
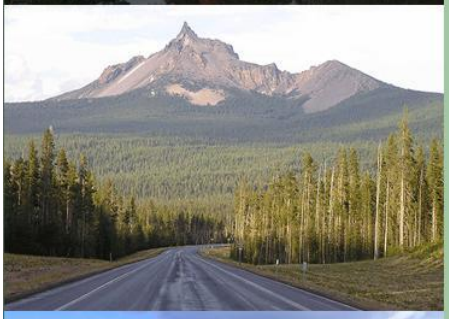

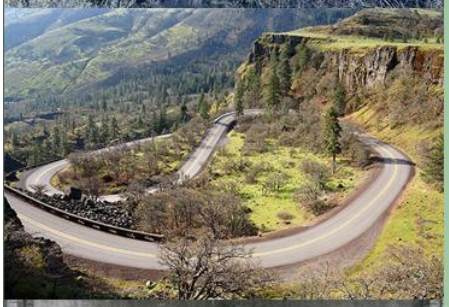


National Environmental Policy Act

Environmental Impact Statement Template

May 2010

U.S. Department of Transportation
Federal Highway Administration

OREGON DEPARTMENT OF TRANSPORTATION

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Text color key: Black = generally required text and headings Blue = instructions/guidance to be deleted
Purple = sample text Underlined: Web links

Orientation to this EIS Template

Purpose of This EIS Template

The purpose of this document is to provide the framework for discussion expected to be contained within EIS documents produced in Oregon. **EIS authors should be fully familiar with the documents listed in each appropriate References section prior to beginning the NEPA process and the preparation of any EIS documentation.** First time users of this template should first become familiar with how the document is organized as a whole before writing specific sections of the document in isolation.

Each EIS presents a unique set of conditions and considerations for decision-making. Questions about use of this template on a specific project should be directed to your ODOT and FHWA environmental contact for the project. General questions about the use of this template should be directed to ODOT's Geo-Environmental staff and FHWA environmental staff. Current environmental contact information can be found on ODOT's e-Guide website.

What This EIS Template Is Not

This template is not intended to be a "quick reference" guide and is not intended to be the complete, singular authoritative reference for all of the disciplines. This template is not a substitute for high quality NEPA experience.

How This EIS Template Was Developed

In 2009, environmental staff from ODOT Geo-Environmental and the FHWA Oregon Division Office worked to develop this annotated outline. Their work was primarily based on an EIS annotated template that had previously been developed by Caltrans and the California Division of FHWA. Authors of this template also relied on the cumulative impact guidance that Washington DOT had developed.

Comments on a draft version of this document were solicited from: ODOT Region Environmental Program Managers, ODOT Region Environmental Managers, FHWA Oregon Division office staff, FHWA Headquarters environmental staff, FHWA Western Legal Services staff, FHWA Resource Center and the American Council of Engineering Companies. Many changes to the template resulted from the thoughtful comments of reviewers.

Template Standards

This template has been written in a variety of different colors to provide different alerts to the EIS document writers. Colors are used in the text as follows:

Black text = required headings that generally should be included in the EIS document and text that should be included in document, as appropriate.
Blue text = instructions and guidance to be reviewed and considered, then deleted from the final document. Blue **bold** text indicates special attention or expectations of the draft and final EIS documents.
Purple text = sample text that can be used in document, as appropriate.

How to Use This Template

This template will be used to produce both the draft EIS and the final EIS. Final EIS documents will use a traditional format. The final EIS will include additional text focused on the preferred alternative and associated mitigation with that alternative. Portions of this template include **bold text** to distinguish expectations of the draft and final EIS documents.

It is important when preparing NEPA documents to be clear on what information was available and analyzed. The NEPA document should be viewed as a disclosure document. NEPA is an open process. NEPA does not require an answer that will satisfy everyone; rather, NEPA requires a well-researched and reasoned analysis based on a hard look at the best available information.

Be sure to document the assumptions and methods used to identify actions included in the analysis, the agencies and experts consulted, and any other research. It is important to identify our sources and maintain a record of methods, assumptions, and analyses. This is especially important when data are scarce.

How is this Template Updated?

Updates to this template will be considered no less frequently then semi-annually, through joint ODOT and FHWA meetings. Updates can be expected following changes to implementing statute, regulations or guidance that would affect the template. Updates may also occur as the template is used and recommendations from users are received. Recommendations for changes to the template are welcome at any time. Comments can be submitted via the EIS Template comment link on ODOT's e-Guide.

How Updates Are Conveyed

As the template is updated an errata sheet at the beginning of the document will track the date and the type of changes that were made. Additionally, the date on the bottom of pages that have updates will change to reflect the date of the change. Whenever updates are made, a notice will be provided on the e-Guide, as well as an e-mail distribution to those with NEPA responsibilities.

Caltrans and WSDOT Acknowledgement

The authors of this template thank Caltrans for their work developing an EIS annotated outline for use in California. Their early work provided an excellent starting point and foundation for the development of this Oregon-specific outline.

Our thanks also extend to WSDOT for their work developing concise guidance regarding the consideration of cumulative impacts. The subject can be complex WSDOT's efforts to provide right-size guidance provide the backbone of our cumulative impacts section.

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----------THE EIS TEMPLATE BEGINS HERE----------

The cover to the EIS document should include the following information:

1. Complete project title, Federal-Aid number, ODOT Key number, FHWA EIS Identification Number

2. Indicate whether the document is the Draft Environmental Impact Statement or Final Environmental Impact Statement. If the Environmental Impact Statement is a supplemental, it should be stated. Indicate if the EIS version is Preliminary Draft or Administrative Draft as outlined in ODOT's quality control review procedures (this guidance is available on the Geo Environmental website).

3. Date (Month, Year)

4. Logos of ODOT, FHWA and Local Agency (if applicable)

Alternative format availability: In compliance with the Americans with Disabilities Act, alternative forms of this document will be made available on request. Contact [Insert ODOT EPM Name] at ODOT (xxx-xxx-xxxx).

Cover Sheet/Abstract Page

Each EIS should have a cover sheet containing the following information as directed by FHWA Technical Advisory T6640.8A.

[EIS Identification Number (obtained through coordination with FHWA division office)]

[Project Name]
[County, and State]
ODOT Key Number [#####]
Federal-Aid Number(s) [X###(###)]
[Draft, Final, or Supplement)] Environmental Impact Statement
and Section 4(f) Evaluation (when appropriate)

Submitted Pursuant to 42 U.S.C. 4332 (2) (c) and where applicable, 49 U.S.C. 303
by U.S. Department of Transportation, Federal Highway Administration (FHWA)
Oregon Department of Transportation (ODOT)

[(Name), ODOT Region (#) Manager]	[(Name) Division Administrator, FHWA]
[Date of Approval]	[Date of Approval]

The following persons may be contacted for additional information concerning this document:

[ODOT EPM Contact] ODOT Region [x] [Address] [xxx-xxx-xxxx]	[FHWA Division Office Contact] Federal Highway Administration 530 Center Street NE, Suite 100 Salem, OR 97301 [503-xxx-xxxx]

An abstract for the project is included here. The abstract should be not extend beyond this page. The abstract should include a high-level description of the project, summary of major beneficial and detrimental environmental impacts, estimated total project costs and estimated construction timeline. If a Section 4(f) *de minimis* is proposed in a draft document, that proposal should be enumerated in the abstract. An example cover sheet is provided on the following page.

FHWA-OR-EIS-08-01-DS

Sunrise Project: I-205 to Rock Creek Junction
Clackamas County, Oregon
ODOT Key Number 12454
Federal-Aid Number STP-C005(046)
Supplemental Draft Environmental Impact Statement
and Section 4(f) Evaluation

Submitted Pursuant to 42 U.S.C. 4332 (2) (c) and where applicable, 49 U.S.C. 303
by U.S. Department of Transportation, Federal Highway Administration (FHWA)
Oregon Department of Transportation (ODOT)

_____	_____
Jason Tell, ODOT Region 1 Manager	Phillip A. Ditzler, Division Administrator, FHWA
_____	_____
Date of Approval	Date of Approval

The following persons may be contacted for additional information concerning this document:

Emily Moshofsky
ODOT Region 1
123 NW Flanders Street
Portland, OR 97209-4012
503-731-8535

Michelle Eraut
Federal Highway Administration
530 Center Street NE, Suite 100
Salem, OR 97301
503-587-4716

The Oregon Department of Transportation (ODOT) and Clackamas County propose to build a new, east-west oriented, limited-access highway—called the Sunrise Project—from Interstate 205 (I-205) to the Rock Creek Junction in Clackamas County. The proposed Sunrise Project would be part of the state highway network (as defined in the Oregon Highway Plan), connecting I-205, the Milwaukie Expressway, and OR 212/224. The proposed highway would have six through-lanes plus two auxiliary lanes. The proposed Sunrise Project would become the designated OR 212/224, with the existing OR 212/224 potentially becoming a county arterial. The estimated costs depend on the alternative and design option chosen. Total costs consist of right-of-way acquisition and actual construction costs. Total project costs are estimated to range from $1,306 to $1,605 million (in 2013 dollars). Construction is planned to begin in 2013. The project may be phased, but no plans for phasing are proposed at this time. Key issues in building the project are protecting a significant wildlife corridor and addressing noise impacts to a large residential area to the north.

The major beneficial impacts from the project would be significantly slowing the growth of congestion and improving safety on I-205 and OR 212/224. Building the project would support planned growth in this area of Clackamas County. Major expected impacts on the environment include the conversion of approximately 500 acres of land to highway use; the relocation of about 60 to 70 businesses and 70 residences; the creation of 175 noise-impacted residential properties; the decline of the rural visual quality around Rock Creek; the removal of about 100 acres of wildlife habitat, 32 acres of wetland, and up to three historic resources; and the creation of over 100 acres of new impervious surface.

Minor impacts would involve the risk of encountering hazardous materials during construction, difficulties in managing soil and embankments due to nearby landslides and wet and loose soils, the costs and disruption from moving utility facilities, a decline in visual quality around I-205 to SE 142nd Avenue, and the acquisition of 0.18 acre of the recreation field at Clackamas Elementary School.

TO THOSE WHO HAVE EXPRESSED INTEREST IN THE

[Project Name]

[Draft, Final] Environmental Impact Statement

[Name] County, Oregon

Federal-Aid #: [X###(###)]

Key No. [#####]

Thank you for your interest in the proposed [insert name] project.

The Federal Highway Administration and Oregon Department of Transportation have completed the **[Draft, Final] Environmental Impact Statement (EIS)** for the proposed project, which is attached for your review and comment.

In accordance with 23 CFR 771.123(i), comments shall be submitted in writing to the applicant or the Administration within 45 days of the availability of the DEIS unless the Administration determines, for good cause, that a different period is warranted. Thus we request your reply **within 45 days** of the date at the top of this letter. If no comments are received, it will be assumed that you do not wish to comment on this EIS.

Please mail or email your comments to:

[Name], Environmental Project Manager
Oregon Department of Transportation
ODOT Region [X]
[Address]

[EPM Email]

A public hearing in accordance with 23 CFR 771.111(h) will be held for this project. The location, date, and time for the public hearing are shown on the cover of this document. An Open House, displaying maps and pertinent information to answer your questions about the EIS, will accompany the public hearing. Opportunities for formal testimony (oral and/or written) will be provided. Although you are encouraged to attend the public hearing, it is not required. You may submit your comments directly to ODOT as indicated above.

If you have questions or need additional information concerning the proposed project, please contact [Name] (ODOT Environmental Project Manager) at: (xxx) xxx-xxxx.

Thank you for your participation,

[Name]
ODOT Region [X] Manager

NOTICE OF DOCUMENT AVAILABILITY

This is a sample notice of document availability. This is ***not*** the notice of availability that FHWA will have EPA publish in the Federal Register to establish the public comment period. Addresses in black should be included in all notices. Addresses shown in blue are the addresses that were included for the Sunrise project. Each project should tailor the availability locations that fit the project's needs.

This [Draft, Final] EIS and supporting technical documents are available for review at the following locations:

City of Damascus
19920 SE OR 212
Damascus, OR 97015

Clackamas Corner Library
(near Clackamas Town Center)
11750 SE 82nd Avenue, Suite D
Portland, OR 97266

ODOT Maintenance Building
9200 SE Lawnfield Road
Clackamas, OR 97015
Camp Withycombe
10101 SE Clackamas Road
Clackamas, OR 97015

Federal Highway Administration (FHWA) Oregon Division
530 Center Street, NE, Suite 100
Salem, OR 97301

Oregon Department of Transportation (ODOT) Region 1
123 NW Flanders Street
Portland, OR 97209

Oregon State Library
250 Winter St. NE
Salem, Oregon 97301-3950

ODOT Geo-Environmental Section
355 Capitol Street NE
Salem, OR 97301

These documents are also available on the project website: [Insert website]

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[Draft, Final] Environmental Impact Statement
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Appendix

Appendix [X] Right-of-Way/Summary of Relocation Benefits
Appendix [X] Civil Rights Act: Title VI Policy Statement
Appendix [X] National Historic Preservation Act: Section 106 Documentation
Appendix [X] FHWA National and ODOT Statewide Efforts Related to Climate Change
Appendix [X] Air Quality Conformity Supporting Documentation
Appendix [X] ESA Documentation
Appendix [X] SAFETEA-LU Section 6002
Appendix [X] ODOT Noise Manual Appendix I Worksheets
Appendix [X] List of Acronyms
Appendix [X] Glossary of Technical Terms
Appendix [X] List of Technical Reports

Figures

[List all figures in the document]

Tables

[List all Tables in the document]

Executive Summary

As directed in FHWA Technical Advisory T6640.8A, The summary should include:

1. A brief description of the proposed FHWA action indicating route, termini, type of improvement, number of lanes, length, county, city, State, and other information, as appropriate.

2. A description of any major actions proposed by other governmental agencies in the same geographic area as the proposed FHWA action.

3. A summary of all reasonable alternatives considered. (The draft EIS must identify the preferred alternative or alternatives officially identified by the HA (40 CFR 1502.14(e)). The final EIS must identify the preferred alternative and should discuss the basis for its selection (23 CFR 771.125(a)(1)).

4. A summary of major environmental impacts, both beneficial and adverse.

5. Any areas of controversy (including issues raised by agencies and the public).

6. Any major unresolved issues with other agencies.

7. A list of other Federal actions required for the proposed action (i.e., permit approvals, land transfer, Section 106 agreements, etc.).

At the discretion of the NEPA project development team and FHWA, the Executive Summary may also include:

1. A summary of the Purpose and Need for the proposed action and the relevant history leading up to the EIS

2. The project website address.

The Executive Summary cannot be used as a substitute for the EIS itself. Therefore, project development teams are discouraged from distributing "stand-alone" copies of the Executive Summary for distribution to the public. If the NEPA project development team chooses to distribute "stand-alone" copies of the Executive Summary, they must first obtain approval from the FHWA Environmental point-of-contact and must include a disclaimer that the Executive Summary is not equivalent to the EIS.

Chapter 1 - Purpose of and Need for Proposed Action

1.1 Introduction (Description of Proposed Action)

Chapter 1 Content:

Begin the Purpose and Need section with a brief introduction that describes:

1. The existing facility,
2. The background and history of the proposed action, including:
    a. Summarize previous relevant refinement, corridor or traffic studies
    b. Funding and programming; specifically state that the project is included in the [agency and date] Regional Transportation Plan (RTP) and a fiscally constrained Transportation Improvement Program (TIP) if that is the case, and very generally describe the proposed action.
3. Describe the geographical setting of the proposal.

    The Oregon Department of Transportation (ODOT) and Federal Highway Administration (FHWA) propose to improve the uphill segment of Highway ## in ABC County from west of Highway ## south to east of the River Causeway near Interstate ##. The total length of the proposed action is 2.1 miles. The alignment of the existing roadway imposes driving restrictions such as limited sight distance and difficulties in negotiating sharp curves. Figures 1 and 2 show project location and vicinity maps.

    This proposed action is included in the FY 2010/2013 Statewide Transportation Improvement Program (STIP). It is also included in the (identify appropriate MPO) 2010 Regional Transportation Plan (RTP) and the 2010 fiscally-constrained Transportation Improvement Program (TIP).

4. Include a proposed action location map (state of Oregon with location inset) and vicinity map which shows project features and clearly identifies the limits of the proposed action. The vicinity map should identify major street names and prominent landmarks (i.e., community center, museum, library, natural features), especially those mentioned in the text.

Purpose and Need Statement

The Purpose and Need is focused on the core transportation problems to be addressed, while the Goals and Objectives consider non-transportation factors (e.g., quality of life, local land use plans, aesthetics, etc.) important to the local community and other stakeholders.

It is critical that the Purpose and Need statement is written so that the proposed action and its alternatives have logical termini and independent utility. CEQ NEPA

implementing regulations prohibit "segmentation" of a proposed Federal action into smaller components for simplicity of analysis (and other reasons). FHWA/FTA NEPA implementing regulations (23 CFR 771.111 [f]) require that the action evaluated:

1. Connect logical termini and be of sufficient length to address environmental matters on a broad scope

2. Have independent utility or independent significance (be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made)

3. Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

The Purpose and Need statement sets the stage for development and consideration of reasonable alternatives and is a refinement of the initial Problem Statement (sometimes developed during the Planning phases). It will be used to guide the development of alternatives and it will be a fundamental element when developing criteria for selection among alternatives. The Purpose defines the transportation problem to be solved. The Need discussion provides data to support the Purpose.

The Purpose statement is *function*-based versus *solution*-based meaning—make sure that the Purpose and Need is broad enough and addresses the transportation function needs to allow for consideration of more than one solution but specific enough so that the range of alternatives can be focused. This will allow consideration of alternate alignments, design variations and other modes. This is a key concern of resource agencies reviewing the Purpose and Need statement; developing an appropriate Purpose and Need will avoid delays and help streamline final design and permitting later.

Other ODOT documents such as the Prospectus Part 3 and Part 5, planning studies, inspection reports, scoping reports, interagency agreements, and public outreach documentation can be useful sources of information for adequately describing the Need. Because the NEPA process, and project development in general, is *iterative* in nature, a project's Purpose and Need should be thought of as 'living' because it may broaden or become more focused as more information and input are gathered through the NEPA process. The Purpose and Need statement may need to be refined as a deeper understanding of the transportation need is reached. Bear this in mind when circulating Purpose and Need statements.

1.2 Purpose of the Proposed Action

The Purpose is analogous to the problem. It is the "what" of the proposal. The Purpose should focus on the transportation system. The Purpose should be stated in a single sentence, whenever possible.

- The Purpose should be stated as the positive outcome that is expected. For example, *the Purpose is to reduce congestion in the interstate corridor*.

- The Purpose should avoid stating a solution which prematurely dismisses alternatives (e.g. the Purpose of the proposed action is to build a bypass).

- Ensure the Purpose is broad enough to allow for a reasonable range of alternatives (i.e. more than one alternative can be considered).

- Where appropriate, it should be stated broadly enough so that more than one transportation mode can be considered and multi-modal solutions are not dismissed prematurely.

- Ensure that the Purpose is achievable and unbiased.

Specific "elements" of the Purpose could also include (please note that these bullets do not constitute a complete Purpose statement):

- Reducing reliance on the state system for non-through trip travelers.

- Reducing congestion in the [interchange area, highway, corridor, downtown street system, bridge, etc.].

- Improving traffic flow in the [interchange area, highway, corridor, downtown street system, bridge, etc.].

- Improving access or access control.

- Providing a balanced circulation system and reducing out of direction travel.

- Improving the safety and operation of the [highway, corridor, downtown street system, bridge, etc.].

- Improving travel times between x and y cities/locations.

- Reduction of maintenance actions (i.e., rockfall areas).

Examples of Purpose statements:

The purpose of the proposed action is to improve mobility and safety for people and freight for local, regional, and through travel across the Willamette River in the Salem-Keizer metropolitan area while alleviating congestion on the Marion and Center Street bridges and on the connecting highway and arterial street systems.

The purpose of the proposed action is to improve regional and local transportation along the Oregon 99W corridor in the Newberg-Dundee area by reducing existing and future traffic congestion.

The purpose of the proposed action is to improve the safe and efficient movement of goods, people, and services at and within the I-5 / Barnett Road interchange area. The long-term improvements are intended to reduce

congestion and improve the operation of the interchange in a manner that would minimize adverse impacts to neighborhoods, businesses, and the environment.

1.3 Need for the Proposed Action

The Need refers to the transportation problem(s) or deficiency(ies) to which ODOT and FHWA are responding. It should be quantified to the extent possible. The discussion of the Need for, together with the Purpose of, the proposed action allows the agency to establish the scope of the proposal and focus the range of alternatives. In the development of the statement of Need, consider that alternatives can be thought of as different ways to meet the underlying Need. Often the Need is already known through many different avenues (i.e., bridge and other facility inspections, traffic and corridor studies, local planning efforts, crash data, etc.) and therefore writing the Need discussion may include compiling and restating or clarifying existing information.

The Need should establish the evidence that the problem exists, or will exist if projected population and planned land use growth are realized. It should be factually and numerically based and should support each assertion made in the Purpose statement. For example, if the Purpose statement is based on safety improvements, the Need statement should support the assertion that there is or will be a safety problem to be corrected.

The Need statement may need to be updated, prior to publishing the DEIS, depending upon the length of time between the first draft of the Purpose and Need statement and when the DEIS is actually published.

As appropriate for the proposed action, discuss the following categories of needs:

1. Capacity and Transportation Demand

    a. Describe existing capacity and performance. ODOT typically uses volume to capacity (v/c) ratios, but other measures such as Level of Service may be appropriate as well.

    b. Describe regional population/traffic forecasts

    c. Identify projected capacity needs, queue and delay, and/or LOS

    Coordinate with the Transportation Planning and Analysis Unit (TPAU). They coordinate with the local Metropolitan Planning Organization (MPO), as applicable, on traffic modeling. The transportation element of city and county comprehensive plans should also contain traffic data. Regional population forecasts are usually done by the MPO as well. The U.S. Census Bureau also has some information on population projections; however, these projections do not take the place of traffic forecasts.

2. Identify system safety needs

    a. Describe existing crash rate (including high fatality and injury sites, or identified ‘Safety Priority Index System (SPIS) sites) and/or frequency.

