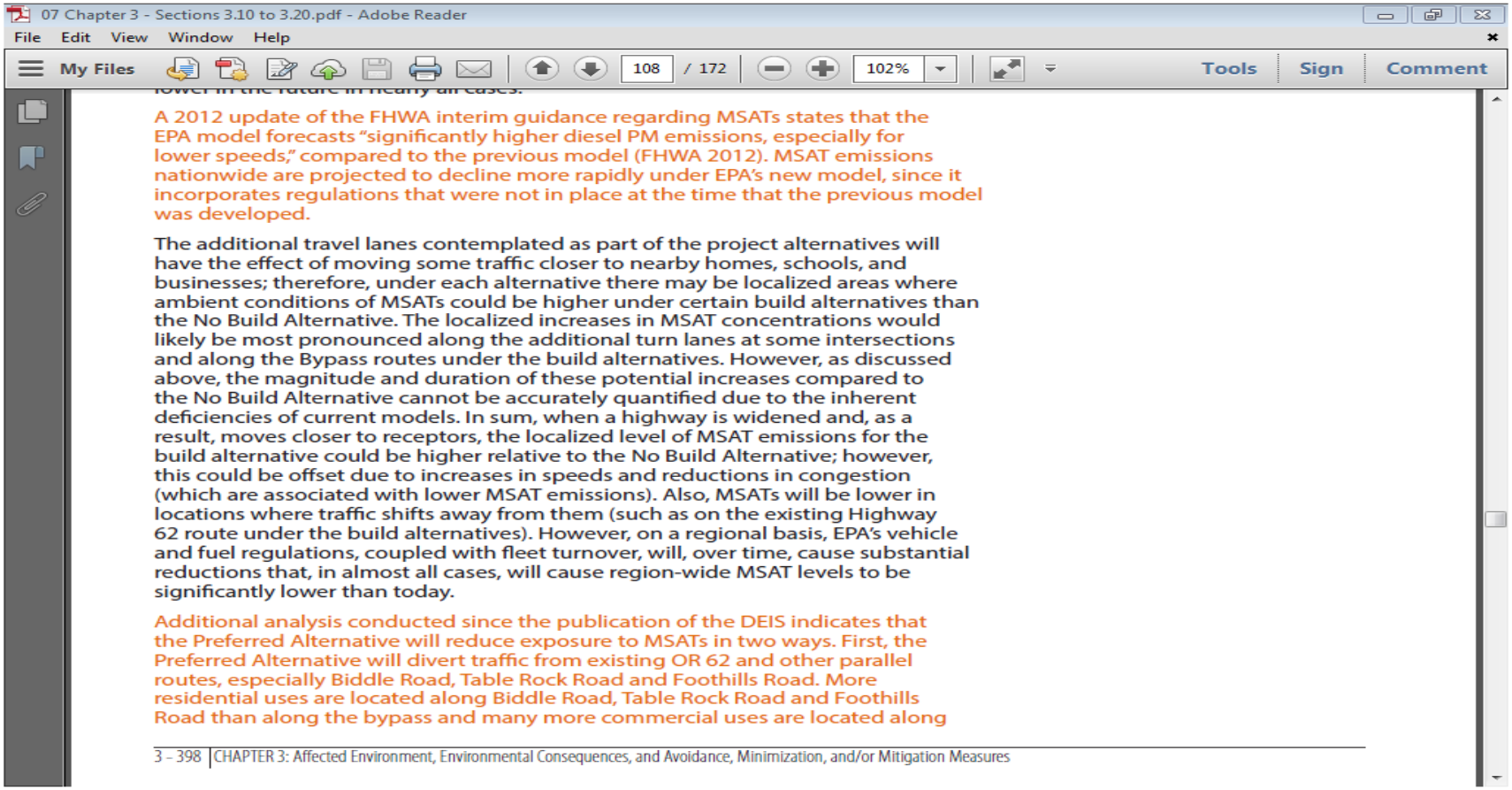
Responses to Comments – Annotating comment letters with cross-references to relevant responses





Compliance w/NEPA and Related Requirements

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



07 Chapter 3 - Sections 3.10 to 3.20.pdf - Adobe Reader

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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