Sometimes the crash rate shows relatively low crashes compared to similar roadways in the state, but there is still a safety problem that needs to be addressed.

b. Describe the likely conditions related to crashes/safety without the project.

c. Compare the existing and projected accident rates without the project to the statewide average

d. Explain what is needed to improve safety

Crash data is available on the TransView website. Contact the relevant ODOT Region Traffic Division for more information related to traffic studies, modeling, and general traffic information. Be sure to use the most current data in the Need statement. For more information, see the TPAU website.

3. Transportation Facility Deficiencies

a. Describe operational (e.g. queue lengths, delay) and functional deficiencies (e.g. substandard geometrics, inadequate cross sections). Operational data should be obtained from TPAU or Region Traffic.

b. Identify structural limitations (load limits)

c. Discuss maintenance problems

d. Explain what is needed to correct deficiencies

The information for this section is primarily the responsibility of the assigned Project Leader (PL) or Planner. The PL or Planner, in coordination with the Region Tech Centers and Headquarters Roadway and Bridge Design Units, will have information regarding roadway and structure deficiencies and proposed corrections. Information on maintenance problems can be obtained by contacting the District Manager in each Region relevant to the project area.

4. Social Demands and Economic Development

a. Discuss existing land use plans

b. Identify projected land use plan changes

c. Identify growth management/control ordinances

Contact the appropriate Region Planner and/or ODOT Transportation Development Division (i.e., Planning Division) for the above information. Other sources include city and county planning offices, Metropolitan Planning Organizations (MPO) and the Department of Land and Conservation Development (DLCD).

5. Legislation

Describe any federal, state or local government mandates (e.g., High priority projects or Congressional funding earmarks).

6. Modal Interrelationships and System Linkages

   a. Discuss project interface with airport, rail, port and mass transit facilities

   b. Indicate whether the project is a connecting link

   c. Describe how the project fits into the transportation system

Coordinate with Region Planning staff to review refinement, corridor, and/or Transportation System Plans (TSP). Contact local agencies for transit information and the comprehensive plan (transportation element). Regional Transportation Plans are available from the relevant MPO and often available on-line.

7. Air Quality Improvements

   a. Identify transportation control measures (e.g., HOV lanes, ramp metering, bike lanes, park and ride facilities) from the Statewide Implementation Plan. In Oregon only the Portland metropolitan area has identified transportation control measures.

   b. Identify transportation demand management (e.g., Rideshare programs, mass transit subsidies)

Information on bike lane systems, park and ride facilities, ridesharing and mass transit can be obtained from the, MPO, Region Planning Department, the ODOT Bicycle & Pedestrian Program, or local government planning departments. Information on HOV lanes and ramp metering can be obtained from Region Traffic Operations staff.

NOTE: The following list of potential Need "elements" would each need to be corroborated by real data. It is not sufficient to simply provide a list of unquantified Needs. Therefore, these Need elements are not "sample text" unless the Need element is also supported with direct evidence.

Specific "elements" of the Need could include:

- A growing use of the local street circulation system for regional trips, leading to congestion of many streets and out of direction travel (increased travel distance).

- Increasing congestion on the regional transportation system, including Interstate ##.

- Extensive existing and approved planned development that will generate additional trips.

- Inadequate regional access to the [____] area.

- Increased traffic accidents associated with congestion and use of local streets for regional trips.
- Functional and/or structural obsolescence of roadway and/or bridge facilities
- Reduction of crash rates that are higher than the statewide average
- Need for improved connectivity for bicycle and pedestrian facilities
- Need for improved existing and future mobility and safety of passenger vehicles
- Need for improved existing and future mobility and safety of freight vehicles
- Need for improved existing and future reliability of public transportation
- Need for improved safety of pedestrians and bicyclists
- Minimize traffic disruptions and enable emergency vehicle response in the event of restricted access to and/or closure of the existing bridges due to an emergency or other incident
- Support future traffic that would be generated by projected growth and land use changes described in City of [____]'s Comprehensive Plan

1.4 Goals and Objectives

Issues that will be addressed by the proposed action beyond the transportation issue identified in the Purpose and Need should be included after the Purpose and Need Statement as Goals and Objectives. The Goals and Objectives should balance community, environmental, and transportation values. They should support early and effective interagency involvement in environmental issues to improve the outcome of each natural and historic resource agency's mission while minimizing costs and delays. In addition, the Goals and Objectives should consider the proposed action's schedule, cost, community impacts, historic resource impacts, impacts to fish and wildlife and their habitat, public input, and regulatory input.

The Goals and Objectives will be different for each proposed project and may include the following:

1. Broad community goals could include, for example, - improving air quality, economic development, minimizing construction impacts, facility aesthetics, avoiding/minimizing land use actions, and/or creating an uncongested, pedestrian-friendly downtown business district.

2. Environmental goals could include - avoidance and minimization of impacts and enhancement opportunities, For example, avoiding impacts to nesting migratory birds or improving riparian habitat beyond what is required for mitigation. Environmental goals need to use the standard mitigation sequencing language: avoid, minimize (and then) mitigate.

3. All FHWA/ODOT projects will meet all regulatory requirements. It is not appropriate to include Goals or Objectives that reference regulatory compliance.

References and Additional Guidance

FHWA NEPA and Transportation Decision-making: The Importance of Purpose and Need in Environmental Documents, Sept. 18, 1990

FHWA Technical Advisory T6640.8A, Oct. 30, 1987

Guidance on Purpose and Need, July 23, 2003, Memo from FHWA.

FHWA/FTA Interim Guidance on Purpose and Need, August 21, 2003

U.S. DOT Executive Order 13274 Purpose and Need Work Group Baseline Report Revised Draft, March 15, 2005

MTPA (CETAS) Purpose and Need Guidance, January, 2002

FHWA NEPA and Transportation Decision-making: The Development of Logical Project Termini, November 5, 1993

SAFETEA-LU Guidance on Purpose and Need, November 15, 2006

AASHTO Practitioner's Handbook 07 - Defining the Purpose and Need and Determining the Range of Alternatives for Transportation Projects, August, 2007

ODOT Traffic-Roadway website

Transportation Planning Analysis Unit (TPAU) website

ODOT Transportation Development Division

ODOT Bicycle & Pedestrian Program

TransView website – Crash data

Chapter 2 - Alternatives

1. CEQ's regulations for implementing NEPA specify requirements for treatment of alternatives in Environmental Impact Statements. Each alternative analyzed in the document should be rigorously explored and objectively evaluated. For alternatives that were eliminated from detailed study, discuss reasons for their elimination. All reasonable alternatives under consideration, including the no build, need to be developed to a comparable level of detail in the DEIS, so that their comparative merits may be evaluated 40 CFR 1502.14(b) & (d). Include reasonable alternatives not within the jurisdiction of the lead agency, if such alternatives exist, and include the alternative of no action.

Chapter 2 Content:

2. In the DEIS, SAFETEA-LU Section 6002 allows the Preferred Alternative to be developed to a greater level of detail to assist in the development of mitigation measures and compliance with other federal environmental laws provided that all the requirements in the 6002 final guidance are met. Developing the Preferred Alternative to a higher level of detail in the draft would only be pursued following consultation with and approval from FHWA. The Preferred Alternative must be identified in the FEIS; identification of a Preferred Alternative in DEIS may be warranted under certain circumstances.

3. FHWA Technical Advisory T6640.8A requires a discussion of a reasonable range of alternatives. Under NEPA, alternatives must be discussed in equal detail. Also under NEPA, consideration should be given to transportation system management (TSM), transportation demand management (TDM) and multi-modal alternatives. For additional information, see CEQ 40 Most-Asked Questions, 1a, Range of Alternatives.

4. The Oregon Major Transportation Projects Agreement (MTPA) is an interagency agreement related to EIS project development. The MTPA provides guidance for key milestones in the NEPA process. The "Criteria for Selection and Evaluation Measures Guidance" and "Range of Alternatives Guidance" are relevant to DEIS Chapter 2 in that these documents provide guidance regarding alternative development and elimination of alternatives.

5. Additional alternatives may be required on projects where a law, Executive Order, or regulation (e.g., Section 4(f), Executive Order 11990, or Executive Order 11988) mandates an evaluation of avoidance alternatives.

2.1 Description of Alternatives

An EIS will include a reasonable range of alternatives. [See CEQ's 40 Most-Asked Questions and FHWA TA T6640.8A]. Alternatives should be developed to respond to identified transportation needs, to avoid sensitive resources, and to be consistent with

federal, state, and departmental directives. (CETAS Guidance on Development of Range of Alternatives).

For proposed actions that may require a land use goal exception or impact Section 4(f) properties or wetlands, development of an "avoidance" alternative may be necessary. The purpose of the "avoidance" alternative would be to support the following analyses: (1) Least Environmentally Damaging Practicable Alternative (LEDPA), (2) Support 4(f) least harm analysis, (3) goal exception. The "avoidance" alternative may or may not meet Purpose and Need.

2.1.1 No-Build Alternative

Environmental review must consider the effects of not implementing the proposed action. The No-Build alternative provides a baseline for comparing the impacts with the other alternatives. Explain the impacts of the no-build alternative. Transportation impacts should be tied to the purpose and need for the proposed action and might included deteriorating performance (v/c ratios or LOS), impacts to air quality, and ongoing maintenance costs. Indirect impacts might include economic impacts to an adjacent community.

The "No-Build" analysis must discuss the existing conditions as well as what would be reasonably expected to occur in the foreseeable future if the proposed action was not constructed. The No-Build alternative includes other transportation projects and land use that will be in place by the design year of the traffic analysis. These projects come from the fiscally constrained list of projects in the Metropolitan Planning Organization (MPO) long-range plan and transportation improvement program, the State Transportation Improvement Program (STIP). For non-MPO areas, include the fiscally constrained transportation projects in city or county funded Transportation System Plans (TSPs), Capital Improvement Programs (CIPs), or other programming type documents from municipalities.

2.1.2 Build Alternatives

Build Alternatives. This would include a range of reasonable alternatives (see heading below) that meet the purpose and need of the project. When a Preferred Alternative has been identified it should be discussed before the other alternatives are described.

For each alternative:

1. Describe the rationale for inclusion of the alternative in the document. Discuss how the proposed alternative meets the requirement 23 CFR 771.111(f) for logical termini and independent utility.

2. Make sure the names of the various alternatives are distinct and will not be easily confused with each other by the public or decision makers. Keep the names of the alternatives consistent throughout the document.

3. Make sure the description of the proposed action and description of alternatives in the environmental document and technical studies are consistent throughout the environmental process.

4. Include a maps showing the details of the build alternative(s). The lane configuration, bike and pedestrian facilities should be clearly depicted. Other graphics such as typical cross sections and typical profiles should be included, especially when needed to illustrate variations in the alternatives. If geographical references are provided in the text, they should be labeled on the associated maps.

5. Include a cost estimate for each alternative. The estimate should be based on year of expenditure dollars. The cost estimate should include all elements needed to complete the project, including right-of-way and all mitigation. Include basic assumptions on how the cost estimates were derived, including inflation assumptions. If innovative financing methods are proposed describe those here. If your project is considered a major project, you will need to comply with FHWA's guidance for major projects.

6. Each build alternative should represent a distinct design concept and scope and project location, not minor design variations or slight location shifts (see 23 CFR 771.113(b)).

2.1.3 Common Design Features of the Build Alternatives

1. This heading should be used when the build alternatives share many common features. Shared design features (i.e., park-and-ride facilities, ramp metering, interchanges, etc.) discussed here do not have to be repeated under each alternative description.

2. Include design exceptions, new or revised access, and status of their approval in this discussion.

2.1.4 Transportation System Management (TSM), Transportation Demand Management (TDM) Alternatives and Mass Transit Alternatives

Include a discussion of a Transportation System Management (TSM) and Transportation Demand Management (TDM) alternative. In some cases a pure TSM or TDM alternative may be feasible; in other cases these elements will not solve the Purpose and Need in and of themselves, but should be incorporated into other alternatives that are advanced.

1. TSM strategies (usually only relevant in urban areas over 200,000 population) consist of actions that increase the efficiency of existing facilities; they are actions that increase the number of vehicle trips a facility can carry without increasing the number of through lanes. Examples of TSM strategies include: ramp metering, auxiliary lanes, turning lanes, reversible lanes, traffic signal timing optimization, high occupancy vehicle (HOV) lanes on existing roadways, and fringe parking.

2. TDM focuses on strategies for reducing the number of vehicle trips and vehicle miles traveled as well as increasing vehicle occupancy. It facilitates higher vehicle occupancy or reduces traffic congestion by expanding the traveler's transportation choice in terms of travel method, travel time, travel route, travel costs, and the quality and convenience of the travel experience. Some examples of TDM efforts include: establishing or maintaining Transportation Management Agencies (TMA),

establishing employee trip reduction programs, employer provided bus passes or similar subsidies for alternative modes, providing contract funds to regional agencies that are actively promoting ridesharing, maintaining rideshare databases and providing limited rideshare services to employers and individuals.

3. Mass Transit alternatives include those reasonable and feasible transit options (bus systems, rail, etc.) even through they may not be within the existing FHWA funding authority. It should be considered on all proposed major highway projects in urbanized areas over 200,000 in population. Consideration of this alternative may be accomplished by reference to the regional or area transportation plan where that plan considers mass transit or by an independent analysis during early project development.

4. When applicable, in Alternatives Considered but Eliminated from Further Consideration Section use this boilerplate language:

   Although TSM and TDM elements alone could not satisfy the purpose and need of the project, the following TSM and TDM elements have been incorporated into the Build Alternatives for this project: [list items here].

2.2 Screening Criteria and Evaluation Measures

This section should describe the screening criteria and evaluation measures used in project development. There should also be a reference to Section 2.3, Alternatives Considered but Eliminated from Further Consideration and Section 2.4, Comparison of Alternatives so that the reader understands those discussions immediately follow this section.

Describe that alternatives were winnowed through the use of screening criteria and/or evaluation measures. Development of EIS alternatives often results in a greater number of alternatives than a "reasonable range." In Oregon, "screening criteria" are developed and applied to eliminate EIS alternatives that do not meet the proposed action's Purpose and Need or have fatal flaws (e.g., a major land use goal exception, substantial Section 4(f) impacts, etc.). Therefore, screening criteria are usually described as pass/fail measures rather than quantitative measures. Application of screening criteria is intended to be a first step in reducing all possible project alternatives to a "reasonable range." See MTPA Range of Alternatives Concurrence Point instructions.

After evaluating all possible project alternatives with the screening criteria, a project team may still have multiple alternatives that are beyond what is needed for a range of reasonable alternatives. In these cases, project "evaluation measures" should be applied to aid in reduction of alternatives to a "reasonable range" for the DEIS. Evaluation measures are also rooted in the project Purpose and Need and Goals and Objectives, but are more precise and quantitative than screening criteria. Evaluation measures offer concrete, usually numerical, means to compare alternatives and help to identify a reasonable range for analysis in the DEIS. The evaluation measures should be limited in number and should reflect the broader health of or impact to the environment, as opposed to measures focused on small or isolated issues.

"Evaluation measures" are also used to compare and contrast the range of alternatives that are included in the DEIS. It is very important that the logic of the Purpose and Need and the Goals and Objectives are transparently carried through to the screening criteria, evaluation measures and ranking of alternatives to arrive at a Preferred Alternative. For further information on screening criteria and evaluation measures, see the See MTPA Criteria for Selection and Evaluation Measures instructions.

One project management shortfall has been to develop the Purpose and Need statement and Goals and Objectives; but then to screen or evaluate alternatives based upon criteria or measures not transparently tied to the Purpose and Need or to the Goals and Objectives. This is faulty logic and will cause delays in getting NEPA documents approved. Another shortfall to avoid is dismissal of an alternative for not meeting a screening criterion or evaluation measure; but then forwarding other alternatives that also do not meet that same criterion/measure, without providing the context of why such decisions are logical. Draft documents that cannot adequately describe the alternative winnowing process in a logical, transparent process will be delayed as these sections are re-written.

2.2.1 Screening Criteria

Provide a complete description of the screening criteria that were used to winnow alternatives considered.

2.2.2 Evaluation Measures

Provide a complete description of the evaluation measures that were developed. Describe if the evaluation measures were used to further winnow the range of alternatives after the screening criteria were applied and/or how the evaluation measures were used to compare or rank alternatives considered. If particular evaluation measures are given higher weight than others, be sure to describe so here.

2.3 Alternatives Considered but Eliminated from Further Consideration

This section should include a summary of all alternatives that were considered during the project development process but were eliminated from detailed study in the DEIS. Alternatives that are considered in the DEIS are placed in the "Comparison of Alternatives" section, not this section. FHWA and ODOT may have identified some of these alternatives, while other alternatives may have been identified by other public agencies or members of the public.

Information on alternatives considered but eliminated from further consideration should be available in the environmental and design project files, as well as other planning documents. This section explains why alternatives were not considered further. In addition, the section provides documented reasoning based on the screening criteria and evaluation measures, why alternatives identified in early planning documents are not to be carried for future consideration. Keep in mind the following when writing this section.

1. Describe the other alternatives that were considered, and within the framework of the screening criteria and the evaluation measures explain why each was eliminated from further discussion. Valid reasons for eliminating an alternative include, but are not limited to: not meeting Purpose and Need, a major land use goal exception that cannot be achieved, and/or having insurmountable impacts that can not be mitigated.

2. It is important to enumerate to the extent possible, all the reasons for dismissing alternatives within the framework of the screening criteria and evaluation measures. For each alternative dismissed, the discussion should capture **all** reasons for dismissing the alternative. For example instead of saying Section 4(f) properties will be impacted, describe the extent of impacts to each specific 4(f) property.

This section should not be a history or chronology, but rather should focus on explaining, in an equivalent fashion, the rationale for dismissal. An alternative developed "late" in the process, must go through the same evaluation as those alternatives developed "early" in the process. The timing of when an alternative was developed is irrelevant to the elimination of the alternative.

Provide as much supportive information as possible regarding why an alternative was dismissed. Whenever possible, describe the degree to which an alternative did not meet screening criteria or evaluation measures. For example, instead of simply saying that an alternative did not meet design standards, state what the standard is, how far from the standard the alternative would have been, and the process and likelihood of getting a goal exception.

2.3.1 [Alternative Name]

Provide a brief description of the alternative and a map. Using the guidance above describe here why the alternative was dismissed.

2.3.2 [Alternative Name]

Repeat this outline until you have accounted for all alternatives that have been dismissed.

2.4 Comparison of Alternatives

This section provides a description of the alternatives that were carried forward for further study in the DEIS. This section includes the no-build alternative. This section should be organized primarily by alternative considered. Alternatives should be named so that they are readily distinguishable from one another.

1. Although evaluation measures can be good indicators of alternatives' relative performance, these measures alone may not necessarily determine alternative ranking or identification of the Preferred Alternative. Evaluation measures must be balanced with other relevant factors (such as stakeholder comments on the DEIS, Agency professional judgment, balance of impacts, alternative constructability, maintenance requirements, etc.) in order for a balanced decision to be reached.

2. A summary table comparing the alternatives within the evaluation measures will be included.

3. When a Preferred Alternative has been identified at the Draft EIS stage, it must be disclosed (see suggested wording below). Explain in some detail why that alternative is identified as the Preferred Alternative. Suggested introductory language for the Preferred Alternative discussion in a draft EIS follows:

   After comparing and weighing the benefits and impacts of all of the reasonable alternatives, [Include as appropriate: some of which are summarized in the summary table], Alternative [X] has been identified as the Preferred Alternative, subject to public review. Selection of a Preferred Alternative will occur subsequent to the public review and comment period. The Record of Decision is the decision document that announces the selected alternative.

   Note: For larger or more complex actions, the Preferred Alternative is not typically identified until after the circulation of the DEIS.

4. If there is opposition to any alternative, include that information here.

5. Briefly explain the final decision-making process. See sample text below:

   After the DEIS public comment period, all comments will be considered, and FHWA will identify a Preferred Alternative and make a determination of the project's impact on the human and natural environment. ODOT and FHWA will document and explain the decision regarding the selected alternative, project impacts, and mitigation measures in a Record of Decision.

   The above text should be eliminated or revised to past tense for the final document.

2.5 Identification of a Preferred Alternative

[This section may be in the DEIS; must be in the FEIS]

1. Explain the rationale for identifying the Preferred Alternative. The identification decision must be structured, analytical, and clearly address the specific evaluation criteria developed for the project. If the alternative is not anticipated to be fully funded, describe how the project will be funded or financed. Ensure compliance with FHWA major projects guidance as applicable.

2. The developed criteria and measures may not be the sole determinants of alternative elimination or ranking – these decisions must be balanced with other factors (such as stakeholder comments on the DEIS, Agency professional judgment, balance of impacts, alternative constructability, maintenance requirements, etc.).

3. Describe mitigation measures incorporated into the Preferred Alternative.

4. It would be unusual to designate **mandatory** borrow/fill sites in a NEPA document. However, if the project team believes this is necessary you need to ensure that

those areas have received all needed environmental considerations. This may mean that you need to update analysis between the draft and final EIS. If the borrow/fill sites are not mandatory, then it is the contractor's responsibility to locate these sites and ensure environmental compliance. **Designation of mandatory removal and fill sites and staging areas must be coordinated with FHWA in advance.**

2.6 Permits and Approvals Needed

List all permits and approvals that will be needed, including waters and wetland permits, threatened and endangered species approvals (biological opinions, determinations), interstate access approvals, etc. The following table is a list of permits and approvals that may be needed for your project. Only include those permits and approvals that will be needed for the proposed action.

The following permits, approvals, and licenses would be required for project construction:

Agency	Permit/Approval/License
Bureau of Land Management	Right-of-Way Grant
Federal Emergency Management Agency	Executive Order 11988: Floodplain Management
Federal Highway Administration	Section 106 determination with Memorandum of Agreement
Federal Highway Administration	Section 4(f) Evaluation Approval
National Marine Fisheries Service	Section 7 Consultation for Threatened and Endangered Species Review and Comment on 404 Permit
National Marine Fisheries Service	Magnuson-Stevens Fishery Conservation and Management Act
United States Army Corps of Engineers	Section 404 Permit for filling or dredging waters of the United States
United States Fish and Wildlife Service	Section 7 Consultation for Threatened and Endangered Species Review and Comment on 404 Permit
United States Fish and Wildlife Service	Migratory Bird Treaty Act
U.S. Fish and Wildlife Service	Fish and Wildlife Coordination Act
U.S. Forest Service	Special Use Permit
Oregon Building Codes Division or local jurisdiction	Building Permit
Oregon Department of Environmental Quality	Section 402 National Pollutant Discharge Elimination System (NPDES) Water Discharge Permit
Oregon Department of Environmental Quality	Section 404 Permit review
Oregon Department of Environmental Quality	Section 401 Water Quality Certification
Oregon Department of Environmental Quality	Underground Injection Control (UIC) Permit
Oregon Department of Environmental Quality	Septic System Permit
Oregon Department of Environmental Quality	Oversight of hazardous materials issues
Oregon Department of Environmental Quality	Site preparation permits for grading, erosion, blasting, and air and noise emissions
Oregon Department of Fish and Wildlife	Oregon Fish Passage Rule
Oregon Department of Fish and Wildlife	Fish and Wildlife Habitat Mitigation Policy
Oregon Department of Fish and Wildlife	Oregon Endangered Species Act
Oregon Department of State Lands	Removal-Fill Permit or General Authorization
Oregon Department of State Lands	Pre-Construction Assessment Permit for in-water work (with U.S. Army Corps of Engineers)
Oregon Department of State Lands	Wetland Delineation Concurrence
Oregon Department of Transportation	Permit for relocation of utility lines in a state road right-of-way
Oregon Department of Water Resources	Water Right
State Historic Preservation Office	Section 106 Historic Resource Protection
County	Floodplain
County	Access Permit

Agency	Permit/Approval/License
County	Noise variance
County	Conditional Use Permit
Local Agency	Land Use Permit or compliance
Utility	Easement
Railroad	Encroachment/Crossing Permit

References and Additional Guidance

MTPA guidance on Screening / Evaluation Criteria and Range of Alternatives

Forty Most Asked **Questions** Concerning **CEQ's** National Environmental Policy Act

FHWA Technical Advisory T6640.8A, Oct. 30, 1987

SAFETEA-LU, Developing Preferred Alternative to higher level of detail questions 39-46

Efficient Environmental Reviews for Project Decision Making 23 USC 139(f)(4)(D)

FHWA Major Projects Guidance

2008 Transportation System Planning (TSP) Guidelines

Text color key: Black = generally required text and headings Blue = instructions/guidance to be deleted Purple = sample text Underlined text: Web links

Chapter 3 - Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

Following is a list of potential topic areas for the EIS. The EIS only needs a full text discussion of those topics that are relevant to the project.

The Discussion of each topic should be equivalent to the potential to impact that resource, both adversly as well as beneficially. Resources which have low to zero potential for impact should only be briefly discussed, explaining why there is little to no potential for impact.

The following language may be helpful in summarizing those resources with little potential for impact:

As part of the scoping and environmental analysis conducted for the project, the following environmental issues were considered but no adverse or beneficial impacts were identified. Consequently, there is no further discussion regarding these issues in this document.

List topics and briefly (in one or two sentences) describe why there is no potential for adverse impacts or why they are not considered key issues. Cite scoping reports and/or technical studies as appropriate.

If a given resource has the potential for beneficial or adverse impacts, the discussion of that topic should include the following subheadings:

Chapter 3 Content:

1. Regulatory Setting (if applicable)

   The regulatory setting language was developed to communicate to the public why we analyze issues the way we do in an environmental document. Generally, the **full** regulatory setting language is not included in the EIS (or is much abbreviated) unless stakeholder concerns regarding the resource are critical to NEPA decision-making. When the potential resource impacts are negligible, then the regulatory setting language may be modified, including elimination of the regulatory setting language when appropriate.

2. Affected Environment

   Describe the setting and existing conditions for the proposed action. The Area of Potential Impact (API) or study area will vary, depending on the resource being discussed. Where a resource is not present within the API for that resource, little additional discussion needs to follow.

For resources identified as having direct or indirect impacts be sure that Chapter 4 (Cumulative Impacts) describes the historical context (i.e., past actions) that has contributed to the existing conditions.

3. Environmental Consequences

Generally methodologies will be described in technical reports. SAFETEA-LU 6002 requires coordination on methodologies. Within Chapter 3, you need only to describe those methodologies that are not generally accepted as state of the art, consistent with FHWA Technical Advisory T6640.8A.

The Environmental Consequences discussion should include all: (1) direct impacts and (2) indirect impacts and (3) construction impacts. Generally direct impacts are discussed first, followed by discussion of indirect and construction impacts. It is more important that all impacts are disclosed rather than categorized as direct or indirect. The discussion of impacts should be commensurate with the potential for impacts to each specific resource.

Direct impacts. Discuss the likely adverse and beneficial impacts associated with each Build Alternative and the No-Build Alternative. Environmental Consequences should address direct impacts, meaning those impacts that are "caused by the action and occur at the same time and place" (40 CFR 1508.8). Direct impacts are typically action-focused, well-understood, and predictable. Direct impacts can be permanent or temporary (usually related to construction).

Indirect impacts. Indirect impacts "are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect impacts may include growth inducing impacts and other impacts related to induced changes in the pattern of land use, population density or growth rate, and related impacts on air and water and other natural systems, including ecosystems."

Construction Impacts. Construction impacts are temporary impacts, meaning that these impacts occur only during construction. Once all work is complete the temporary impacts will cease. Construction work for large projects may be phased over several years and may or may not be continuous during those periods of time. During preparation of an EIS the phasing sequence for the work is not usually known. Therefore, the construction impacts need to be described and disclosed for the entire project rather than for discrete phases of work. However, if you are working on a project that intends to identify a phased approach to construction, work closely with FHWA to determine how to disclose these impacts. There may be instances where more detailed disclosure of phasing segments and impacts is appropriate.

It is important to discuss any permitted seasonal work periods and restrictions, and impacts related to seasonal work and when those would occur. In addition to seasonal work restrictions there may be time of day work restrictions due to traffic control requirements or noise ordnances. If a noise variance will be required for night work describe how and when this will be sought.

Potential construction activities may cause short-term impacts. Please consider the following and document, as appropriate:

- only mandatory disposal and storage sites
- only mandatory material source sites
- demolition of structures
- blasting
- pile driving
- drilling (e.g., drilled shafts requiring barges)
- clearing and grubbing
- earthwork
- in-water work
- pavement removal

Within each resource section, describe the construction impacts that would be caused by the proposed alternatives. Potential short-term impacts from construction activities could include, but are not limited to:

- dust
- noise
- illumination for night work
- erosion and sedimentation
- vibration
- lane closures
- travel detours (for all modes of travel)
- closed or revised public or private approach roads (both business and residential)
- economic impacts to businesses (both adverse and beneficial)
- visual impacts
- spreading (and new establishment) of noxious weeds
- delays in public service calls (including emergency and police response)
- changes in transit service
- parking

Cumulative impacts are typically discussed in Chapter 4. However, if you would like to include cumulative impacts in Chapter 3 please check with the ODOT EPM, ODOT NEPA Program Coordinator, and your FHWA contact.

4. Avoidance, Minimization, and/or Mitigation Measures

Mitigation for impacts should follow standard mitigation sequencing: First, avoidance of the resource; next, minimization of the impact; and finally, measures to mitigate the impact. As this section is addressed for each resource, be sure to capture avoidance and minimization measures that have been incorporated into project alternatives for the resource. For resources with no adverse impacts, ODOT and FHWA would not expect mitigation.

Where a mitigation need has been identified be sure other resource analyses capture the environmental consequences associated with the mitigation measure.

If ODOT and FHWA are proposing to include measures that are above-and-beyond the mitigation required, refer to these as enhancement activities. Be sure to coordinate with FHWA for any proposed enhancement activities to ensure federal aid eligibility.

The draft document will refer to all mitigation as "proposed". Comments received on the draft could change the mitigation being considered. The final document will include all mitigation measures that will be incorporated into the project. If measures vary for each alternative, discuss what measures are proposed for each alternative. **The final EIS should identify all mitigation that will be incorporated into the action/preferred alternative.**

Construction Impacts. Although considered temporary, these impacts can cause concern for residents, business owners, and the general public in the communities where these large projects are being constructed. Every measure that can be discussed in the EIS to offset these impacts should be disclosed.

Guidance on Mitigation

For impacts that could not be completely avoided, ODOT and FHWA require the project applicant to incorporate mitigation measures to offset adverse impacts caused by the action and require the project applicant to be responsible for the implementation of the mitigation measures. (23 CFR 771). The five categories of mitigation are: avoid, minimize, rectify, reduce or eliminate, and compensate. (40 CFR 1508.20)

Formulation of mitigation measures should not be deferred until some future time. However, the precise details of how the mitigation will be performed do not need to be specified in the draft EIS. The draft EIS should include proposed mitigation measures or performance standards which would mitigate the significant impact and which may be accomplished in more than one way. Completion of mitigation measures should be readily discernable. Example: Mitigation measures for revegetation can include replanting ratios, types of vegetation and contingency plans if the replanting is not successful, but need not specify exact details of the revegetation plan.

The final EIS should describe the mitigation measures that are to be incorporated into the Preferred Alternative. Mitigation measures presented as commitments in the final EIS will be incorporated into the project as specified in 23 CFR 771.109(b). While it is recognized that the details of mitigation may change, the

FEIS should present at least one method of mitigation to fully comply with all laws and regulations. For example, the ABC project will fill [xxx] acres of wetlands. The Oregon Department of State Lands and the U.S. Army Corps of Engineers (Corps) have preliminarily accepted a proposal to purchase credits from the DEF Wetland Bank.

When formulating mitigation, consider the following:

1. The mitigation proposed for a project must have a "nexus" and "rough proportionality" to the impact.

    a. Nexus: a connection between the impact and the mitigation measure.

    b. Rough proportionality: the amount of mitigation should roughly correspond in size, degree or intensity to the project impact.

2. Mitigation measures must be fully enforceable through permit conditions, agreements, the Record of Decision or other measures (special provisions).

3. Before the draft EIS it is important to discuss the proposed mitigation measures with the PDT members, Construction, and Maintenance to determine whether or not all measures are feasible. Some proposed mitigation measures may not be constructible.

4. Inclusion of ODOT Standard Specifications as mitigation is not standardized as of this date. The Environmental Commitment Tracking System Implementation will help clarify these expectations. In the interim, it may be practicable to include a generic mitigation measure that states "The project will comply with ODOT Standard Specifications."

5. When the ROD is signed, commitments in the ROD will be entered into Environmental Commitments Tracking System.

Mitigation discussion should include the following:

1. Whether the mitigation measure will avoid or substantially reduce adverse environmental impact.

2. If particular mitigation measures have been suggested in the development process that the applicant will not pursue, discuss why the chosen measure was selected and why the suggested measure will not be pursued.

3. If an entity other than ODOT and/or FHWA proposed the mitigation measure, discuss who proposed the mitigation. If ODOT and/or FHWA are not the agency implementing, monitoring and/or reporting mitigation, then that agency should be specifically identified.

4. If the implementation of a mitigation measure results in environmental impacts, those impacts must be discussed in the EIS.

References and Additional Guidance

FHWA Technical Advisory T6640.8A, Oct. 30, 1987

23 CFR 771

40 CFR 1508

3.1 Transportation Facilities

This section describes existing transportation facilities, including existing and planned roadway network, existing and planned transit service, existing and planned bicycle facilities; and pedestrian facilities, as warranted. This section discusses the proposed project's impacts on vehicular traffic safety and operations, including access management strategies, existing and planned transit facilities, as well as impacts to bicycle and pedestrian facilities, both during construction and after completion of the project. Note: Recreational trails are also considered in the Parks and Recreation section of this document.

A cornerstone of federal highway legislation has been a continued and broad emphasis on safety. A successful safety strategy needs to consider the user behavior, the transportation environment, and vehicle characteristics. It is critical that the transportation facility be planned, designed, operated, and maintained for all users.

3.1.1 Regulatory Setting

The primary missions of ODOT and FHWA are related to transportation facilities and safety; therefore, this proposed action is transportation oriented and the NEPA analysis focuses on transportation-related impacts. Compliance with NEPA is required because the proposed action intends to satisfy a transportation need and is funded or partially funded with FHWA funds. NEPA provides the overall regulatory setting for this section. With regard to traffic forecasts, in general, the design year traffic should accommodate a 20-year forecast from the expected date of completion of the facility [Title 23, United States Code – Highways Section 109 Standards].

FHWA regulations provide policies and procedures relating to the provision of pedestrian and bicycle accommodations, and Federal participation in the cost of these accommodations. FHWA directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists. FHWA further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to avoid, minimize, and mitigate the detrimental effects on all highway users who share the facility (23 CFR 652).

ORS 366.514, AKA the "Bike Bill," was passed by the Oregon Legislature in 1971. Footpaths and bicycle trails, including curb cuts or ramps as part of the project, shall be provided wherever a highway, road or street is being constructed, reconstructed or relocated. It applies to ODOT, cities and counties. It also allows ODOT, cities and counties to spend reasonable amounts of their share of the state highway fund on facilities for pedestrians and bicyclists.

The 1990 Americans with Disabilities Act (ADA) extends to individuals with disabilities and provides civil rights protection similar to those provided to persons on the basis of race, sex, national origin, and religion under the Civil Rights Act of 1964. Federal-aid highway projects must comply with the ADA and do so by building transportation facilities that provide equal access for all persons. All projects shall comply with the most current ADA guidelines. The same degree of convenience, accessibility, and safety

available to the general public will be provided to persons with disabilities. Design, signing, and marking of pedestrian and bicycle facilities shall be in conformance with the Oregon Bicycle and Pedestrian Plan.

Note that forecast traffic data can take 1-2 years or more to obtain and be agreed to by FHWA, ODOT, and MPOs. Therefore, working on traffic data should occur early in the NEPA process.

Discuss impacts to Traffic and Transportation Facilities including pedestrian and bicycle for both existing and design year traffic. Forecasting future demands may be more difficult for certain modes or for certain situations, in these cases alternative methods may need to be employed to assess likely future demands and needs. For example, land use and development patterns may indicate a need for higher use pedestrian or bicycling facilities.

In general, the design year traffic should accommodate a 20-year forecast from the expected date of project opening. The analyst needs to determine design year traffic data using travel demand models, when available, or by processes given in the ODOT Analysis Procedures Manual. This work should be accomplished working with the local jurisdiction, MPOs, and the ODOT Transportation Planning and Analysis Unit (TPAU). The traffic information that is published in the DEIS and FEIS is expected to be fairly recent and may need to be updated if the project has experienced significant delay. Other sources of information include:

1. Highway Capacity Manual (Special Report 209 from the Transportation Research Board, Washington D.C.). This is where the concept of Level of Service (LOS) comes from. While most of it is geared to engineers, it can help clarify how the data are derived, particularly regarding LOS. Oregon uses the volume to capacity ratio (v/c ratio) as its performance measure. The v/c ratio is a measure that represents the ability of an intersection or road segment to be able to accommodate the vehicular demand or how saturated the intersection is by demand. A v/c over 1.0 is stating that there is no remaining capacity given the volume of traffic using it.

2. The Transportation System Plan of the local Comprehensive Plan of the jurisdiction(s) in which the proposed action is located. As with other local planning documents, the proposed action must be consistent with these Plan(s).

3. Crash Analysis: Assessing both crash history and likely future safety performance of a facility or project are both important. The use of general transportation safety principles can serve as a valuable guide: considering the needs of and accommodating all users, separation of potential conflicts and reducing the space and time for which there are potential conflicts, controlling relative speeds of users, providing adequate information for proper decisions, and providing a roadside area that allows vehicles to safely stop or recover.

   The Oregon Department of Transportation's Analysis Procedures Manual's Section 5.2 on crash analysis should be consulted to understand the process for crash analysis. See the ODOT Analysis Procedures Manual (APM) for analysis procedures.

The technical report will summarize the crash information from the Crash Analysis and Reporting (CARS) Unit for all roadways as well as the SPIS (Safety Priority Indexing System) and SIP (Safety Investment Program) for sections of the state highway system. The crash analysis should contain crash rates, conditions, causes and trends.

4. The most recent version of the State's Strategic Highway Safety Plan (Oregon's Transportation Safety Action Plan).

5. Input from any road safety studies or road safety audits.

6. Various Transportation Demand Management (TDM) guidance materials. These materials are useful for considering uses of buses, carpools, rail, bicycles. These documents can help support projects involving HOV lanes, transit ways (barricade-separated HOV lanes), bicycle lanes and other work on conventional highways, and even some Transportation System Management tools such as closed circuit TV.

7. Travel demand models, as appropriate. Note that key issues and the Purpose and Need may drive the need to look at split modes in a fairly quantitative way.

8. Pavement management systems

9. Oregon Highway Plan and ODOT Highway Design Manual

10. Oregon Bicycle and Pedestrian Plan

3.1.2 Affected Environment

1. In the references section of the EIS, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. Provide a map and discussion of the existing and planned roadway, transit, bicycle, and pedestrian facilities. Refer to local jurisdictions for appropriate planning documents. Include the study area boundary on the map.

3. Describe existing conditions in the study area, including any substandard design features on the existing system.

4. All data should be shown for the appropriate peak hour periods. Include the levels of service, v/c ratios, road types and lanes, and alternative mode facilities. Include tables and figures to aid the reader in understanding concepts such as v/c ratios and LOS. Discuss applicable mobility standards. Identify areas within the study area that do not currently meet mobility standards.

3.1.3 Environmental Consequences

1. Summarize forecast year design traffic. The description of traffic should include the following items as appropriate, comparing all build alternatives to the baseline (No-Build) alternative. Show modeled data for at least 20 years beyond the completion of construction.

    a. **Volume/capacity (v/c) ratio** and **Level of Service** shows density of traffic on the roadway. This is an item in which laypeople typically have an interest. Compare the forecast operational performance for each alternative to the mobility standard.

    Summarize by alternative changes in performance such as queue length, blocked intersections or ramps, length of delay, average speed, and hours of congestion.

    b. **Travel time and Delay**: Compare existing and forecast conditions by alternative using performance measures such as travel times or lengths of delay. Travel time is usually expressed as time a vehicle uses to travel over a specific route such as 6 minutes 52 second to travel from Point A to Point B. The travel times may also be expressed as time saved in vehicle miles traveled (vtm); vehicle hours traveled (vht) or total time saved per year. Delay is typically expressed as seconds of delay per car or seconds/minutes of delay on the mainline or the system.

    c. Describe the benefits provided by each project alternative for the roadway, transit, bicycle, and pedestrian systems, as well as any negative impacts (i.e., making pedestrian crossings more difficult).

    d. Describe if implementation of any of the alternatives would adversely affect the adjoining transportation system.

    e. As needed, describe deficiencies that are adjacent to the proposed improvement that will exist regardless of whether or not the project is built.

2. **IAMPs**. Ensure adequate coordination with relevant Interchange Access Management Plan (IAMP) work has occurred. Depending upon the complexity of the project access management and the IAMPs may be separate subsections in the Transportation Facilities Section. Not all projects will include IAMPs.

    Note: It is important for the project team to closely coordinate the IAMP & Access Management Strategy with their ODOT Planning Representative to determine the degree to which relevant information from these documents should be incorporated in the EIS document. ODOT expects to issue updated IAMP guidelines in Spring 2011.

3. Safety may not be improved for all users and it is important that the trade-offs be recognized and discussed. In this regard it is important that efforts made to use predictive modeling tools and techniques to forecast likely safety performance of a

facility or project. The traffic analysis should provide the analysis and discussion given the available and appropriate tools.

Describe how each alternative would improve safety. Examples may include installing loop sensors and signals at intersections or at on-ramps, adding turning lanes, adding an auxiliary lane, adding passing and climbing lanes, reducing the number of weave maneuvers required, improving merge distance, providing braided ramps, building a barrier to impede unsafe turning, access management strategies, removal of nonstandard design features, and design that meets driver expectations.

4. Describe how the project will change traffic patterns for residents, transit service, businesses, and emergency responders. The change in circulation or movement may be particularly important for transit, bicyclists, and pedestrians due to higher time costs of re-routing. For example, any impediments to street crossings may need to be considered.

5. Discuss compliance with the ADA. Discuss how the project will be accessible by persons with disabilities. If ADA is a key issue be sure that you adequately address Sections 201-222 of the Public Rights-of-Way Access Advisory Committee (PROWAC).

   https://www.access-board.gov/

6. Discuss how construction will impact traffic movement and operation during construction (e.g., accessibility for vehicles, bicycles and pedestrians; business access; detours, emergency response, accommodations made for bicycling, walking, and the ADA community). Quantify impacts, if possible (for example, estimate time delays, queuing, volume/capacity ratios).

3.1.4 Avoidance, Minimization, and/or Mitigation Measures

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Discuss any traffic or transportation mitigation proposed to address impacts caused by the project. Mitigation may also be identified for transportation system deficiencies analyzed in the no-build. In some cases, this mitigation will not be part of the proposed action. In these cases clarify deficiencies that will be pursued as other independent projects.

4. ODOT will prepare a traffic control plan to be used during construction, which would consider: detours, flaggers, time of day lane closure restrictions, weekend closure restrictions, staging plans, identifying detours, ADA considerations and local access considerations. Only known components of the traffic control plan need to be identified in the EIS. It is understood that all details of the traffic control plan may not be available at the EIS stage.

5. ODOT will prepare a public involvement plan for project construction outreach to engage those affected during project construction. ODOT will keep the project website up to date to reflect current information including construction activities.

6. Preparation of a Traffic Management Plan (TMP) is a common mitigation measure to include in this section. However, the plan itself will not be prepared until just prior to construction. Describe to the extent feasible what measures may be included in the Traffic Management Plan (TMP).

7. Traffic Management Plans may also include agreements with local agencies to provide enhanced infrastructure on arterial roads or intersections, to deal with detoured traffic. The enhancements MUST be temporary if federal funds are used.

References and Additional Guidance

ODOT Analysis Procedures Manual

Oregon's Transportation Safety Action Plan

Oregon Highway Plan

ODOT Highway Design Manual

Oregon Bicycle and Pedestrian Plan

Public Rights-of-Way Access Advisory Committee (PROWAC)

3.2 Land Use

This section addresses land uses and the potential impacts of the proposed action to identified land uses. Land use is often a broad topic as compared to most other disciplines addressed in an EIS. Each proposed action is unique, thus some subcategories of land use may not be applicable. The mandatory subcategories of land use include the following subcategories:

- Federal, State, Regional, and Local Plans
- Existing and Planned Land Uses

As appropriate to each proposed action, additional subcategories of land use may include:

- Coastal Zone
- Farmlands
- Wild and Scenic Rivers

The Land Use section heading should be followed by a brief introduction (no more than a paragraph) to the section, such as:

The Land Use section provides background information on existing and planned land uses, discusses possible impacts to land use by project alternatives, and includes potential mitigation actions that would prevent, diminish, or offset adverse land use impacts. This section also addresses project alternatives' compatibility and consistency with applicable land use plans and compliance with Oregon Statewide Planning Goals.