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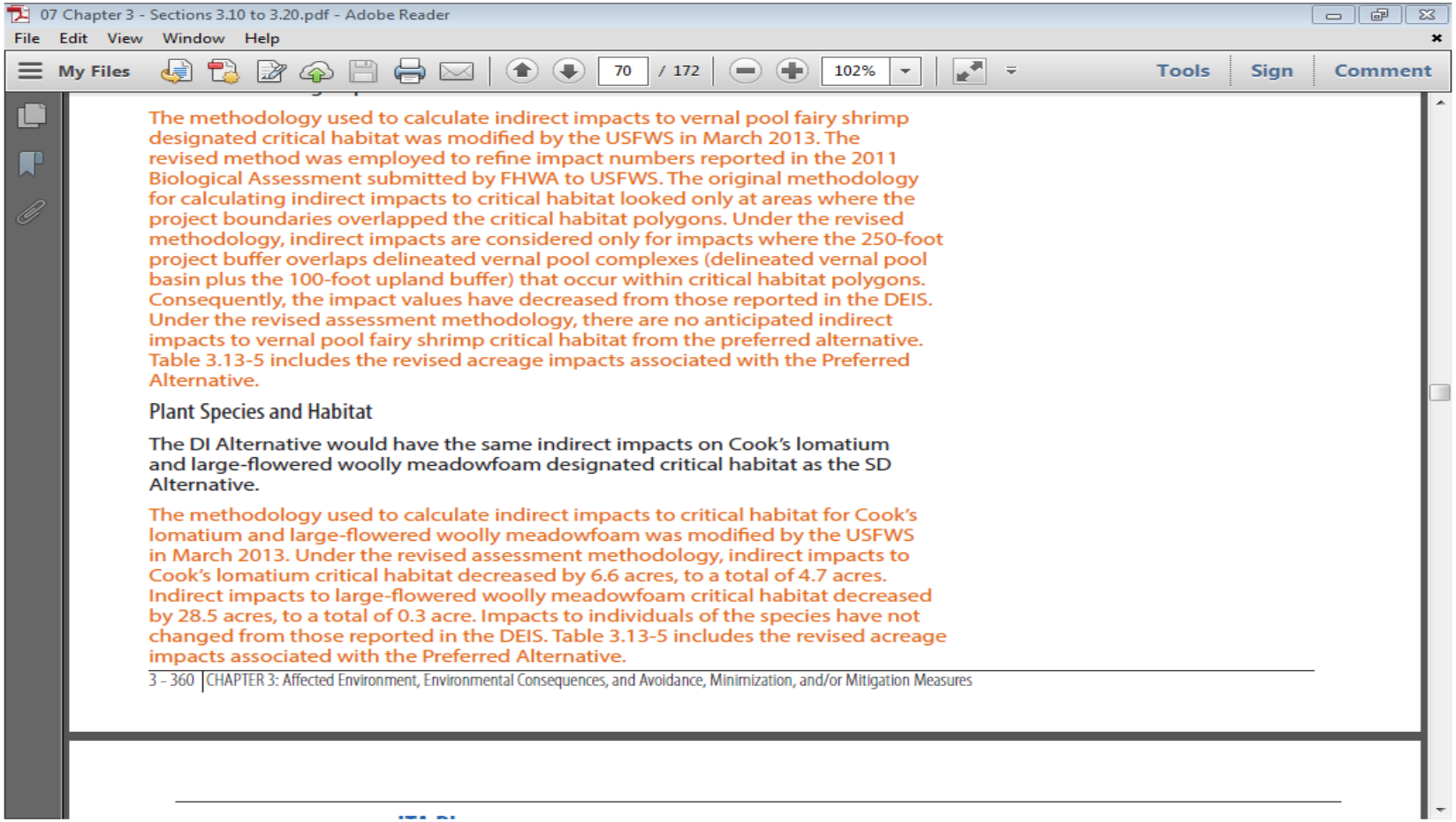
Compliance w/NEPA and Related Requirements

Changes during NEPA process –Changes in methodology



07 Chapter 3 - Sections 3.10 to 3.20.pdf - Adobe Reader

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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 4.7 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.