Most of the *specific* guidance relevant to land use subcategories is included in subsections further below. The following guidance addresses *broad* land use considerations, early coordination, and inter-related studies:

1. Under the Oregon SAC Rule (OAR 731-015-0075), where a proposed Class I (EIS) or Class III (EA) action would not be compatible with city and/or county comprehensive plans and/or not be compliant with Statewide Planning Goals, ODOT shall rely on the city and/or county to take the necessary land use actions (such as plan amendments or zone changes) between the Draft and Final EIS.

2. When a Goal Exception would be required in order for a proposed action to be compliant with Statewide Planning Goals, early development and narrowing of project alternatives must be cognizant of the rationale and process for obtaining a Goal Exception. In other words, the proper approach to a potential Goal Exception requires forethought, early coordination with the local jurisdiction(s), and the appropriate alternative narrowing protocol.

3. There are evident inter-relationships between the Land Use, Socioeconomics, and Transportation sections of Chapter 3. During NEPA technical studies, the specialists representing Land Use, Socioeconomics, and Transportation are

strongly advised to share information and work collaboratively in preparing their individual analyses. Use your best judgment in cross-referencing these inter-related sections to minimize duplicative text and to aid in readers' understanding of the related subject matter.

4. **The direct, indirect (in particular), and temporary land use impacts are important to share with other discipline analysts, as such land impacts should be used to inform potential indirect and cumulative impacts to built and natural resources.**

5. As further described in Chapter 4, Cumulative Impacts, a proposed project's indirect impacts on land use are an integral component of the cumulative impacts analysis.

3.2.1 Regulatory Setting

Including regulatory setting language can help communicate to the public why we analyze issues the way we do in an EIS. The regulatory settings for each land use subcategory are provided below. For subcategories Coastal Zone, Farmlands, and Wild and Scenic Rivers, the regulatory setting language may be shortened or omitted if the potential impacts to these land uses are absent or relatively minor.

3.2.1.1 Federal, State, Regional, and Local Plans

Since 1973, Oregon has maintained a strong statewide program for land use planning. The foundation of that program is a set of 19 Statewide Planning Goals. The goals express the state's policies on land use and on related topics, such as citizen involvement, housing, and natural resources. Oregon's planning laws strongly emphasize coordination -- keeping plans and programs consistent with each other, with the goals, and with acknowledged local plans. OAR 731 Division 15 establishes the procedures used by the Department of Transportation to implement the provisions of its State Agency Coordination Program which assure that Department land use programs are carried out in compliance with the statewide planning goals and in a manner compatible with acknowledged comprehensive plans, as required by ORS 197.180 and OAR 660, Divisions 30 and 31.

3.2.1.2 Existing and Planned Land Use

The National Environmental Policy Act (NEPA), 42 USC 4321 et seq., requires that all actions sponsored, funded, permitted, or approved by federal agencies be reviewed to ensure that environmental considerations such as impacts on land use are given due weight in project decision-making. Federal implementing regulations are at 40 CFR 1500-1508 (CEQ) and 23 CFR 771 (FHWA and FTA). CEQ regulations and FHWA Technical Advisory T6640.8A require that an EIS include discussion of possible conflicts between the proposed action and the objectives of Federal, Tribal, regional, state, and local land use plans, policies, and controls for the area concerned, and the extent to which the agency would reconcile its proposed action with the plan or law.

3.2.1.3 Coastal Zone

The Coastal Zone Management Act of 1972 (CZMA) is the primary federal law enacted to preserve and protect coastal resources. The CZMA sets up a program under which coastal states are encouraged to develop coastal management programs. States with an

approved coastal management plan are able to review federal permits and activities to determine if they are consistent with the state's management plan.

The Oregon Coastal Management Program (OCMP) was enacted in 1977. The mission of the OCMP is to provide the public with sustainable coastal natural resources. This means Oregon's resources will be vital, accessible, plentiful, free of pollution, and where appropriate developable. To accomplish the mission, the OCMP knits together various state statutes for managing Oregon's coastal lands and waters into a single, coordinated package. The OCMP is administered by the Department of Land Conservation and Development (DLCD). All consistency determinations, consistency certifications and proposals for federal assistance are reviewed by the DLCD for consistency with the OCMP. Oregon Statewide Planning Goals 16, 17, and/or 18 may also apply to coastal lands.

3.2.1.4 Farmlands / EFU Lands

The National Environmental Policy Act (NEPA) and the Farmland Protection Policy Act (FPPA, 7 USC 4201-4209; and its regulations, 7 CFR Part 658) require federal agencies to coordinate with the Natural Resources Conservation Service (NRCS) if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

Oregon Statewide Planning Goal 3 defines "agricultural lands" and requires counties to inventory such lands and to "preserve and maintain" them through farm zoning as documented in the jurisdiction's comprehensive plan. Details on the uses allowed in farm zones are found in ORS Chapter 215 and in Oregon Administrative Rules, Chapter 660, Division 12 and Division 33.

3.2.1.5 Wild and Scenic Rivers

The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development. It encourages river management that crosses political boundaries and promotes public participation in developing goals for river protection.

The Oregon Scenic Waterways Act was passed in 1970, recognizing that wise individual and public use of these special rivers and adjacent lands is necessary. The Oregon Scenic Waterways Program was designed to protect and enhance the natural, esthetic, scenic, fish and wildlife, scientific, and recreational values of segments of designated rivers and ensure that they remain free-flowing without dams or other impoundments. The Oregon Administrative Rules for scenic waterways are at OAR 736 Division 40.

3.2.2 Affected Environment

This subsection describes relevant land use policies and plans, existing and proposed land use, and other special land use designations [specify which ones apply] that could be affected by the proposed action.

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. Include a description of the Area of Potential Impact (API). This should include areas directly affected by the project and nearby communities that could be indirectly affected by the project.

3. The API for land use includes [specify project site and other areas directly affected by the project] that could be directly affected by the project. It also includes [specify areas indirectly affected by the project] that could be indirectly affected by the project. [provide a short explanation that explains why the API was chosen].

4. Potential sources for land use information include, but are not limited to:

    a. Land Use Technical Report
    b. Socioeconomic Technical Report
    c. Transportation Technical Report
    d. Right-of-Way Technical Report
    e. City and/or county comprehensive plan and local special area plans and/or overlays. Keep in mind that comprehensive plans may be out-of-date and planned developments may not have happened.
    f. Local population and employment forecasts
    g. ODOT Region and/or local jurisdiction agency planning staff members
    h. Land use maps and aerial maps
    i. Environmental documents for other types of projects
    j. Federal land management agencies
    k. Area Chamber of Commerce
    l. Tribal authorities
    m. Newspaper articles on growth, housing, etc.

5. For detailed guidance on assessing and reporting indirect land use impacts, see “A Guidebook for Evaluating the Indirect Land Use and Growth Impacts of Highway Improvements” (2001).

6. Describe the Affected Environment for each of the following land use subcategories, as appropriate.

3.2.2.1 Federal, State, Regional, and Local Plans

1. Briefly summarize the plans and policies that guide land use in the project area. This should include plans and policies for the immediate project area as well as surrounding communities where future land use could be indirectly affected by the project. The discussion should identify when the relevant plans were adopted and

the periodicity of each plan. The following types of plans need to be briefly discussed as they pertain to the project, providing a subheading for each plan:

a. Regional Transportation Plans and Transportation Improvement Programs (RTPs and TIPs) in Metropolitan Planning Organization (MPO) areas (Portland, Salem/Keizer, Corvallis, Bend, Eugene/Springfield, and Rogue Valley).
    i. Portland: https://www.oregonmetro.gov/index.cfm/go/by.web/id=118
    ii. Salem/Keizer: http://www.mwvcog.org/programs/transportation-planning/skats/
    iii. Corvallis: http://www.corvallisareampo.org/
    iv. Bend: https://www.bendoregon.gov/government/departments/growth-management/bend-mpo
    v. Eugene/Springfield: https://www.lcog.org/542/Central-Lane-MPO
    vi. Rogue Valley: https://rvmpo.org/
b. Comprehensive Plans (both City and County), including:
    i. Transportation System Plans (TSPs)
c. Oregon Highway Plan: https://www.oregon.gov/ODOT/TD/TP/orhwyplan.shtml
d. Habitat Conservation Plans or similar regional conservation plans
e. Statewide Planning Goals: https://www.oregon.gov/lcd/OP/Pages/index.aspx
f. Federal Land Management Plans
g. Tribal Land Management Plans

3.2.2.2 Existing Land Use

1. Describe Existing Land Uses and/or zoning within and adjacent to the project API. For developed lands, it is more important to describe existing land uses; for undeveloped lands, it is more important to describe land use zoning. Land use and zoning categories could include, but are not limited to: housing / residential, retail / commercial, industrial, parks / recreation, government / institutional, community services, agricultural, utilities, emergency services, transportation, undeveloped land, Federal / Tribal land, etc.

2. Discuss where existing land use differs from zoning. Discuss local and regional commute patterns and major employers, as appropriate.

3. Provide a map depicting existing / zoned land uses within and adjacent to the project API.

3.2.2.3 Planned Land Use

1. Describe growth and development trends (i.e., over the last 5 to 10 years) in the vicinity of the project API and regionally, as appropriate. Discuss buildable land inventories within the relevant Urban Growth Boundary(ies) (UGB), including maps as appropriate.

2. Identify any and all proposed development plans (including UGB expansion), the relevant jurisdiction, the size and proposed uses, and the status of the proposal. For example:

   a. Are there constraints to the proposed development (such as topography, floodplains, soil, finances, etc.)?

   b. Is the proposed development "reasonably foreseeable"? Under NEPA, indirect impacts need only be evaluated if they are "reasonably foreseeable" as opposed to remote and speculative. Some indicators of "reasonably foreseeable could include, but are not limited to:

      i. The proposal is recognized by the local jurisdiction.
      ii. There is a master plan for the proposal.
      iii. A building permit been applied for or received.

   c. If a development proposal has been shelved for some time, what have been the impediments?

   d. Use a table, as appropriate, to present the proposed development information. For example:

Name	Jurisdiction	Proposed Uses	Status
Jet Air	City of …	24 industrial lots on 19 hectares (48 acres)	Final map currently being developed. No construction.
Telegraph Canyon Estates (St. Claire)	County of …	345 single family dwellings, 12 hectares (30 acres) open space, and 2 park sites	Master Plan complete.
East Lake Greens SPA		Mixed residential, commercial, schools, park, golf course, open space	Under construction.
Salt Creek 1		219 single family and 331 multiple units and 6 hectares (15 acres) open space on 50 hectares (124 acres)	Would require UGB expansion, which is proposed but has not occurred.

   e. As appropriate, provide a map depicting proposed development(s).

3.2.2.4 Coastal Zone

If the proposed project is located within the coastal zone, discuss the location of the project (include map) with respect to the coastal zone, regulatory jurisdiction (Statewide and/or Local), and Statewide Planning Goals.

3.2.2.5 Farmlands / EFU Lands

1. Under the FPPA, when a project would result in a substantial amount of farmland conversion, provide a general discussion of the agricultural resources and character of agriculture in the project area. Such a discussion might include the amount of land under cultivation, important crops, the value of agricultural production, a description of trends in farmland conversion in the particular county, and a description of applicable comprehensive plan elements, ordinances, and other policies related to agriculture in the project area.

2. Describe any Exclusive Farm Use (EFU) lands or other farm uses protected in local comprehensive plan(s) and/or under Oregon's Statewide Planning Goals.

3. Provide a map or maps showing the location of all farmlands, including EFU lands, in the project area.

4. Identify soil types and whether the soil is considered prime or not. Identify whether or not the land needs to be irrigated and if adequate water rights are present for irrigation.

3.2.2.6 Wild and Scenic Rivers

1. If the proposed project could affect a Wild and Scenic River, an Oregon Scenic Waterway, or a river under study for either designation, describe the river, its designation in the project area, and list the agency(ies) with jurisdictional authority.

2. For designated Oregon Scenic Waterways, the Oregon Parks and Recreation Department must be notified of certain activities proposed within ¼ mile of the bank of Oregon's designated scenic waterways. Such activities include cutting of trees, mining, construction of roads, railroads, utilities, buildings, or other structures. The proposed uses or activities may not be started until the written notification is approved, or until one year after the notice is accepted.

3.2.3 Environmental Consequences

This subsection addresses the direct, indirect, and temporary impacts of the proposed project on land use.

For detailed guidance on assessing and reporting indirect land use impacts, see "A Guidebook for Evaluating the Indirect Land Use and Growth Impacts of Highway Improvements" (2001).

The direct, indirect (in particular), and temporary impacts to land use are important to share with other discipline analysts, as such land impacts should be used to inform potential indirect and cumulative impacts to built and natural resources.

3.2.3.1 Federal, State, Regional, and Local Plans

This subsection should review the project's consistency with each Federal, State, Regional and Local Plan identified above in Affected Environment (3.2.2.1). A summary table may be used, as appropriate. A more specific discussion of compatibility with city/county comprehensive plans and compliance with Statewide Planning Goals should be deferred to the below subsections.

Compatibility with Local Comprehensive Plans

1. If the proposed project is compatible with applicable city and/or county comprehensive plans, provide a finding statement that clarifies that no local land use actions would be needed in support of the proposed project.

2. If the proposed project would require local jurisdictional land use actions (e.g., zone changes or overlays, plan amendment, new or revised ordinances, etc.) in order for the project to proceed, describe the local land use changes that would be necessary and indicate the appropriate jurisdictional authority(ies). Local land use

actions in support of associated Interchange Area Management Plan(s) should also be discussed.

3. If required land use actions differ between project alternatives, describe or indicate these differences.

4. **Under the SAC Rule (OAR 731-015-0075), any land use actions required in order for the project to be compatible with the local comprehensive plan(s) must be taken between the DEIS and FEIS. Therefore, the FEIS should not reference local jurisdiction land use actions needed to support the project that have not yet been taken. Exceptions may apply to projects that will be constructed in phases – see the SAC Rule for further explanation.**

Compliance with Statewide Planning Goals

1. If the proposed project would be in compliance with Statewide Planning Goals, provide a finding statement that clarifies that no Goal Exception would be needed in support of the proposed project.

2. If a Goal Exception would be required for the proposed project, describe the nature of the Goal Exception, indicate the jurisdictional authority, and differentiate between project alternative requirements. The Goal Exception process involves a process that requires avoidance unless no reasonable alternative exists. Therefore, it is likely that the Goal Exception process will play a key role in determining the Preferred Alternative.

3. **If a Goal Exception or conditional use permit pursuant to OAR 660-012-0065 is required to support the Preferred Alternative, it must be taken between the DEIS and FEIS.**

3.2.3.2 Existing Land Use

1. Discuss potential direct, indirect, and temporary impacts to existing land uses in and adjacent to the project API. Impacts to existing land use could include, but are not limited to:

   a. Changing the ability of property owners to use their land for an existing land use;

   b. Converting lands from their existing land use to a transportation land use;

   c. Requiring changes to land use zoning

   d. Full or partial property acquisitions (cross-reference with the Right-of-Way section, as appropriate);

   e. Land use disturbances during construction;

   f. Causing changes to existing accesses;

   g. Causing changes to existing business(es) visibility.

3.2.3.3 Planned Land Use

1. Discuss potential direct, indirect, and temporary impacts to planned land uses in and adjacent to the project API. Impacts to planned land use could include, but are not limited to:

    a. Requiring changes to land use zoning; affects on building land inventories

    b. Changing the ability of property owners to use their land for a planned / allowed land use;

    c. Speeding or impeding planned development and/or redevelopment in the immediate project area;

    d. Influencing development in the immediate project area where no development currently exists;

    e. Facilitating particular types of land use in an area where such land use is not planned, or preventing particular land uses in an area where such land use is planned.

2. Discuss how, if at all, the proposed project could influence (primarily through indirect impacts) planned land use and development beyond the immediate project area. Some transportation projects will have no influence on local / regional growth and development, others will have a moderate influence, and on rare occasions others will greatly influence development. In assessing potential indirect land use impacts from the proposed project and how they could moderately or greatly influence city-wide or regional development patterns or rates:

    a. Consider potential changes in accessibility to possible or existing destination areas based on travel time (for local and through traffic as appropriate);

    b. Consider potential changes exposure and visibility for possible or existing destination areas based on changes in traffic volume or speed;

    c. Consider whether the proposed project would facilitate particular types of land use in areas where such land use is not planned, or would impede particular land uses in an area where such land use is planned;

    d. Where substantial changes in travel times, accessibility, exposure, and visibility of possible or existing destination areas does not occur, a determination that the area of development influence is likely to be limited to properties directly impacted by the proposed action may be made. In this case indicate that no further indirect development and growth influence analysis is warranted.

3. If there are indications that the proposed project would influence development patterns or rates beyond the immediate project area (i.e., city-wide or regional effects):

a. Describe how the "development influence area" for the analysis was determined and what the "development influence area" is (provide maps, as appropriate).

b. Identify potential for development and growth-related influence for each alternative and describe the rationale for these indirect impacts as derived from traffic, land use, and socio-economic information.

c. Assess the development-related impacts of each alternative to resources of concern (such as farm or forest lands, historic resources, water quality, wetlands, etc.). Identify if and to what extent the development influence would affect resources of concern.

4. If it is determined that development and growth-related influences would not affect resources of concern, these findings should also be documented in the EIS.

3.2.3.4 Coastal Zone

Discuss anticipated impacts within the coastal zone (summarize and cross-reference other sections as appropriate); consistency of the project with the Oregon Coastal Management Program, and any needed permits and approvals.

3.2.3.5 Farmlands / EFU Lands

1. Compare farmland conversion from the project to farmland conversion locally, in the county, or in the region, and the state. Discuss impacts to agricultural land in general, impacts to farmland by category (prime, unique, etc.), and impacts to EFU land. This information can be shown in a comparison table, which should also include the percentage of the county's total agricultural land and prime farmland that would be converted or affected by the project (i.e., the number of acres of EFU that would be converted to a transportation use). See sample table below.

Farmland Conversion by Alternative					
Alternatives	**Land Converted (acres)**	**Prime and Unique Farmland (acres)**	**Percent of Farmland in County**	**Percent of Farmland in State**	**Farmland Conversion Impact Rating**
A	242	131.4	0.47	0.25	153.2
B	713	139.1	0.15	0.05	188.0
C	226	59.0	0.20	0.05	136.4

Source: Form NRCS-CPA-106 (Farmland Conversion Impact Rating for Corridor-Type Projects).

2. Discuss any conflicts with existing zoning for agricultural use. Under Oregon's Statewide Planning Goals, if the proposed project would require a Goal Exception for impacts to protected farmlands (i.e., zoned EFU or other protected farm uses), the applicant must demonstrate that no other reasonable alternative exists that avoids the farmland.

3. The following information should be included in the discussion:
   a. Identification of impacts on agricultural lands and on prime or unique farmland in the project area, mentioned above.

b. Identification of agricultural parcel(s) that would be bisected or parcelized, rendering the parcel(s) no longer viable for agricultural uses. Consider difficulties introduced by the proposed improvement – such as moving equipment, spray practices etc).
c. Completion of a "Farmland Conversion Impact Rating" (Form AD-1006), if appropriate. A score of 160 on this form is typically used as the point in which mitigation and significance are given closer looks. Include completed AD-1006 form in the Land Use Technical Report.
d. Evidence of coordination with local agriculture commissioner, USDA and/or the Natural Resource Conservation Services (NRCS), as appropriate.

3.2.3.6 Wild and Scenic Rivers

1. Describe anticipated impacts to national and/or state scenic rivers:

   a. Would the proposed project have an adverse impact on free-flowing characteristics of the river?
   b. Would the proposed project alter the river segment's criteria of wild, scenic, or recreational?
   c. Is there a feasible avoidance alternative?
2. Cross-reference other sections of the document as appropriate such as Section 4(f), Section 6(f), and ESA.

3. Summarize the coordination efforts to date with jurisdictional agencies. Federal agencies responsible for managing listed or studied rivers include the National Park Service, U.S. Fish and Wildlife Service, Bureau of Land Management and U.S. Forest Service. Oregon Parks and Recreation Department is the jurisdictional authority for Oregon Scenic Waterways. Document coordination with the river's responsible managing agency(ies) and the results of the consultation in the environmental document.

3.2.4 Avoidance, Minimization, and Mitigation Measures

This subsection addresses avoidance, minimization, and mitigation measures proposed to address the direct, indirect, and temporary impacts of the proposed project on land use.

3.2.4.1 Federal, State, Regional, and Local Plans

1. If not already described in section 3.2.3.1 above, describe any potential or recommended mitigation measures for addressing impacts to Federal, State, Regional, and Local Plans.

2. Refer the reader to "Compatibility with Local Jurisdictional Plans" and/or "Compliance with Statewide Planning Goals" in section 3.2.3.1, as appropriate, where measures required for such compatibility or compliance have already been discussed.

3.2.4.2 Existing and Planned Land Use

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Describe potential mitigation measures, which may be incorporated into the proposed project. Examples include, but are not limited to:

- Access control
- Overlay zones

3.2.4.3 Coastal Zone

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Describe potential mitigation measures, which may be incorporated into the proposed project.

3.2.4.4 Farmlands / EFU Lands

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Describe potential mitigation measures, which may be incorporated into the proposed project.

3.2.4.5 Wild and Scenic Rivers

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Describe potential mitigation measures, which may be incorporated into the proposed project.

References and Additional Guidance

"A Guidebook for Evaluating the Indirect Land Use and Growth Impacts of Highway Improvements," Final Report, prepared by ECONorthwest for ODOT and FHWA, April 2001. (Appendices A-C) (Appendices D-F)

A Review and Synthesis of the Requirements for Indirect and Cumulative Impact Analysis and mitigation under Major Environmental Laws and Regulations (2006). Prepared for: American Association of State Highway and Transportation Officials (AASHTO) by: Transportation Research Board under the National Cooperative Highway Research Program (NCHRP).

NCHRP Report 466—Desk Reference for Estimating the Indirect Effects of Proposed Transportation Projects (2002). Prepared for the National Cooperative Highway Research Program by The Louis Berger Group.

Farmland Protection Policy Act Program (Natural Resources Conservation Service)

OAR 731-015-0075, Coordination Procedures for Adopting Plans for Class 1 and 3 Projects (OAR 731 Division 15)

Oregon Coastal Management Program

Oregon Statewide Planning Goals

Oregon Scenic Waterways Program

Oregon Scenic Waterways

ODOT e-Guide Transportation Planning/Land Use

3.3 Right-of-Way and Utilities

3.3.1 Regulatory Setting

In cooperation with the Federal Highway Administration (FHWA), the ODOT Right of Way Section implements Public Law 91-646, the Uniform Relocation Assistance and Real Properties Acquisition Policies Act of 1970, as amended (Uniform Act). The Uniform Act ensures the fair and equitable relocation and reestablishment of persons, businesses, farms and nonprofit organizations displaced as a result of federal or federally assisted programs. The objective of the Uniform Act is to ensure that persons displaced as a direct result of Federal or federally-assisted projects are treated fairly and consistently, and equitably so that such displaced persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. The ODOT Right of Way Section and its Region Right of Way offices through its Relocation Assistance Program assures compliance with the Uniform Act and Federal rules and regulations. Please see Appendix [X] for a summary of ODOT's relocation process.

Relocation policies and procedures under the administration of the Oregon Department of Transportation shall be non-discriminatory in accordance with Title VI of the Civil Rights Act of 1964, which states: "Section 601: No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal Financial Assistance." Please see Appendix [X] for a copy of ODOT's Title VI Policy Statement.

3.3.2 Affected Environment

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. Describe the study area, focusing on any residential areas where right of way will need to be acquired for the project. If a Draft Right of Way Technical Report is prepared for the project, summarize those findings and then incorporate the report by reference.

3. Describe the study area, focusing on any business areas (including farms and non-profits) where right of way will need to be acquired for the project. If a Draft Right of Way Technical Report is prepared for the project, summarize those findings and then incorporate the report by reference.

4. Clearly state if utility relocation is part of the proposed federal action. If the utility relocation is part of the federal action, then all of the impacts associated with those relocations must be accounted for in the environmental document. If the utility relocation is a separate action that must be taken by the utility companies those companies are responsible for environmental compliance. Generally if utilities are in the right of way by permit, the relocation is the responsibility of the utility companies. However, it may be determined that it is in the public interest to include utility relocation as part of the federal action.

a. Include a brief description of all utility systems that could be affected by the proposed action, including water, sewer, electric power, natural gas, street lighting, and telecommunication systems.

b. Describe and include a map of any transmission lines, pump stations, or other infrastructure that could be affected. Include the study area boundary on the map.

3.3.3 Environmental Consequences

Separate tables and maps are not required to disclose residential and business relocations.

1. Residential Relocations and Right-of-Way Impacts

a. It is preferable to provide a table that lists all of the proposed residential acquisitions by street address (as they are easier for the reader to absorb) and a parcel level map that clearly depicts the proposed alternative footprints overlaid (so that property owners can "see" the estimated impact to their property). However, if there are local sensitivities to providing addresses in table format, then the map should be of the highest quality so that local features are clearly identifiable and labeled and land owners can easily and readily identify their property, and potential Right-of-Way (ROW) impacts from the proposed alternatives. Include an estimate of total amount of ROW, to the nearest acre, that would be acquired for the proposed action.

b. Identify the number of households that would be displaced, including the known family characteristics (e.g., minority, ethnic, handicapped, elderly, large family, income level, and owner/tenant status). This information may be derived from the Socioeconomics Technical Report which includes Environmental Justice impacts. However, where there are very few proposed displacements, information on race, ethnicity and income levels should not be included in the EIS to protect the privacy of those affected.

ROW impacts to Environmental Justice populations should also be enumerated in the Environmental Justice subsection of this chapter.

c. Include a discussion comparing available (decent, safe, and sanitary) housing in the area with the housing needs of those displaced. The comparison should include (1) price ranges, (2) sizes (number of bedrooms), and (3) occupancy status (owner/tenant).

d. Include discussion of any factors which may require special relocation considerations. For example, impacts to mobile home parks that have older homes. Do other mobile home parks in the area have vacancies? Do older housing units meet the criteria of the facilities with vacancies?

e. Right-of-Way impacts are based on information that is available at this time and may change as the project further develops and when the project completes final design.

2. Business Relocations and Right-of-Way Impacts

a. Provide an estimate of the numbers, descriptions, types of occupancy (owner/tenant), and sizes (number of employees) of businesses (including farms and non-profits) to be displaced. Describe any other estimated impacts such as private approach road relocations or impacts associated with partial acquisition of properties (such as parking). For relocations the discussion should identify (1) sites available in the area to which the affected businesses may relocate (including vacancy rates), (2) likelihood of such relocation, and (3) potential impacts on individual businesses (including farms and non-profits) caused by displacement. If a Draft Right of Way Technical Report is prepared for the project, summarize those findings and then incorporate the report by reference.

b. It is preferable to provide a table that lists all of the proposed business acquisitions by street address (as they are easier for the reader to absorb) and a parcel level map that clearly depicts the proposed alternative footprints overlaid (so that property owners can "see" the estimated impact to their property). However, if there are local sensitivities to providing addresses in table format, then the map should be of the highest quality so that local features are clearly identifiable and labeled and land owners can readily identify their property and potential ROW impacts from the proposed alternatives. Include an estimate of total amount of ROW, to the nearest acre, that would be acquired for the proposed action.

c. Right-of-Way impacts are based on information that is available at this time and may change as the project further develops and when the project completes final design.

3. Utility Impacts

a. The Region Utility Specialist can help identify potential utility impacts. Describe all temporary and long-term impacts to utilities. If utility relocations are considered part of the proposed action, then describe impacts in this section. Include cost estimates for utility relocations by alternative. A table may be used to display this information.

b. If the relocation of utilities causes any other resource impacts (i.e., wetlands) then those impacts should be included in the appropriate resource sections.

3.3.4 Avoidance, Minimization, and/or Mitigation Measures

1. Residential Relocations and Right-of-Way

a. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

b. Include a summary of minimization measures that have been incorporated into the project alternatives. Provide a discussion of the results of contacts with local governments, organizations, groups, and individuals regarding

residential relocation impacts, including any measures or coordination needed to reduce general and/or specific impacts. These contacts are encouraged for projects with large numbers of relocatees or complex relocation requirements.

If the project is considering mitigation that is beyond what the Uniform Relocation Act may provide, coordinate with ODOT Region Right of Way Office to identify any financial or incentive programs that may be available through other agencies or organizations.

c. In developing mitigation measures, give consideration to the availability of replacement housing, which must be decent, safe, and sanitary.

d. A discussion of the measures to be taken where the existing housing inventory is insufficient, does not meet relocation standards, or is not within the financial capability of those displaced should be provided. A commitment to last resort housing should be included when sufficient comparable replacement housing may not be available.

2. Business Relocations & Right-of-Way

a. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

b. Include a summary of minimization measures that have been incorporated into the project alternatives. Provide a discussion of the results of contacts with local governments, organizations, groups, and individuals regarding business relocation impacts, including any measures or coordination needed to reduce general and/or specific impacts. These contacts are encouraged for projects with large numbers of relocatees or complex relocation requirements.

Specific financial and incentive programs or opportunities (beyond those provided by the Uniform Relocation Act) to business relocates to minimize impacts may be identified, if available through other agencies or organizations. Coordination with the ODOT is essential in determining incentive programs that may be available. Contact the appropriate ODOT Region Right of Way Office for clearance before identifying any incentive programs.

c. Describe potential mitigation measures, which may be incorporated into the proposed project.

3. Utilities

a. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

b. Describe minimization measures that were considered and those which were incorporated into the proposed project.

c. Describe potential mitigation measures, which may be incorporated into the proposed project.

3.4 Environmental Justice

This section should summarize all resource impacts specific to EJ populations including but not limited to:

Air, noise, water quality, hazmat, aesthetics, community cohesion, employment, accessibility, relocation, construction, farmland, traffic congestion, and safety.

3.4.1 Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Title VI of the Civil Rights Act and Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. Title IV prohibits discrimination on the basis of race, color, or national origin. EO 12898 directs each federal agency, "[t]o the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review, each agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, polices, and activities on minority populations and low-income populations. . ." (EO 12898 Section 1-1.)

The following are the FHWA definitions for EJ populations:

Low-income Population means any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who would be similarly affected by a proposed FHWA program, policy, or activity.

Minority Population means any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient person (such as migrant workers or Native Americans) who will be similarly affected by a proposed FHWA program, policy, activity.

If your analysis does not identify any EJ populations as defined above, your EJ analysis is complete and you should disclose that finding. It is not adequate to simply rely on the census data. You may need local information to verify EJ groups are not in the project area. The level of effort required to obtain local information is not expected to be extraordinary.

A relatively small minority or low-income population in the project, study, or planning area does not eliminate the possibility of a disproportionately high and adverse impact on these populations. Analysts should neither overemphasize the integrity of "small" populations, nor dismiss them out of hand. Context, circumstances, and comparative impacts should drive the analysis. The analysis should demonstrate comparative impacts on EJ populations in relation to non-minority and/or higher income populations.

Additional EJ guidance is available at the U.S. Department of Transportation/FHWA Environmental Justice website.

3.4.2 Affected Environment

Population and Households

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. Describe local and regional populations and households including historic trends, current conditions, and forecast growth. Average household size should also be described in this section. Demographic data may come from:

    a. The US Census Bureau's American FactFinder

    b. Portland State University Population Research Center

    c. Local sources, such as a city's or county's comprehensive plan and development plans, metropolitan planning organization, council of governments' forecasts, proportion of students participating in free and reduced cost food programs, etc. should also be consulted.

    d. Most cities have a web page that can provide helpful information.

    e. Interviews with ODOT Public Involvement and ROW staff familiar with the area.

Low Income

1. Low income households (for the purposes of EJ assessments) are defined as those whose household income is at or below the U.S. Department of Health and Human Services (HHS) poverty guidelines. The current version of the HHS Poverty Guideline table should be provided in EIS documents where detailed environmental justice assessments are included.

2. Readily identifiable groups of low income populations as identified by Executive Order 12898 may also be discussed in the Socioeconomic Household Income Section.

Race and Ethnicity

1. Identifying both race and ethnicity of project area populations are important to development of the community profile and to contribute to the environmental justice assessment.

2. Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color, or national origin. The Office of Management and Budget (OMB) issued Policy Directive 15, Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity, in 1997, establishing five minimum categories for data. Executive Order 12898 and the DOT and FHWA Orders on Environmental Justice address persons belonging to any of the following groups:

a. **Black** - a person having origins in any of the black racial groups of Africa.

b. **Asian** - a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent.

c. **American Indian and Alaskan Native** - a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition.

d. **Native Hawaiian or Other Pacific Islander** - a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

e. **Hispanic** - a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

1. Hispanic origin is an ethnicity reflecting shared culture and language, so persons of Hispanic origin can be of any race. For instance, someone who or whose family originated in Cuba or Puerto Rico may be both black and Hispanic. Someone with Mexican origins could be both American Indian and Hispanic.

2. As a result, grouping minorities into one category must be done carefully to ensure accurate analysis and avoid double-counting. Special attention must be paid to which Hispanic population racial subgroups should be added to the racial minorities identified above. In 2000, nearly half (48 percent) of Hispanics when responding to the question on race reported only “White”, while approximately 42 percent reported only “Some other race”. A total of less than 4 percent of Latinos reported “Black or African American” alone, “American Indian and Alaska Native” alone, “Asian” alone, or “Native Hawaiian and Other Pacific Islander” alone. Over six percent reported “Two or more races”.

3. Data to describe race and ethnicity of project area populations may come from:

   a. The US Census Bureau’s American FactFinder

   b. School districts maintain records on racial and ethnic minority students. This information can suggest more current trends or conditions when census data have not been recently updated.

   c. Local specialty newspapers or community groups can help identify activity centers, community values, and concerns of the populations they serve. ODOT ROW, city planners, and/or Public Involvement staff may have good contacts and local information.

Outreach to Environmental Justice Populations

Describe all activities that were used to specifically outreach to EJ populations. In this section, do not list general project public involvement activities except in the elements that are specifically tailored for EJ outreach. Examples include translators available at public meetings and materials in non-English languages.

3.4.3 Environmental Consequences

1. If no low-income or minority populations have been identified, summarize in the environmental document all the efforts undertaken to identify such populations and conclude the section with the following language:

   In compliance with EO 12898, no minority or low-income populations have been identified and therefore this project would not cause disproportionately high and adverse impacts.

   If this finding is appropriate, then your EJ analysis is complete. Further discussion will not be included in the Socioeconomics Analysis (Section 3.5).

2. If there are low-income or minority populations in the project area, are there disproportionately high and adverse impacts to those populations relative to either non-minority or higher impact populations? Consider and discuss the following in the environmental document:

   a. The beneficial and adverse impacts on the overall population and on minority and low-income populations or communities, in particular.

   b. Summarize impacts that affect EJ groups. Examples of potential topics: air, noise, water pollution, hazardous waste, aesthetic values, community cohesion, economic vitality, employment impacts, displacements/relocations, farmland impacts, accessibility, traffic congestion, safety and construction impacts. Provide a complete description of all impacts that would be borne by the EJ group(s). Do not simply refer the reader to the other resource sections. This information should be synthesized from the various resource technical reports.

   c. Avoidance, minimization, and mitigation measures and all offsetting benefits to affected populations may be taken into account in determining whether impacts are disproportionately high and adverse.

   d. Remember, you are looking for project level disproportionately high and adverse impacts on low-income and minority populations not zero impacts. What is needed is to show the comparative impacts on these populations in relation to either non-minority or higher income populations. The evaluation should reflect the whole project area and should not be conducted separately for segments.

   e. As appropriate, include the following concluding statement: Based on the above discussion and analysis, the [XYZ] alternative(s) will not cause

disproportionately high and adverse effects on any minority or low-income populations as per E.O. 12898 regarding environmental justice.

3. **If it appears your project's analysis indicates the EJ finding could be a disproportionately high and adverse impact to EJ populations, coordinate a meeting with ODOT Geo-Environmental and FHWA to review the analysis and determine next steps for the proposed action.**

If the Preferred Alternative **will** cause disproportionately high and adverse impacts to the protected populations, the project is not doomed. Follow the steps in the FHWA Guidance on Environmental Justice (12/2/1998). Item #5d(d) in the Guidance describes under what conditions a project may go forward despite its disproportionate impact on protected populations. These conditions include:

(1) a substantial need for the program, policy or activity exists, based on the overall public interest; and

(2) alternatives that would have less adverse effects on protected populations have either:

i. adverse social, economic, environmental, or human health impacts that are more severe; or

ii. would involve increased costs of an extraordinary magnitude.

If you do find that you have a disproportionately high and adverse impact on low-income and minority populations use the following language: Alternative [x, y, z] will cause a disproportionately high and adverse effect on EJ populations.

3.4.4 Avoidance, Minimization, and/or Mitigation Measures

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Describe potential mitigation measures, which may be incorporated into the proposed project.

4. Include a discussion of any proposed measures to minimize or mitigate high and adverse, disproportionate impacts to minority or low-income populations. Refer to the FHWA EJ website for case studies/examples.

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this project. ODOT's commitment to uphold the mandates of Title VI is evidenced by its Title VI Policy Statement, signed by the Director, which can be found in Appendix [X] of this document.

References and Additional Guidance

Executive Order (EO) 12898

U.S. Department of Health and Human Services (HHS) poverty guidelines

Title VI of the Civil Rights Act

Policy Directive 15, Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity

DOT and FHWA Orders on Environmental Justice

FHWA Guidance on Environmental Justice (12/2/1998)

FHWA EJ website

3.5 Socioeconomic Analysis

This section is organized differently than other sections in this chapter (i.e., the subsection headings of the Affected Environment do not directly match the subsection headings of Environmental Consequences.)

3.5.1 Regulatory Setting

The National Environmental Policy Act of 1969 as amended (NEPA), established that the federal government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 U.S.C. 4331[b][2]). The Federal Highway Administration in its implementation of NEPA (23 U.S.C. 109[h]) directs that final decisions regarding projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as, destruction or disruption of human-made resources, community cohesion and the availability of public facilities and services.

The framework provided by Executive Order 12898 on Environmental Justice and the U.S. DOT Order (5610.2) addresses only minority populations and low-income populations. However, concentrations of the elderly, children, disabled, and other populations protected by Title VI of the Civil Rights Act of 1964 and related nondiscrimination statutes will also be discussed.

This EIS addresses all impacts (to the human and natural environments), and describes any mitigating protections or benefits that would be provided by Federal or State law, or as part of the action. In particular, the Age Discrimination Act of 1975, as amended (42 U.S.C. 6101 et seq.), prohibits discrimination on the basis of age in programs receiving Federal financial assistance, and Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794 and 49 C.F.R. Part 27.7) protects handicapped persons.

Resources for conducting socioeconomic assessments include:

- FHWA sponsored Community Impact Assessment website.
- NCHRP 456 Guidebook for Assessing the Social and Economic Effects of Transportation Projects.

Additional community impacts legislation and regulations are listed on the FHWA Environmental Guidebook website. Regulatory elements specific to sub areas within the socioeconomic analysis are addressed within those sub sections; these include

residential and business relocations, environmental justice, and general and particular social groups.

3.5.2 Affected Environment

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. Community and economic impact assessment require familiarity with the community. First develop a community profile, a summary of the social and economic characteristics of the area where the project will be built (the "affected area"). Information sources may be primary (interviews, field work, and public meetings) or secondary (census data, comprehensive plans, etc.). Field work for the community profile should include walking surveys and/or windshield surveys, as appropriate. Authors may need to refine the profile during the assessment process to reflect change that occurs during the project development process and as identified impacts bring new information needs to light.

3.5.2.1 Study Area Description

Provide a map that defines the study area boundaries and relationship to project area definitions. Aerial and road maps from local jurisdictions as well as from ODOT are good sources.

Community Features

1. Describe community cohesion. The following are indicators that the community has a high degree of cohesion.

    a. Long, average residency tenures: long-term residents are likely to feel more connected. Right-of-way can probably provide this information from their database. The US Census also collects this information.

    b. Households of two or more people; a high percentage of single-person households tends to correlate with lower cohesion.

    c. Frequent personal contact within the community: this would be observed in field reviews or in interviews with residents.

    d. Level of community activity determined primarily through field visits and/or interviews with residents. If a park is in the neighborhood, field visits after regular work hours might be helpful. Look for notices and handbills describing activities (neighborhood yard sale, ice cream social, etc.).

    e. Religious and/or ethnic homogeneity

2. Describe community facilities (e.g., recreation and activity centers and public services including: parks, schools, community centers, churches, medical facilities). Include maps, as appropriate.

    For emergency services include a brief description of all law enforcement, fire,

medical, and any other emergency services that could be affected by the proposed action. Include a map that depicts the location of emergency service providers in relation to the proposed alternatives.

3. Describe community, neighborhood, and/or subdivision boundaries. Identify residences and residential clustering in project area, especially those bordering the alternatives and near interchanges. Include maps, as appropriate.

4. Identify businesses, business districts or clusters of businesses, especially those bordering the alternatives and near interchanges. Include maps, as appropriate.

5. Key resources for community profile information include:

   a. Walking and windshield surveys

   b. Oregon Business Development Department (OBDD) through its Infrastructure Finance Authority website provides links to community development partners and community profiles that include information about school districts, fire and police, medical facilities, local transportation agencies, as well as other information.

   c. Local phonebooks often include both maps and listings of key community facilities and service providers.

   d. Most cities have a web page that can provide helpful information.

Demographic and Economic Trends

Identify and discuss demographic characteristics, economic base, and other relevant community characteristics. Information provided should describe the following topics within the project area and city, compared to the region and state as appropriate.

Other Population Subgroups

1. A number of other population subgroups may be considered initially, in the development of general information, or if an analyst determines those groups need to be added later. Age distribution identifies potential student and elderly population concentrations. Additional data on group housing quarters, the disabled, and transit dependent populations may also prove helpful. Potential data sources include:

   a. The US Census Bureau's American FactFinder

   b. Local specialty newspapers or community groups can help identify activity centers, community values, and concerns of the populations they serve. ODOT ROW, city planners, and/or Public Involvement staff may have good contacts and local information.

   c. Proprietary demographic company reports may be used subject to project management approval.

Household Income

1. Identifying household incomes within the project area is important to development of the community profile and contributes to the environmental justice (EJ) assessment. Low income populations (for the purposes of EJ assessments) are defined as those whose household income is at or below the U.S. Department of Health and Human Services poverty guidelines. The current version of the HHS Poverty Guideline table should be provided in EIS documents where detailed environmental justice assessments are included. Data to describe income ranges of project area households may come from:

    a. The US Census Bureau's American FactFinder

    b. U.S. Department of Health and Human Services poverty guidelines

    c. School districts track the proportion of students participating in free and reduced cost food programs. This information can provide a more recent indicator of potential low income populations when Census data have not been updated in some time.

    d. Proprietary demographic company reports may be used subject to project management approval.

Housing

1. Describe housing in the project vicinity and the surrounding area including number of housing units, housing types, tenure (renter vs. owner occupied), and availability of affordable housing. This information contributes to relocation and environmental justice assessments. If mobile home parks and/or senior housing (which can be indicators of lower median or fixed incomes) exist within the project area, this type of housing should be discussed in this section. Housing data may come from:

    a. The US Census Bureau's American FactFinder

    b. Local housing authorities, newspapers, and real estate multiple listing services can give you a feel for current housing costs.

    c. City planning documents (such as housing and land need analyses)

    d. Walking and/or windshield surveys of the project area

Property Values and Tax Base

1. Describe project area property values and the local tax base structure and trends. Property values should be statistical only. For example, it would be acceptable to state the median sale price for single family residential property in a given area. However, any statements about specific property values should not be included as it could lead a reader to expectations about value for impacted properties. Coordinate this information with the Region Right of Way Office.

2. This information will be used in the Environmental Consequences section (Local Regional and State Economy Subsection) to assess impacts to the tax base from taxable property removed from the base (through right-of-way purchases), changes in property values, or changes in business activity.

3. A good starting point to collect data is the Oregon Department of Revenue "Oregon County Webpages and Phone Numbers" website which provides links to county assessors' pages (for those counties that have them) as well as contact phone numbers and email addresses.

Employment and Industry

1. The description of current project area employment and industry trends sets the foundation for assessment of economic impacts. The economic profile should include major industries in the project vicinity and region, identification of the largest employers, unemployment rate, occupations of project area residents, and commute information. Descriptions of employment and industry need to recognize the differences between data based on place of residence and data based on place of work or location of business.