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Cleveland Opportunity Corridor Project

Presented by: Jodi Heflin, HNTB

Cleveland Opportunity Corridor Project

Quality Writing

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

4.0 Environmental Resources, Impacts, and Mitigation

4.1. What is the purpose of this chapter?
4.2. What resources are not present within the study area?
- Wetlands
- Streams
- Other surface waters (reservoirs, lakes, detention basins, farm ponds)
- Floodplains
- Unique or high quality terrestrial habitat
- Threatened and endangered species
- Drinking water resources
- Farmland
- Natural & Wildlife & Waterfowl Refuges

4.3. What topics are discussed in detail in this chapter?
4.4. What is the general land use, and what community features are in the study area?
4.5. ~~Would the project be compatible with planned developments and local land use plans?~~
4.6. How much land would be needed to construct the project?
4.7. Would any homes, businesses, or churches be relocated?
4.8. What types of utilities will be affected?
~~4.7.~~
~~4.8. How would community cohesion be affected?~~
4.9. ~~How much land would be needed to construct the project?~~
4.10. How would access ~~to neighborhoods~~ be changed?
4.11. How would existing roads be changed?
~~4.11.~~4.12. What would be done to keep traffic and people moving during construction?
~~4.12.~~4.13. How would construction activities ~~of the project~~ affect the surrounding community?
~~4.13. Would the project be compatible with planned developments and local land use plans?~~
~~4.14.~~
~~4.15.~~4.14. ~~How would parks and recreational opportunities be affected?~~
~~4.16. Would community services be affected?~~
~~4.17. How would local businesses be affected?~~
~~4.18. How would bicycles and pedestrians be affected?~~
~~4.19. Would concentrations of low-income and minority populations suffer disproportionately high and adverse health and human impacts?~~
~~4.20.~~4.15. How would water quality be affected?
~~4.21.~~4.16. How would historic resources be affected?
4.17. How would archaeological resources be affected?
~~4.22.~~4.18. How would parks and recreational opportunities be affected?
~~4.23.~~4.19. What is 4(f), and how does it apply to this project?

Comment [JSH1]: Maybe combine?

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.

WHO IS DEVELOPING THE PROJECT?

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

Figure 3-4: Discontinuous Woodland Avenue

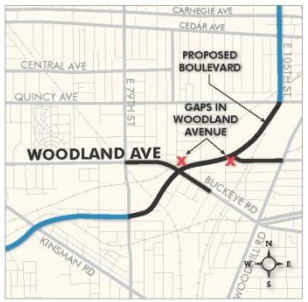
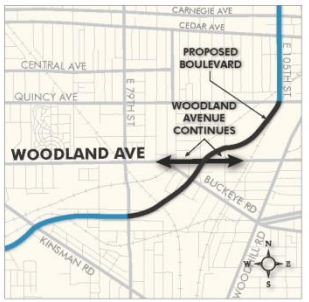


Figure 3-5: Continuous Woodland Avenue



- **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 standard intersection with traffic lights at I-490 and East 55th Street. The other alternative would build a bridge on East 55th Street over I-490 and the proposed boulevard. A short new roadway, or "quadrant roadway," (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 Alternates* (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 documents[1] 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,

[1] *These documents are incorporated by reference into this DEIS.*

▲ *Figure 4-1: The study area is urban in nature and does not have any major natural resources; however, it does include many human-made resources.*

encourages but does not require the preservation of historic resources. Sometimes, there is no way for a project to be built without impacting historic resources. Historic resources are also protected under Section 4(f), just like parks and recreational properties. In Ohio, impacts to cultural resources are reviewed by the Ohio Historic Preservation Office (OHPO) of the Ohio Historical Society.

The Cleveland Opportunity Corridor project would impact the following properties that are listed on the NRHP:

- Kenneth L. Johnson (Woodland) Recreation Center (9206 Woodland Ave.) – About 0.05 acres would be needed on a short-term basis for grading and seeding during construction.
- Wade Park Historic District – About 0.12 acres would be needed on a short-term basis for grading and seeding during construction. This work would also occur on property for the 4th Church of Christian Scientists (10515 Chester Ave.) and Park Lane Villa (10510 Park Lane), which are contributing elements of the historic district.

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 sidewalk because the turn is too tight, which also creates a safety concern for pedestrians. The project would increase the turning area

▲ *Figure 4-29: To meet current design standards, about 0.01 acres in the northeast corner of the East 105th Street-Chester Avenue intersection would be permanently taken from the historic district and used for the new Cleveland Opportunity Corridor project boulevard. (View looking north on East 105th Street.)*

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.