2. Employment and industry data may come from:

   a. Profiles of communities (including principal industries, largest employers, payroll employment by industry) are available through Oregon Business Development Department (OBDD) Infrastructure Finance Authority. A listing of cities and their websites can also be found there.

   b. Oregon Employment Department's Local Labor Trends publications identify recent employment trends, unemployment rates, and business news by region and metropolitan statistical area.

   c. The US Census Bureau's American FactFinder can provide data on type of occupations held by residents and commuting length. It is important to understand that these data are collected by location of residence. These jobs may or may not be located in the immediate community. This is why identifying typical commutes are important.

   d. The Chamber of Commerce

   e. City planning documents may also be of assistance in determining land availability for different uses which may be displaced.

3.5.3 Environmental Consequences: Community Character and Cohesion

1. The discussion in the environmental consequences portion of this section should focus on the impacts of each alternative on the community's character ("setting") and on the cohesiveness of the community. Discuss both beneficial and adverse impacts.

2. Give consideration to:

a. Proposed alternatives increasing or decreasing access to public transit and/or transportation systems.

b. Dividing or reconnecting of neighborhoods (residential areas to each other and residential areas to neighboring community facilities, public services facilities, and business districts).

c. Growth or decline impacts on the community's character (including increasing urbanization or isolation).

d. Changes in quality of life (e.g., noise, air quality, aesthetics).

3.5.4 Avoidance, Minimization, and/or Mitigation Measures: Community Character and Cohesion

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Describe potential mitigation measures, which may be incorporated into the proposed project.

3.5.5 Environmental Consequences: Community Facilities

Community facilities are those places and agencies which provide community activities and services. The evaluation of impacts on community facilities identifies the relationship between the proposed transportation action(s) and community activities and services provided (for instance fire, police, and emergency medical, community centers, and places of worship).

1. The discussion in the environmental consequences portion of this section should focus on the impacts of each alternative on community facilities within the project area and the provision of public services to the project area.

2. Describe:

a. Proposed alternatives increasing or decreasing access to public transit and/or transportation systems

b. Proposed change in right-of-way impacts on community facilities and/or public services

c. Impediment or enhancement of private or public approach roads between residences and community facilities and/or public services

d. Impact of proposed action on the use of public facilities

e. Impacts to law enforcement, fire, medical and any other emergency service providers caused by detours and roadway closures, including changes in emergency response time. Also, be sure to include any positive impacts, such as improvements for emergency services that would improve response times. Scoping the project with the locals can be very helpful in this regard. Describe all temporary and long-term impacts to the emergency services.

f. Coordination that has occurred with emergency service providers.

g. Short- and long-term changes in private or public approach roads to parking, and entry to public services and other facilities.

3.5.6 Avoidance, Minimization, and/or Mitigation Measures: Community Facilities

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Describe potential mitigation measures, which may be incorporated into the proposed project. Include any measures proposed to alleviate or offset an adverse impact or to replace a resource (such as a set aside for recreation facilities or sound barriers).

3.5.7 Environmental Consequences: Businesses and Established Business Districts

1. The discussion in the environmental consequences portion of this section should focus on the non-right-of-way impacts (beneficial and adverse) of each alternative on businesses and business districts within the project vicinity and study area.

2. Give consideration to:

a. Business impacts based on changes in traffic patterns and volumes. Substantial changes between current and projected traffic volumes and designs that require out of direction travel are most likely to affect businesses that are reliant on drive-by traffic. Destination businesses and/or those businesses that serve both as a destination and attract drive-by customers tend to be less impacted by reductions in traffic volume and out of direction travel.

b. Changes in public or private approach roads at the business and business district level. For businesses and business districts, the focus on ease of use revolves around customers and visitors. How will entry to the businesses or the business district be changed? How will parking availability change?

c. Changes in business clustering or isolation due to proposed transportation action(s). Businesses benefit from clustering in both complimentary and

competing business groups. To the degree that proposed actions enhance or reduce clustering activity, business viability could be impacted.

3.5.8 Avoidance, Minimization, and/or Mitigation: Businesses and Established Business Districts

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Describe potential mitigation measures, which may be incorporated into the proposed project.

3.5.9 Environmental Consequences: General and Particular Social Groups

1. Concentrations of the elderly, children, and the disabled or similar population groups could also experience adverse impacts as the result of an action. All impacts on sectors of the community (including the community as a whole) should be investigated, analyzed, and considered during decision making. The discussion in the environmental consequences portion of this section should focus on the impacts of each alternative on social segments within the community. Pay particular attention to areas of the community that have elderly persons, disabled persons, children, and transit-dependent individuals.

2. Give consideration to:

    a. Proposed alternatives increasing or decreasing access to public transit and/or transportation systems.

    b. Dividing these populations from or reconnecting them to other residential areas, to each other, and to neighboring community facilities, public services facilities, and business districts.

    c. Growth or decline impacts on elderly persons, disabled persons, children, and transit-dependent individuals that differ from those to the population in general.

    d. Changes in quality of life (e.g., noise, air quality, aesthetics) for elderly persons, disabled persons, children, and transit-dependent individuals that differ from those impacts to the population in general.

3.5.10 Avoidance, Minimization, and Mitigation: General and Particular Social Groups

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Describe potential mitigation measures, which may be incorporated into the proposed project.

3.5.11 Environmental Consequences: Local, Regional, and State Economy

Where there are foreseeable economic impacts, discuss by alternative, the impacts of the proposed action on development, tax revenues, public expenditures, employment opportunities, retail sales and changes to public or private approach roads.

1. The discussion in the environmental consequences portion of this section should focus on the positive and negative impacts of each alternative on the local, regional, and state economies, as appropriate. It is important to distinguish and address the way economic impacts vary when different geographic areas (and scales) are analyzed. Additionally, the magnitude and character of impacts can be very different over alternate analysis time periods (such during construction, vs. immediately following project completion, or over a long-term horizon).

2. Give consideration to:

   a. Short-term job impacts should be assessed based on project construction spending. Transportation construction expenditures support jobs in the construction industry (direct impacts), in supplying industries (indirect impacts), and in many other businesses such as retailers, restaurants, and grocers where the workers spending their income (induced impacts). These impacts have a limited duration. ODOT's Long Range Planning Unit provides job impacts multipliers for each region and a construction dollar conversion table (as well as instructions on how to use them) in a biennial report "Short-Run Job Impacts from Transportation Construction Expenditures in Oregon" for the Geo-Environmental Section. This resource must be used by consultants to produce their job impacts estimated.

   b. Relocation to, or new development in, the vicinity of new roadways, intersections, and interchanges (unless redirected or precluded by land use policy). A transportation project may improve public or private approach roads to some sites relative to others within the same community or city. So, businesses seeking a comparative advantage may relocate. Pay special attention to determination of whether the impact is likely to be relocations or net increases in economic activity (based on conditions of the local and regional economies).

   c. Economic development impacts at the broader community or regional level, both positive and negative should be assessed. Will the proposed transportation action(s) create opportunities for businesses to move to the area, relocate to other locations within the area, close, or move outside the area? Again, pay special attention to determination of whether the impact is likely to be relocations or net increases (or decreases) in economic activity (based on conditions of the local and regional economies).

d. Impacts to the tax base and/or tax revenues should be analyzed. These may include any of the following: impacts on the tax base from taxable property removed from base (through right-of-way purchases), or changes in business activity.

3.5.12 Avoidance, Minimization, and Mitigation: Local, Regional, and State Economy

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Describe potential mitigation measures, which may be incorporated into the proposed project.

References and Additional Guidance

FHWA sponsored Community Impact Assessment website

NCHRP 456 Guidebook for Assessing the Social and Economic Effects of Transportation Projects

FHWA Environmental Guidebook website

Oregon Department of Revenue “Oregon County Webpages and Phone Numbers”

3.6 Parks and Recreational Facilities, (Wildlife or Waterfowl Refuges, if applicable)

3.6.1 Regulatory Setting

Section 4(f)

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 U.S.C. 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that the Secretary [of Transportation] may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife or waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- there is no prudent and feasible alternative to using that land; and
- the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture and Housing and Urban Development in developing transportation projects and programs that use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer or Tribal Historic Preservation Officer is also needed.

Section 6(f)

The Land and Water Conservation Fund Act (LWCF) State Assistance Program was established by the LWCF Act of 1965 (Section 6, Land and Water Conservation Fund Act of 1965, as amended; Public Law 88-578; 16 U.S.C. 4601-4 et seq.) to stimulate a nationwide action program to assist in preserving, developing, and assuring to all citizens of the United States of present and future generations such quality and quantity of outdoor recreation resources as may be available and are necessary and desirable for individual active participation. The program provides matching grants to States and through States to local units of government, for the acquisition and development of public outdoor recreation sites and facilities.

Property acquired or developed with LWCF assistance shall be retained and used for public outdoor recreation. Any property so acquired and/or developed shall not be wholly or partly converted to other than public outdoor recreation uses without the approval of NPS pursuant to Section 6(f)(3) of the LWCF Act and these regulations. The conversion provisions of Section 6(f)(3), 36 CFR Part 59, and these guidelines apply to each area or facility for which LWCF assistance is obtained, regardless of the extent of participation of the program in the assisted area or facility and consistent with the contractual agreement between NPS and the State.

3.6.2 Affected Environment

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. Describe and provide a map of existing and planned parks and recreational facilities and wildlife and waterfowl refuges within the project vicinity, include the study area boundary on the map.

3. Identify properties to which Section 4(f) applies.

3.6.3 Environmental Consequences

Provide a map which depicts project alternatives and the park and recreational facilities and/or wildlife and waterfowl refuge. Discuss how each alternative would impact the facilities. Describe impacts in terms of land that would be incorporated into the transportation facility, as well as impacts to the attributes, qualities and features of each facility. What is the facility used for and how would the alternative impact those uses?

3.6.3.1 Resources Evaluated Relative to the Requirements of Section 4(f)

1. No Use of Section 4(f) Resources

Briefly state whether each proposed alternative would "use" a Section 4(f) park or recreational resource, wildlife or waterfowl refuge. If properties were evaluated for Section 4(f) and a determination of no use was made, document those discussions here, relative to the Section 4(f) law, regulation and policy paper. Provide maps depicting the alternatives and Section 4(f) properties that allow the reader to readily identify the relationship between the property and the proposed action.

a. **[No Section 4(f) resources.]** The project alternatives have been evaluated to determine if any use of Section 4(f) park or recreational facilities, wildlife or waterfowl refuges will occur. This evaluation has determined that no Section 4(f) park or recreational facilities, wildlife or waterfowl refuges are in the project study area and therefore no Section 4(f) park or recreational facilities, wildlife or waterfowl refuges will be used by the project alternatives.

b. **[Section 4(f) resources present, but no use will occur.]** The project alternatives have been evaluated to determine if any use of Section 4(f) park or recreational facilities, wildlife or waterfowl refuges will occur. This evaluation has determined that the following are Section 4(f) properties: [list]. However, because [state reason, such as no land will be incorporated] no Section 4(f) park or recreational facilities, wildlife or waterfowl refuges will be used by the project alternatives.

2. Temporary Occupancy

If proposed alternatives will result in a temporary occupancy of a Section 4(f) park or recreational resource, wildlife or waterfowl refuge document this determination in accordance with 23 CFR 774 and ODOT/FHWA temporary occupancy procedures.

3. *De Minimis Section 4(f)*

If the proposed project would result in a ***de minimis*** use of a park or recreational property, wildlife or waterfowl refuge pursuant to SAFETEA-LU Section 6009, describe and document that proposed ***de minimis*** finding here, consistent with ODOT/FHWA ***de minimis*** procedures. Parks, recreational, wildlife or waterfowl refuge ***de minimis*** findings can only be made by FHWA following an opportunity for the public to comment (which is usually the comment period for the DEIS). Additionally, agreement from the official with jurisdiction regarding the ***de minimis*** nature should be sought ***after*** the close of the comment period, so that the official can consider the comments submitted by the public.

4. Net Benefit Programmatic Section 4(f)

If the proposed project would result in a programmatic Section 4(f) net benefit, describe and document that ***proposed*** net benefit here. Coordinate with ODOT Geo-Environmental Section and FHWA if you are considering using the Net Benefit Programmatic.

5. Individual Section 4(f) Evaluation

If project alternatives would use a Section 4(f) resource resulting in an individual Section 4(f) evaluation, refer the reader to the "Draft Section 4(f) Evaluation."

3.6.3.2 Resources Evaluated Relative to the Requirements of Section 6(f)

1. No Section 6(f) resources

The project alternatives have been evaluated to determine if any conversion of Section 6(f) encumbered properties will occur. This evaluation has determined that no Section 6(f) encumbered properties are in the project study area and therefore no Section 6(f) encumbered properties will be converted by the project alternatives.

2. Section 6(f) resources present, but no conversion will occur

The project alternatives have been evaluated to determine if any conversion of Section 6(f) encumbered properties will occur. This evaluation has determined that the following are Section 6(f) encumbered properties: [list]. However, because [state reason, such as no land will be incorporated] no Section 6(f) encumbered properties will be converted by the project.

3. Section 6(f) encumbered properties that will require conversion

Provide a map which depicts project alternatives and the encumbered properties that will require conversion. List each Section 6(f) encumbered property. Discuss

how each alternative would impact the encumbered properties. Describe impacts in terms of land that would be incorporated into the transportation facility, as well as impacts to the attributes, qualities and features of each encumbered property. Refer the reader to the mitigation section for a description of proposed replacement properties.

3.6.4 Avoidance, Minimization and/or Mitigation

Any measures included in the individual Section 4(f) evaluation that pertain to parks and recreational resources should also be included here.

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Describe potential mitigation measures, which may be incorporated into the proposed project. Describe how the proposed measure would offset the impact and why it is proposed. Describe proposed 6(f) replacement properties.

References and Additional Guidance

49 USC 303

23 CFR 774, Section 4(f) Regulation

Section 4(f) Policy Paper, March 1, 2005

FHWA Guidance on *De Minimis* Impacts to Section 4(f) Resources

FHWA Section 4(f) Programmatic Net Benefit Guidance

Section 4(f) Temporary Occupancy Documentation

Section 4(f) *de minimis* Template for Parks and Recreational Resources

Section 4(f) *de minimis* Template for Section 106 Resources

National Trails Systems Act

AASHTO Practitioners Handbook #11: Complying with Section 4(f)

Section 6(f) Land and Water Conservation Fund Act Handbook

3.7 Historic Resources

If a proposed project involves numerous different types of historic resources, the clarity of the discussion may be improved if it is divided by resource type: historical or archaeological.

3.7.1 Regulatory Setting

The National Historic Preservation Act of 1966 (NHPA), as amended, sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in, or eligible for, the National Register of Historic Places (NRHP). Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on such properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 CFR 800).

In 2001, a Section 106 Programmatic Agreement (PA) between the ACHP, FHWA, the Oregon State Historic Preservation Officer (SHPO), and ODOT went into effect for minor transportation projects, with FHWA involvement. The PA defines the 106 process that ODOT uses and delegates some review responsibilities from SHPO to ODOT.

If ARPA applies to your project include the following language, otherwise do not insert. The Archaeological Resources Protection Act (ARPA) applies when a project may involve archaeological resources located on federal or tribal land. ARPA requires that a permit be obtained before excavation of an archaeological resource on such land can take place, however, many Oregon BLM and USFS districts require ARPA permits for pedestrian surveys as well.

Archaeological resources are also protected under Oregon Revised Statutes 390.235 which requires a permit for excavation and/or exploration of archaeological resources on public lands and Oregon Administrative Rule 736-051-0080 & 0090 for protection of archaeological resources on public and private lands. In addition to the archaeological protections, Oregon Revised Statute 97.740 was established to protect Indian graves and sacred objects.

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 U.S.C. 303, declares that “it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

Section 4(f) specifies that the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

(1) there is no prudent and feasible alternative to using that land; and

(2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use; or

(3) the Administration determines that the use of the property, including any measures to minimize harm committed to by the application will have a *de minimis* impact as defined in 23 CFR 774.117.

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture and Housing and Urban Development in developing transportation projects and programs that use lands protected by Section 4(f). If NRHP-listed or eligible sites are involved, then coordination with the State Historic Preservation Officer or Tribal Historic Preservation Officer is also needed.

3.7.2 Affected Environment

Not all information about historic resources can be fully disclosed to the public. The location of an archaeological site is exempt from disclosure to the public by law, to protect sites from looters. Site locations can be disclosed to archaeologists who meet SHPO standards for archaeologists.

1. Include a text box in this subsection that names the technical report, date, and that it is available upon request, should the reader want more information.

2. Provide map of the Area of Potential Effect (APE) and briefly discuss methodology used to support studies—records searches, field surveys, etc.

3. Using the relevant technical report(s), identify any NRHP-listed and/or eligible historic resources within the APE. These resources could include Traditional Cultural Properties (TCPs). Remember, no location specific information should be used when discussing archaeological resources as this is sensitive information.

4. Discuss the significance of each evaluated historic resource within the APE, in terms of the significance criteria A, B, C, or D and relevant elements of integrity (location, design, setting, materials, workmanship, feeling, and association) and whether it is listed in or eligible for listing in the National Register of Historic Places. Summary paragraphs that explain why the resources that are eligible or listed should be found in the relevant technical report(s) and may be copied directly into the EIS.

   Note that a historic resource determined ***eligible*** for listing in the National Register is considered to have the same status as a listed property for purposes of the project or undertaking.

5. Identify properties to which Section 4(f) applies. Reference law, regulation and guidance as applicable as a basis for determining Section 4(f) does not apply.

3.7.3 Environmental Consequences

Section 106 of the NHPA uses "effects" terminology when discussing impacts to historic resources. Therefore, this section discloses the project's effects on historic resources, how those effects were determined, and whether and how effects can be avoided or minimized.

1. In Section 106 language § 800.4(d)(1), if there are no historic properties present or there are historic properties present but the undertaking will have no effect upon them as defined in § 800.16(i), include a Section 106 finding of "No Historic Properties Affected."

2. When historic resources are present and could be affected, using information taken from the relevant technical report(s), Determinations of Eligibility, Findings of Effect, etc., discuss the potential effects of each alternative on each identified NRHP-listed or eligible historic resource. For resources listed in or eligible for the NRHP, discuss whether each alternative would alter the characteristics that make the resource eligible (location, design, setting, materials, workmanship, feeling, and association), and specifically state for each resource the appropriate Section 106 determination of effect: No Historic Properties Affected, No Adverse Effect, or Adverse Effect. Specifically state whether any TCPs would be impacted by the alternatives.

3. Discuss the results of consultation with SHPO, or if applicable, the Tribal Historic Preservation Officer (THPO), as well as the Advisory Council on Historic Preservation (ACHP), and any other consulting parties (e.g., Indian tribes, local governments, others with a demonstrated legal or economic interest or concern with the effects on historic properties). Discuss the status of SHPO or THPO concurrence with the findings under Section 106. Include signed concurrence documentation in either a separate appendix or the Comments and Coordination section of the document.

   There may be additional coordination completed with the tribes beyond Section 106 that will be documented in the Appendix.

3.7.3.1 Resources Evaluated Relative to the Requirements of Section 4(f)

This section documents the following Section 4(f) considerations: (1) no use of Section 4(f) resources; (2) temporary occupancy of a Section 4(f) property; and (3) Section 4(f) *de minimis,* (4) and programmatic 4(f). See the Section 4(f) evaluation following the DEIS document, for an individual Section 4(f) evaluation.

1. No Use of Section 4(f) Resources

   Briefly state whether each alternative would "use" a Section 4(f) historic resource. If properties were evaluated for Section 4(f) and a determination of no use was made, then document those considerations here, relative to the Section 4(f) law, regulation and policy paper. Only archaeological sites that have been identified as having value for preservation in place are afforded Section 4(f) status. Project maps that depict the alternatives and Section 4(f) properties should allow the

reader to readily identify the relationship between the property and the proposed action.

a. **[No Section 4(f) resources.]** The project alternatives have been evaluated to determine if any use of Section 4(f) historic resources will occur. This evaluation has determined that no Section 4(f) historic resources are in the project study area and therefore no Section 4(f) historic resources will be used by the project alternatives proposed in this document.

b. **[Section 4(f) resources present, but no use will occur.]** The project alternatives have been evaluated to determine if any use of Section 4(f) historic resources will occur. This evaluation has determined that the following are Section 4(f) properties: [list]. However, because [state reason, such as no land will be incorporated] no Section 4(f) historic resources will be used by the project alternatives proposed in this document.

2. Temporary Occupancy

If the proposed project would result in a temporary occupancy of a historic property, describe that determination here, consistent with ODOT/FHWA temporary occupancy procedures.

3. *De Minimis*

If the proposed project would result in a de minimis use of a historic property pursuant to SAFETEA-LU Section 6009, describe that proposed de minimis finding here, consistent with ODOT/FHWA de minimis procedures.

4. Programmatic Section 4(f) [Net Benefit or Historic Bridge]

If the proposed project meets the criteria for a programmatic Section 4(f) evaluation, include that analysis here. If you intend to use a programmatic, coordinate with ODOT Geo-Environmental and FHWA.

5. Individual Section 4(f) Evaluation

If alternatives would use a Section 4(f) resource resulting in an individual Section 4(f) evaluation, refer the reader to the "Section 4(f) Evaluation."

3.7.4 Avoidance, Minimization, and/or Mitigation Measures

4. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

5. Describe minimization measures that were considered and those which were incorporated into the proposed project.

6. Describe potential mitigation measures, which may be incorporated into the proposed project. If a data recovery plan is proposed, summarize the details.

7. If the project would result in a finding of "Historic Properties Adversely Affected," then a fully executed Memorandum of Agreement (MOA) is required before circulation of the final environmental document. An MOA stipulates the responsibilities of FHWA, SHPO, and ODOT and if participating, ACHP, THPO, or other consulting parties, on measures that will be taken to avoid, minimize, or mitigate the effects of the undertaking on historic properties. The MOA must be included in Section 106 appendix of the final environmental document.
   The MOA process is shown in a flow chart at ACHP's website. The ACHP's main website is located at https://www.achp.gov/.

8. Regardless of whether NRHP-listed or eligible historical or archaeological properties were identified, the following provisions addressing the discovery of historic materials or human remains must be included:
   If unevaluated historic materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will cease and will be protected until a qualified archaeologist can assess the nature and significance of the find.
   If human remains are discovered, all earth moving activity related to the project must cease immediately. The immediate area surrounding the find must be protected and the state police and Regional Archaeologist must be contacted.

References and Additional Guidance

49 USC 303

23 CFR 774, Section 4(f) Regulation

Section 4(f) Policy Paper, March 1, 2005

FHWA Guidance on *De Minimis* Impacts to Section 4(f) Resources

FHWA Section 4(f) Programmatic Net Benefit Guidance

Section 4(f) Temporary Occupancy Documentation

Section 4(f) *de minimis* Template for Section 106 Resources

National Trails Systems Act

AASHTO Practitioners Handbook #11: Complying with Section 4(f)

Historic Bridge Programmatic Agreement - 2001 Programmatic Agreement between FHWA, ODOT, and SHPO concerning Section 106 and "minor transportation projects".

187 Advisory Council on Historic Preservation (ACHP) Regulations - 36 CFR 800

188 ACHP's website

3.8 Visual Resources

3.8.1 Regulatory Setting

The National Environmental Policy Act of 1969 (NEPA) establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, *aesthetically* (emphasis added) and culturally pleasing surroundings (42 U.S.C. 4331[b][2]). To further emphasize this point, the FHWA in its implementation of NEPA (23 U.S.C. 109[h]) directs that final decisions regarding projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

Ensure all applicable statutes, regulations, and guidance have been addressed, these include, but are not limited to: Scenic Byway designations, Wild and Scenic River Act, Columbia River Gorge National Scenic Area Act, National Forest Management Plans, and Goal 5 resources from comprehensive plans. Coordination with the agency(ies) of jurisdiction may be necessary to demonstrate compliance.

If the project has the potential to affect visual resources, then a Visual Impact Assessment is needed. Some examples of activities that may adversely affect visual resources include: introduction of a transportation facility into a rural and/or forested area, removal of vegetation, or addition of structures including bridges, walls, poles or cameras. The level of analysis can range from no formal analysis to a complex analysis depending on the project features, the setting and the viewers. The analysis may require assessment of impacts of view from users of the transportation facility, as well as assessment of impacts the transportation facility may have on the viewshed.

The FHWA *Visual Impact Assessment for Highway Projects* provides guidance on how to conduct a visual assessment for federal or federal-aid highway projects. The basic steps in the process are:

1. Define the project setting and viewshed.
2. Identify key views for visual assessment.
3. Analyze existing visual resources and viewer response.
4. Visual resources/character analyzes attributes such as line, form, color, texture, dominance, scale, diversity and continuity. Visual quality is measured by vividness, intactness and unity.
5. Depict the visual appearance of project alternatives.
6. Assess the visual impacts of project alternatives. This is often done using either a numeric or qualitative rating system, e.g. “The existing visual quality is high; with the project it would be medium.”
7. Propose methods to avoid, minimize and/or mitigate adverse visual impacts. These measures can include enhanced plantings, texture or color coating for structures, contour grading, etc.

3.8.2 Affected Environment

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. Define the study area for visual resources. Describe the visual setting, viewshed, protected visual resources, and sensitive viewers in the study area. Identify key views and resources. This section reflects steps 1 - 4 of the FHWA Visual Impact Assessment (provided in the guidance section above).

3.8.3 Environmental Consequences

1. Describe the visual appearance of each build alternative and how the project components would affect the visual setting and viewshed for each sensitive viewer group in the context of the resource for this location. Simulations, which show the before and after condition, are often beneficial for displaying the differences between the alternatives and their potential impacts.

2. Discuss whether the project has the potential to affect an officially designated scenic highway. The scenic highway program protects and enhances Oregon's natural scenic beauty by allowing county and city governments to apply to ODOT to establish a scenic corridor protection program.

3. If the project is within the boundaries of a scenic corridor protection program (Scenic Byway designations, Wild and Scenic River Act, Columbia River Gorge National Scenic Area Act, National Forest Management Plans, and Goal 5 resources from comprehensive plans), discuss whether the project is consistent with that program.

The above section reflects steps 5 - 7 of the FHWA Visual Impact Assessment.

3.8.4 Avoidance, Minimization, and/or Mitigation Measures

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Describe potential mitigation measures, which may be incorporated into the proposed project.

4. Consistent with the FHWA guidance, the above proposed measures could include enhanced plantings, texture or color coating for structures, contour grading, etc. State what each proposed measure would do and why it is being considered.

5. Address the incorporation of context-sensitive solutions in the proposed project. For information on context-sensitive solutions, please see FHWA's context-sensitive website.

The above section reflects step 8 of the FHWA Visual Impact Assessment.

References and Additional Guidance

Wild and Scenic River Act

Columbia River Gorge National Scenic Area Act

Scenic Byway designations

FHWA *Visual Impact Assessment for Highway Projects*

List of officially designated scenic highways in Oregon

Oregon Scenic Highway Program

FHWA's context-sensitive website

3.9 Hydrology, Floodplain and Floodway

3.9.1 Regulatory Setting

Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Emergency Management Agency (FEMA) is the primary jurisdictional agency regarding potential impacts to floodplains and floodways. The Federal Highway Administration requirements for compliance with Executive Order 11988 are outlined in 23 CFR 650 Subpart A.

Proposed federal actions must consider:

- The practicability of alternatives to any longitudinal encroachments
- Risks the proposed action poses to the floodplains and floodways
- Impacts on natural and beneficial floodplain values
- Support of incompatible floodplain development
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values impacted by the proposed action.

The base floodplain is defined as “the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year,” which is also referred to as the 100-year flood. An encroachment is defined as “an action within the limits of the base floodplain.”

The Water Resources Technical Report provides information on hydrologic issues and floodplain/floodway identification. The Hydraulics Report covers flood elevations and discharges, primarily for sizing culverts and bridge openings, but also for floodplain issues.

Floodplain and floodway considerations are not applicable to all projects, but should be addressed and project applicability stated even if it is not an issue on the project. The primary concern with a floodplain and floodway impacts evaluation is if there is a “significant encroachment” on the floodplain. Alternatives that encroach on the base floodplain or regulatory floodway must be studied via a Location Hydraulics Study (LHS) in order to assess potential impacts and risks. If the Preferred Alternative has a floodplain encroachment, then the FEIS must include a Floodplain Finding.

3.9.2 Affected Environment

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. Where applicable, the affected environment section should include a description of the existing floodplain and floodway; its natural and beneficial values and policies; procedures and orders relating to hydraulics.

3. The base 100-year floodplain and regulatory floodway must be shown using (FEMA) maps, National Flood Insurance Program (NFIP) maps or other maps developed by ODOT. If the FEMA and/or NFIP maps do not exist, then location hydraulics studies may be required to determine floodplain/floodway impacts.

4. Groundwater: Describe any regional or local aquifers, wells or drinking water sources in the vicinity of the project area. Specify if any of the aquifers are Sole Source Aquifers, Critical Aquifer Recharge Areas, or contain Wellhead Protection Areas or Sanitary Control Areas that may be impacted by the proposed project.

3.9.3 Environmental Consequences

1. The DEIS should include figures that display the alternatives, the base floodplains, and, where applicable, the regulatory floodways. It should also summarize the results of the location hydraulic studies. The summary should:

    a. Identify the number of encroachments and any support of incompatible floodplain developments and their potential impacts; and

    b. If the encroachment results in substantial impacts, include more detailed information on location and impacts.

2. For each alternative encroaching on a designated regulatory floodway, the DEIS should provide a preliminary indication of whether the encroachment would be consistent with or require a revision to the regulatory floodway. Engineering and environmental analysis should be conducted commensurate with the level of encroachment, to permit the consistency evaluation and identify impacts. Coordination with FEMA and appropriate state and local agencies (often the county in which the project is located) should be discussed for each floodway encroachment.

3. If the proposed action would encroach on a base floodplain, FHWA requires ODOT to perform a Location Hydraulic Study (LHS) and assess the risk involved. If the LHS indicates significant encroachment within the base floodplain would result from constructing the Preferred Alternative, then a finding must be included in the FEIS that states that the project is the “only practicable alternative.” This statement must also include why the other alternatives considered were not practicable, the reason why the highway must be in the floodplain and that all state and local floodplain laws are complied with.

    “Significant encroachment” as defined at 23 CFR 650.105 is a highway encroachment and any direct support of likely base floodplain development that would involve one or more of the following construction or flood related impacts:

a. a significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route

b. a significant risk (to life or property), or

c. a significant adverse impact on natural and beneficial floodplain values

In addition, this section should include a summary of any coordination with local jurisdictions, state and federal water resources and floodplain management agencies (especially the Federal Emergency Management Agency) because of encroachment on a regulatory floodway, increase in the base flood elevation and any subsequent actions such as the need for a floodplain map revision.

5. Groundwater: If the proposed action would impact any regional or local aquifers, wells or drinking water sources describe the impacts here.

3.9.4 Avoidance, Minimization, and/or Mitigation Measures

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project. Measures to avoid the floodplain/floodway (selection of alternate sites for improvements, elevated structures, etc.) may be discussed in the Alternatives section. Reference to the Water Quality section may provide measures to lessen some impacts on natural and beneficial floodplain values. These efforts are to be captured in this section, as well.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project. Measures to minimize and mitigate floodplain/floodway impacts (basins, changes to the number of drainage inlets, etc.) may be considered as part of the design of the project and included in the project description (you may refer to Section 2.0 of the environmental document), however the information will also be disclosed here.

3. Describe potential mitigation measures, which may be incorporated into the proposed project.

3.9.5 Only Practicable Finding

This section is only required in the final environmental document when there is a significant encroachment into the floodplain.

If the Preferred Alternative includes a floodplain encroachment having significant impacts, then the FEIS must include a finding that it is the only practicable alternative as required by 23 CFR 650.111(c), (d), and (e) Subpart A (also see FHWA Technical Advisory T6640.8A).

The finding should be included in a separate subsection entitled “Only Practicable Alternative Finding” and must be supported by the following information:

1. Reference to Executive Order 11988 and 23 CFR 650, subpart A;

2. The reasons why the proposed action must be located in the floodplain;

3. The alternatives considered and why they were not practicable; and

4. If the Preferred Alternative encroaches on a regulatory floodway, the FEIS should discuss the consistency of the action with the regulatory floodway. If the floodway revision is necessary, the FEIS should include evidence from FEMA and local or state agencies indicating that such revision would be acceptable.

Include a statement indicating where the action conforms to applicable state or local floodplain protection standards.

Based on studies carried out by the Oregon Department of Transportation, as assigned by the Federal Highway Administration, no practicable alternative to the proposed alternative exists (23 CFR 650, Subpart A). All other potential alternatives are not possible within reasonable natural, social, and economic constraints. In addition, all measures to minimize potential harm within the floodplain/floodway, consistent with regulations issued in accord with Section 2(d) of Executive Order 11988 have been taken. Further, a public notice, as required by Executive Order 11988, has been circulated containing an explanation of why the action is proposed to be located in the floodplain.

References and Additional Guidance

Technical Advisory T6640.8A, Guidance for Preparing and Processing Environmental and Section 4(f) Documents, October 30, 1987 (FHWA)

National Flood Insurance Act of 1968 (42 U.S.C. §§ 4001 *et seq.*)

FHWA Environmental Guidebook Chapter 6

ODOT Hydraulics Manual

SAFETEA-LU 6002 Guidance

23 CFR 650.111

23 CFR 650.105

Executive Order 11988 (Floodplain Management)

3.10 Water Quality and Storm Water Runoff

3.10.1 Regulatory Setting

The Federal Water Pollution Control Act commonly referred to as the Clean Water Act (CWA) is the primary law covering water quality. The intent of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. If an ODOT project requires a CWA Section 404 permit from the U.S. Army Corps of Engineers (Corps), then ODOT must also receive a CWA Section 401 water quality certification from the Oregon Department of Environmental Quality (DEQ).

In addition to a CWA Section 401 water quality certification, projects exposing one acre of more of dirt needs to comply with CWA Section 402. CWA Sections 401 and 402 establish the National Pollutant Discharge Elimination System (NPDES) permit for the discharge of any pollutant into waters of the United States. ODOT construction projects that disturb more than 1 acre are regulated under the NPDES 1200-CA permit and are required to develop and implement an erosion control plan prior to ground-breaking.

Discharges to groundwater through Underground Injection Control Systems (UICs) are regulated as Class V injection wells under the Federal Safe Drinking Water Act. If a project needs to construct a UIC, then a permit from DEQ is required. These permits typically have conditions for treatment prior to discharge and monitoring of the quality of stormwater. The Safe Drinking Water Act also governs the protection of sole-source aquifers, critical aquifer protection areas and wellhead protection areas.

The Oregon water quality laws and regulations are found in ORS Chapter 468B and OAR Chapter 340 Division 041, which cover surface water and groundwater.

ODOT has a set of goals and objectives for projects that, when achieved, will contribute to the protection and improvement of the waters of the state. These goals and objectives are described in Highway Division Project Delivery Leadership Team Operational Notice PD-05: Water Quality Mitigation and in ODOT Stormwater Management Program Technical Bulletin GE08-02(B).

If the proposed project would require a consultation pursuant to the federal Endangered Species Act (ESA) because of stormwater impacts, include the following language:

Projects that impact water bodies that contain Endangered Species Act (ESA) listed Threatened or Endangered (T&E) species must also satisfy ESA requirements. For anadromous fish, the National Marine Fisheries Service (NMFS) is the regulatory agency. For non-anadromous fish, the U.S. Fish and Wildlife Service (USFWS) has jurisdiction. Biological Assessments must include stormwater impacts and describe the steps taken to avoid or minimize “take.”

At the project initiation stage, an assessment will be made as to whether a project has potential for impacts on water quality, and whether a detailed technical study of water

quality impacts is necessary. If a detailed study of water quality is not required, then include the following language:

Based on [include facts] little to no impact to water quality will occur if this project is constructed.

3.10.2 Affected Environment

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. The affected environment section discusses the project setting as it pertains to water quality. The section will include a discussion of watersheds and receiving waters that are potentially affected by the project. The following elements should be included in the discussion:

    a. Receiving waters' character (stream, lake, wetland, etc.)

    b. Receiving waters' hydrology, including the flow control range of flows and anthropogenic modifications (dams, irrigation withdrawals/return flow, urbanization impacts, etc.).

    c. Receiving waters' water quality status, including Total Maximum Daily Loads (TMDLs), 303(d) status, observed condition, including physical conditions.

    d. Riparian condition as it pertains to water quality, such as shading or filtration of highway runoff

    e. Soils' erodibility and hydrologic class

    f. Describe how water quality has changed over time to have reached current conditions, including current watershed health trends

3. Describe the existing storm drainage system of existing highway facilities that will be affected by the project, and assess the impact of the existing highway facilities on the water quality of the receiving waters.

3.10.3 Environmental Consequences

1. Potential water quality impacts include increased, or changed, concentrations and loads of the types of pollutants commonly found in highway runoff, such as total suspended solids, nutrients (nitrogen/phosphorous), pesticides, metals (total and dissolved), pathogens, litter, biochemical oxygen demand, pH, temperature, and total dissolved solids. In addition, increases in runoff volume and duration may have impacts. Include information on riparian and wetland impacts that could affect water quality or hydrology.

2. The following specific elements should be included in any discussion of the impacts a project will have on water resources. Present the following information in

tabular format so that build alternatives, No-Build, and existing conditions can be compared.

a. Change in the impervious surface area (i.e., estimated net new and estimated total area for which treatment would be provided). Level of specificity should be around 1/10 of an acre.

b. Type and/or change in the character of the stormwater drainage system (ditch to curb and gutter, etc) and how the change would affect pollutant load and concentration, and hydrologic impacts.

c. Estimated pollutant load and concentration of stormwater discharged to receiving waters, based on the best available information, and taking the proposed treatment into account.

d. Estimated impact of the project on the water quality of the receiving waters.

3. Discuss the project's contribution of TMDLs and 303(d) listed pollutants, as applicable.

4. If stormwater is a contributing factor or the only driver for impacts to T&E species, then mention those impacts here. The primary discussion will be contained within the Threatened and Endangered section of the document. Refer the reader to that section.

5. *Construction Impacts.* Describe anticipated and potential impacts to water quality during construction, Include in-water work that will or could cause temporary turbidity increases. Identify locations that present erosion and sediment control challenges due to topography, soils, or proximity to water bodies. Describe the magnitude and duration of anticipated or potential construction impacts to water quality.

3.10.4 Avoidance, Minimization, and/or Mitigation Measures

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Describe potential mitigation measures, which may be incorporated into the proposed project.

4. For projects where stormwater impacts cannot be avoided and use of the ODOT Stormwater Management Program Technical Bulletin GE08-02(B) was triggered, include the following language:

ODOT's stormwater management program is presented in the ODOT Stormwater Management Program Technical Bulletin GE09-02(B). This bulletin presents the triggers for the requirement of stormwater treatment on a project, ODOT's water

quality goals and objectives, water quality and flow control design storm criteria, "preferred" stormwater treatment Best Management Practices (BMPs) and integration of stormwater management into the project development process.

a. Describe the "preferred" or other BMPs that are proposed to be incorporated into the proposed project.

b. Describe how and to what extent the alternatives will be able to meet the contributing impervious area (CIA) objective, which is to "treat the runoff generated from the project's CIA by the appropriate water quality design storm for the project's climate zone, using "preferred BMPs" as described in GE09-02(B).

c. Describe how and to what extent the alternatives will be able to meet the frequency and duration of the range of flows that are most important for channel processes and form, as presented in GE09-02(B).

5. Describe basic erosion and sediment control measures proposed. Specifically discuss measures that will be taken to minimize turbidity or other water quality impacts during in-water work.

References and Additional Guidance

FHWA Guidebook: Water Quality and the Clean Water Act and Safe Drinking Water Act

FHWA Technical Advisory TA 6640 Section 10 Water Quality

ODOT NPDES 1200-CA Permit (issued to each Region, but identical except for geographic coverage)

ODOT Stormwater Management Program Technical Bulletin GE09-02 (B)

Highway Division Project Delivery Leadership Team Operational Notice PD-05: Water Quality Mitigation

ODOT Hydraulics Manual

ODOT Erosion Control Manual

The ODOT Geo/Environmental Section Stormwater Management Program web page

The ODOT Geo/Environmental Section Water Resources web page

The ODOT Geo/Environmental Section Erosion Control web page

Sole Source Aquifer Protection Program

Oregon has one Sole Source Aquifer, the North Florence Dunal Aquifer, in Lane County. A map of the aquifer may be found:

https://www.ci.florence.or.us/sites/default/files/fileattachments/planning/page/333/north_florence_dunal_aquifer_study.pdf

3.11 Natural Systems and Communities

This subsection of the document provides an overview of the natural systems in the study area. Oregon's Department of Fish and Wildlife has developed a statewide Conservation Strategy that charts a course for the long-term conservation of our state's fish and wildlife. It takes a non-regulatory, proactive approach to conservation. This subsection highlights natural communities of concern such as Strategy Habitats and Conservation Opportunity Areas as described in the Oregon Conservation Strategy. Information about individual plant and animal species is not included in this subsection.

The Conservation Strategy identified barriers to fish and wildlife movement as a top conservation priority. ODFW has mapped wildlife linkages along the state highway system, which are areas of habitat used by wildlife for seasonal or daily movement or migration; they connect core habitats that support necessary life history functions. ODOT has also mapped wildlife collision hot spots, which are locations with high concentrations of deer and elk carcass reports.

In addition to a description of natural communities in the study area, this subsection includes information on fish passage, wildlife linkages, wildlife collision hot spots, and habitat loss and fragmentation.

Although both terrestrial and aquatic communities are included in this subsection, the regulatory framework of designated critical habitat (Federal Endangered Species Act) is presented in the Threatened and Endangered Species subsection. The regulatory aspects of wetlands and aquatic habitats are discussed in the Wetlands and Other Waters subsection.

3.11.1 Affected Environment

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. Describe and provide a map of the study area (showing the study area boundary on the map), stepping down from the ecoregion and watershed scales to habitat types present. Habitat types should be described using the Oregon Conservation Strategy classifications.

3. Cross-reference the study area with Strategy Habitats presented in the Oregon Conservation Strategy, as well as Conservation Opportunity Areas, management considerations, and voluntary actions.

4. Describe wildlife linkages, including focal species, priority status, value and threats. Also describe wildlife collision hot spots, and any existing passage barriers or opportunities in the study area.

5. Reference any watershed plans, regional conservation plans, such as Habitat Conservation Plans (HCP) or Multiple Species Conservation Plans (MSCP). Such plans are usually developed to lessen habitat loss and fragmentation and to maintain wildlife corridors.

6. Describe any local riparian protections and/or Goal 5 natural resources.

3.11.2 Environmental Consequences

1. For each habitat type, discuss the potential direct and indirect impacts. Direct impacts include habitat loss and fragmentation and management activities (e.g., clearing and grubbing, weed control). Indirect impacts may include operational impacts of the completed project, including noise and traffic impacts on wildlife in adjacent habitats, animal-vehicle collisions, potential impacts to wildlife movement and fish passage, potential impacts of highway runoff on adjacent habitats, and other management concerns.

2. Review proposed alternatives for consistency with any regional conservation plans, such as HCP or MSCP, or watershed plans.

3.11.3 Avoidance, Minimization, and/or Mitigation Measures

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project (e.g., design modification to avoid a rare habitat type).

2. Describe minimization measures that were considered and those which were incorporated into the proposed project. Discuss the measures in terms of reducing direct and indirect impacts.

3. Describe potential mitigation measures, which may be incorporated into the proposed project. Mitigation should be proposed for unavoidable impacts to regulated or protected resources; in most cases, mitigation measures will be described under the Threatened and Endangered Species or Wetlands/Other Waters subsections. Describe what the mitigation measures would do as they are proposed.

4. As a cooperator on the Oregon Conservation Strategy, ODOT is committed to minimizing impacts to sensitive natural communities, particularly Strategy Habitats. To that end, reasonable enhancement measures may be recommended as optional opportunities that could avoid and minimize direct or indirect impacts to non-regulated Strategy Habitats and Conservation Opportunity Areas. **Coordinate with FHWA if use of federal funds is being considered for enhancement measures.** Describe what the enhancement measures would do as they are proposed.

5. Wildlife-vehicle collisions are a safety risk for drivers as well as the animals. If hot spots are present in the study area, and if suitable habitat exists to provide suitable long-term connectivity, describe feasible opportunities to remove barriers and minimize risk of wildlife-vehicle collisions.

References and Additional Guidance

ORNHIC

79 Oregon Conservation Strategy

80 ODFW Wildlife Linkages Dataset

3.12 Wetlands and Other Waters

3.12.1 Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. These resources may be protected by local comprehensive plans. At the federal level, the Federal Water Pollution Control Act commonly referred to as the Clean Water Act (CWA) (33 U.S.C. 1344) is the primary law regulating wetlands and waters. The Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce.

The Section 404 regulatory program is administered by the U.S. Army Corps of Engineers (Corps) with oversight by the Environmental Protection Agency (EPA). The Corps has the authority under Section 404 of the Clean Water Act to deny a request to discharge dredged or fill material if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded.

Section 10 of the Rivers and Harbors Act (33 U.S.C. 403), covers construction, excavation, or deposition of materials in, over, or under such waters, or any work which would affect the course, location, condition or capacity of those waters. Actions requiring Section 10 permits include structures (e.g., piers, wharfs, breakwaters, bulkheads, jetties, weirs, transmission lines) and work such as dredging or disposal of dredged material, or excavation, filling or other modifications to the navigable waters of the United States. The Coast Guard also has responsibility for permitting the erection or modification of bridges over navigable waters of the U.S.

At the state level, wetlands and waters are regulated primarily by the Department of State Lands (DSL) under the Removal-Fill Law (ORS 196.800-196.990). DSL jurisdictional limits are to the ordinary high water line or the edge of the wetland/upland boundary, whichever is higher, on non-tidal streams. Wetlands are jurisdictional to the wetland/upland boundary. The extent of Corps and DSL jurisdiction on certain features may be different.

In addition to the Clean Water Act, 23 CFR 777.3 also regulates the activities of federal agencies with regard to wetlands. This executive order essentially states that a federal agency, such as the Federal Highway Administration, cannot undertake or provide assistance for new construction located in wetlands unless that agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

The Department of Environmental Quality (DEQ) issues water quality certifications in compliance with Section 401 of the Clean Water Act when a Corps permit is issued under Section 404, or when a project involves federal lands (e.g., US Forest Service or Bureau of Land Management). The Water Quality subsection provides additional details.

The information needed to write this portion of the environmental document can be found in the technical reports prepared for the EIS and other technical documents, such as the Biological Assessment (BA) and the Wetland Delineation (if one is prepared).

3.12.2 Affected Environment

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. Provide a map that shows the watershed boundary, with an inset that includes the State of Oregon boundary with the watershed as a pop out.

3. If there are wetlands and waters present in the study area that are determined to be non- jurisdictional waters of the state/U.S., provide the basis for the non-jurisdictional determination and conclude that there are no waters of the state/U.S. in the study area. FHWAs wetland determination (23 CFR 777.3) applies to all wetlands, not just jurisdictional wetlands.

4. If there are jurisdictional waters of the state/U.S. in the study area, the discussion should provide the following information:

    a. Provide a map with the depiction of the wetlands and waters with each alternative overlain.

    b. Describe the wetlands assessment method, the primary functions of the wetland(s); the relative importance of these functions to the total wetland resource of the area; and other factors, such as uniqueness or ubiquitousness that may contribute to the wetland(s) importance.

    c. A concise description that includes acreage and exhibits depicting the waters of the state/U.S. in the project area relative to the alternatives under consideration, and the occurrence of any associated sensitive species habitat or wetlands that are special areas of concern (SACs) (such as, bogs, fens, vernal pools, Willamette Valley wet prairie, old growth Sitka spruce).

3.12.3 Environmental Consequences

1. For alternatives that would affect waters and wetlands:

    a. Include maps or other drawings that show the waters/wetlands and how the proposed alternatives would affect the waters/wetlands.

    b. Include a quantitative assessment of the impacts and discuss how the proposed alternatives would affect the quality, functions, and value of the waters/wetlands, including short and long-term impacts. Address the importance of the impacted wetland(s) and the severity of the impact.

2. Include a table summarizing the impacts on wetlands and other waters of the state/U.S. by alternative, drainage location, and impact type (permanent,

temporary, direct, indirect). Distinguish Corps jurisdictional waters from Department of State Lands jurisdictional waters, if different. This information will be provided for each alternative discussed in the document so that comparisons can be readily made. A text discussion should also be provided.

3. Document agency coordination. Briefly list all waters and wetlands permits needed for the proposed project and describe coordination that has already occurred with the relevant resource agencies. Refer the reader to Chapter 6 for a more detailed discussion of coordination and copies of correspondence with the agencies.

4. State whether or not the impacts might be permitted under an existing Nationwide permit or if an individual permit is anticipated. Specify which Nationwide permit is likely applicable. State whether or not the impacts might be permitted under the Removal-Fill Law via a General Authorization or an individual permit.

3.12.4 Avoidance, Minimization, and/or Mitigation Measures

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project. Provide documentation describing alternatives that completely avoid wetlands and waters. If the avoidance alternatives are not practicable, justify in detail how the cost, performance, socioeconomic impacts or other factors would make the alternative impracticable. If applicable, refer reader to Chapter 2: Alternatives Considered but Eliminated from further Consideration.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project. Discuss how all practicable measures to minimize harm to the affected wetland/waters have been included in the proposed alternative(s). If a given minimization measure is not practicable, justify in detail how the cost, performance, socioeconomic impacts or other factors would make the measure impracticable.

3. Describe potential mitigation measures, which may be incorporated into the proposed project. Discuss the mitigation measures associated with each alternative. Discuss proposed compensatory measures, including location, functions, mitigation type (create/restore/enhance), cost estimates and goals/objectives. Remember to state what the measure would do and why it is proposed. At the DEIS stage identify available mitigation opportunities that would mitigate for all of the estimated wetland impacts. **Coordinate with FHWA if use of federal funds is being considered for enhancement measures.**

3.12.5 Wetlands Only Practicable Alternative Finding **[Include in FEIS if the Preferred Alternative will impact wetlands]**

1. FHWAs wetland determination (23 CFR 777.3) applies to all wetlands, not just jurisdictional wetlands. For the Final environmental document, include the following information under a separate “Only Practicable Alternative Finding” subheading if the Preferred Alternative will impact wetlands:

   a. A reference to E.O. 11990 and 23 CFR 777.3.

b. An explanation of why there are no practicable alternatives to the proposed action.

c. An explanation about the inclusion of all practicable measures to minimize harm to wetlands.

d. A concluding statement:

2. Based on the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

References and Additional Guidance

ODOT's Wetlands Program website

FHWA's Wetlands website

Clean Water Act 23 CFR 777.3

Corps of Engineers Wetland Delineation Manual (1987 Manual)

Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)

Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region

3.13 Threatened and Endangered Species

3.13.1 Regulatory Setting

Federal

The primary Federal law protecting threatened and endangered species is the Federal Endangered Species Act (ESA): 16 United States Code (USC), Section 1531-1544, et seq. and FHWA and ODOT's responsibilities under the act are regulated at 50 CFR Part 402. This Act and subsequent amendments provide for the conservation of threatened and endangered species and the ecosystems upon which they depend. Under Section 7 of this Act, Federal agencies, such as the Federal Highway Administration, are required to consult with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS), jointly referred to as the Services, to ensure that FHWA is not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species.

Compliance with ESA can be demonstrated through "No-Effect" documentation, which is generally provided by the applicant (ODOT). For actions which are "Not Likely to Adversely Affect" species or their habitat, informal consultation is conducted and results in a concurrence letter from the Services. For actions which are "Likely to Adversely Affect" species or their habitat, formal consultation is conducted. The outcome of formal consultation is a Biological Opinion which may include an incidental take permit. Section 3 of ESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

Threatened or endangered species are species of plants and animals that are formally listed as threatened or endangered under the State or Federal ESA. FHWA is required to determine if proposed actions will involve—and possibly affect—proposed or listed species or their designated critical habitat.

This subsection on threatened and endangered species only focuses on ESA issues. A more general discussion of special-status species is included in the Non-Threatened and Endangered Species subsections.

The biologist will prepare a Biological Assessment (BA) for the federally listed species that may be affected. In general the BA(s) would not be completed until the Preferred Alternative has been preliminarily identified, after the DEIS has been published, the comment period has closed, but before the FEIS is issued.

Use the Biological Technical Report to help draft the DEIS. The Biological Opinion (BO) should be completed by the FEIS and should be used in conjunction with the BA to draft the FEIS.

State

Consultation with ODFW and/or ODA is required when species are State-listed as threatened or endangered. State-listed fish and wildlife species are regulated by the Oregon Department of Fish and Wildlife (ODFW) in ORS 496.171 to 496.192. State-listed plants are regulated by the Oregon Department of Agriculture (ODA) in ORS

564.100 to 564.135. Wildlife "take" is defined under state law as to kill or obtain possession or control of. Plant "take" is defined under state law as to collect, cut, damage, destroy, dig, kill, pick, remove or otherwise disturb.

The writer should be aware of the basic compliance expectations at the State and Federal levels. The writer should be consulting with the project biologist throughout the documentation and consultation processes. Together, they should develop and outline a tentative schedule of the processes. This is especially important as threatened and endangered consultation is often a critical path item for the project approval.

If your project occurs on federally owned land, the Biological Evaluation that can be required by federal land management agencies does not fulfill ESA Subsection 7 consultation requirements.

3.13.2 Affected Environment

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. Include maps that show the range and designated critical habitat and the proposed project alternative footprint(s). Include a description of the species use within the action area. Include cross-references to the Natural Systems and Communities subsection, as appropriate. Include the study area boundary on the map.

3. Include a copy of a recent (not older than 2 years) species list(s) for the proposed project. If the species list(s) are older than 2 years, then the list(s) must be verified in writing as valid from the USFWS and/or NMFS.

3.13.3 Environmental Consequences

Federal ESA

1. Drawing from the Biological Technical Report, BA, BO (once available), or No Effect document, discuss the potential direct, indirect, and construction impacts on each species and its designated critical habitat, if appropriate.

2. State the type of documentation that has been or will be used to demonstrate compliance with Federal ESA for listed-species in the project area (e.g., No Effect Document or Concurrence Letter or BO from the Services).

3. Include a summary of the Federal consultation process (Section 7 consultation).

   Reference correspondence with the resource agencies and include the correspondence in Chapter 5 or as a separate appendix.

State ESA

4. State the type of documentation that has been or will be used to demonstrate compliance with State ESA for listed-species in the project area.

5. Provide information on any Oregon State required consultation, such as fish passage. Include a summary of the status of consultation to date.

   Reference correspondence with the resource agencies and include the correspondence in Chapter 5 or as a separate appendix.

3.13.4 Avoidance, Minimization, and/or Mitigation Measures

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Describe potential conservation/mitigation measures, which may be incorporated into the proposed project. Describe the proposed conservation/mitigation measures for each impact. Remember to state what the measure would do and why it is being proposed. At the DEIS stage, the project team is likely to have a good idea of the terms and conditions that will be included in the BO.

   Potential measures could include:

   a. Establishing Special Management Areas (SMAs)

   b. Purchasing credits from established mitigation/conservation banks

   c. Mitigating directly on-site

   d. Relocating fish prior to in-water work

   e. Netting to prevent bird nesting

   f. Improving or creating fish passage

   g. Purchasing conservation easements

   h. Coordinating with local watershed councils and jurisdictional agencies that have relevant HCPs and/or multiple species conservation plans. Mitigation measures proposed in other subsections of this subsection may also provide benefits for federally listed species.

4. **In the FEIS, be sure to reference or include the terms and conditions and conservation measures from the BO and/or Magnuson-Stevens Act (MSA) consultation.**

References and Additional Guidance

NMFS ESA-listed species

USFWS ESA-listed species

ODFW State-listed species

ODA State-listed species

Endangered Species Act (ESA): 16 United States Code (USC), Section 1531-1544, et seq.

50 CFR Part 402

State -listed fish and wildlife species regulated by the Oregon Department of Fish and Wildlife ORS 496.171 to 496.192

State-listed plants regulated by the Oregon Department of Agriculture ORS 564.100 to 564.135

3.14 Non-Threatened and Endangered Species

3.14.1 Regulatory Setting

Fish and Wildlife

This subsection discusses potential impacts and permit requirements associated with wildlife that are not listed under the State or Federal ESA.

Federal laws and regulations beyond the ESA that pertain to fish and wildlife include, but are not limited to, the following:

- Migratory Bird Treaty Act
  The Migratory Bird Treaty Act (MBTA) makes it unlawful to take, import, export, possess, sell, purchase, or barter any migratory bird, with the exception of the taking of game birds during established hunting seasons. The law also applies to feathers, eggs, nests, and products made from migratory birds. This law is of particular concern when birds nest on bridges, buildings, signs, illumination, and ferry dock structures.

- Bald and Golden Eagle Protection Act
  The Bald and Golden Eagle Protection Act, makes it unlawful to take, import, export, sell, purchase, or barter any bald or golden eagle, their parts, products, nests, or eggs. “Take” includes pursuing, shooting, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing the eagles.

- Marine Mammal Protection Act
  The Marine Mammal Protection Act (MMPA) establishes federal responsibility for conservation and management to protect marine mammals. It establishes a moratorium on the taking and importation of marine mammals and marine mammal products. The MMPA defines “take” to mean “to hunt harass, capture, or kill” any marine mammal or attempt to do so.

- Magnuson-Stevens Act (Fishery Conservation and Management Act)
  The Fishery Conservation and Management Act of 1976, was amended in 1996 and became known as the Magnuson-Stevens Act (MSA). The MSA emphasizes the sustainability of the nation’s fisheries and created a new habitat conservation approach. This habitat is called Essential Fish Habitat (EFH).

State laws and regulations beyond the ESA that pertain to fish and wildlife include, but are not limited to, the following:

ORS Chapter 496 of the Oregon Wildlife Code

- Fish Passage
  The owner or operator of an artificial obstruction located in waters in which native migratory fish are currently or were historically present must address fish passage requirements prior to certain trigger events (installation, major replacement, a fundamental change in permit status [e.g., new water right, renewed hydroelectric license], or abandonment of the artificial obstruction). Laws regarding fish

passage may be found in ORS 509.580 through 910 and in OAR 635, Division 412.

Include and discuss as applicable. In addition to State and Federal laws regulating impacts to wildlife, local regulations (e.g., county or city) may need to be considered when developing projects. If work is occurring on Federal land (e.g., BLM or USFS), then the regulations and policies of those agencies must be considered. This includes Sensitive Species, and National Scenic Area endemics.

When writing the Non-T&E Species subsection of the environmental document, you will primarily use the Biology Tech Report as your information source.

This subsection presents a broader view of sensitive animal species than the focused discussion of listed species found in the Threatened and Endangered Species subsection. As noted above, non-T&E are afforded varying levels of regulatory protection.

Plants

This subsection discusses all the other special-status plant species, including Oregon Department of Agriculture (ODA) species and species of special concern, and candidate species. ODA has responsibility for the conservation of non- threatened and endangered plant species through the Native Plant Conservation Program. “Special-status” species are identified because they are rare and/or subject to population and habitat declines. Special status plants are afforded no regulatory protection, except Sensitive species on federal lands, described below. In particular, candidate species should be described, as those could become regulated if proposed or listed during project development or construction. Please see the Threatened and Endangered Species Subsection above for detailed information regarding listed and proposed species.

In addition to State and Federal special status plant species, local regulations (e.g., county or city) may need to be considered when developing projects. If work is occurring on Federal land (e.g., BLM or USFS), then the regulations and policies of those agencies must be considered. This includes Sensitive Species, and National Scenic Area endemics.

The Biology Technical Report should provide all of the necessary information on plant species for the preparation of the EIS, including affected environment, environmental consequences, and avoidance, minimization, and/or mitigation measures.

This subsection presents a broader view of plant species than the more focused discussion found in the Threatened and Endangered Species subsection. For this subsection, describe the dominant plant species in the biological study area and rare plant species that are not listed under either the State or Federal ESA.

Keep in mind that some local governments, special districts, and other land-management agencies may identify certain species of plants as important even though the plants may not be protected by State or Federal laws. These plants should be discussed in this subsection along with avoidance, minimization, or mitigation measures proposed for impacts to these species.

3.14.2 Affected Environment

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. For each species included in this subsection, discuss any unique designations or considerations, including maps of the species habitat and the proposed project alternatives.

3. Remember to discuss/describe the rare, non-T&E plant species that occur or have the potential to occur in the study area and the surveys conducted to determine their presence or absence.

3.14.3 Environmental Consequences

1. Discuss the potential direct, indirect, and construction impacts on each species included in this subsection for each alternative.

2. Include a summary of coordination that has been conducted with the resource agency with jurisdiction.

3. Discuss and quantify the potential direct, indirect, and construction impacts of each of the project alternatives on the plants identified in the project area using the environmental consequences documented in the Biology Technical Report. These should be discussed in detail here as they pertain to federally protected plant species other than those listed under ESA.

3.14.4 Avoidance, Minimization, and/or Mitigation Measures

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Discuss any proposed mitigation, and/or enhancement measures. **Coordinate with FHWA if use of federal funds is being considered for enhancement measures.** Mitigation should be proposed only to compensate for unavoidable impacts to regulated or protected non- threatened and endangered species. Describe the proposed mitigation measures for each impact. Remember to state what the measure would do and why it is being proposed. Mitigation must lessen the impact of the project. Providing habitat needs to be linked to a reduction of impact to the resource. This list is by no means comprehensive.

    a. Relocating fish prior to in-water work

    b. Netting to prevent bird nesting

    c. Improving or creating fish passage

d. Removal of invasive species

e. Reestablish plant communities

4. As a cooperator on the Oregon Conservation Strategy, ODOT is committed to minimizing impacts to sensitive species, particularly Strategy Species. To that end, reasonable enhancement measures may be recommended as optional opportunities that could avoid and minimize direct or indirect impacts to non-regulated species. Describe what the enhancement measures would do as they are proposed.

References and Additional Guidance

Oregon Department of Transportation PD-04: Environmental Guidance

Oregon Conservation Strategy

ORS Chapter 496 of the Oregon Wildlife Code

OAR 635, Division 412 – Fish Passage

Oregon Fish Passage requirements

Native Plant Conservation Program

Migratory Bird Treaty Act of 1918 - https://www.fws.gov/laws/lawsdigest/MIGTREA.HTML

Bald and Golden Eagle Protection Act of 1940 - https://www.fws.gov/laws/lawsdigest/BALDEGL.HTML

USFWS Step-by-Step Guidance to Avoid Disturbing Bald Eagles specific to bald eagles in the Pacific Northwest (Idaho, Oregon, and Washington) https://www.fws.gov/migratorybirds/baldeagle.htm

Marine Mammal Protection Act - https://www.fisheries.noaa.gov/topic/laws-policies#marine-mammal-protection-act

Essential Fish Habitat - https://www.fisheries.noaa.gov/national/habitat-conservation/essential-fish-habitat

Oregon Fish Passage Requirements

Oregon Administrative Rules Oregon Department of Fish and Wildlife - https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=2988

3.15 Invasive Species

3.15.1 Regulatory Setting

Executive Order 13112 requires Federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration guidance issued August 10, 1999 directs the use of the state's noxious weed list to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project. However, invasive species include wildlife as well as plants.

3.15.2 Affected Environment

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. Identify and quantify invasive species within the study area.

3. Provide a map of invasive species in relationship to the proposed alternatives. Include the study area boundary on the map.

3.15.3 Environmental Consequences

Discuss the potential of alternatives to promote or inhibit the spread of invasive species.

3.15.4 Avoidance, Minimization, and/or Mitigation Measures

Discuss measures that will be used to combat invasive species. For example:

> In compliance with the Executive Order on Invasive Species, E.O. 13112, and subsequent guidance from the Federal Highway Administration, landscaping and the erosion control plan included in the project will not use species listed as noxious weeds. In areas of particular sensitivity, extra precautions will be taken if invasive species are found in or adjacent to the construction areas. The measures include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

References and Additional Guidance

FHWA Website for Invasive Species (includes a link to EO 13112).

Non-indigenous aquatic species in Oregon

Oregon State Noxious Weeds List

3.16 Air Quality

3.16.1 Regulatory Setting

Criteria Pollutants

The Clean Air Act as amended in 1990 is the federal law that governs air quality. This law sets standards for the quantity of pollutants that can be in the air. These standards are called National Ambient Air Quality Standards (NAAQS). Standards have been established for six criteria pollutants that have been linked to potential health concerns; the criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), lead (Pb), and sulfur dioxide (SO_2). A region is a nonattainment area when designated by the US EPA when one or more monitoring stations in the region fail to attain the relevant standard. Areas that were previously designated as nonattainment areas but have met the standard are called maintenance areas.

Under the 1990 Clean Air Act Amendments, the U.S. Department of Transportation cannot fund, authorize, or approve Federal actions to support programs or projects that are not first found to conform to the State Implementation Plan (SIP). Conformity with the Clean Air Act takes place at the regional level and at the project level. Any build alternative must conform at both levels to be approved.

Regional Conformity

Regional level conformity in Oregon is concerned with how well the region meets the standards set for carbon monoxide (CO), ozone (O_3), and particulate matter (PM). Oregon is not designated non-attainment for the other criteria pollutants. At the regional level, Metropolitan Planning Organizations (MPOs) develop Regional Transportation Plans (RTP) that include all of the transportation projects planned for that region over at least the next 20 years. Based on the projects included in the fiscally constrained RTP, an EPA air quality model is used to determine whether or not the implementation of those projects meets the emission budgets or other tests showing that attainment requirements of the Clean Air Act are met. If all requirements for regional conformity are met, the Federal Highway Administration and the Federal Transit Administration jointly make a conformity determination that the RTP conforms to the SIP for achieving the goals of the Clean Air Act. MPOs are also required to develop a Transportation Improvement Program (TIP), which includes projects that will be funded and implemented in the near term. Both RTPs and TIPs are required to meet regional conformity requirements.

Project-Level Conformity

In addition to meeting regional-scale conformity requirements, individual Federal projects must meet certain project-level conformity requirements. Federal projects are required to be in a conforming RTP and TIP, and the design concept and scope of the project need to be consistent with those analyzed in the RTP and Tip. Conformity at the project-level also requires consideration of “hot spot” analysis, which is an analysis of localized pollutant concentrations, when an area is classified as nonattainment or maintenance for carbon monoxide (CO) and/or particulate matter (PM). In general, pollutant

concentrations due to building the project either need to be below the NAAQS, or lower than the concentrations associated with not building the project (the no-build alternative).

Mobile Source Air Toxics

In addition to the criteria air pollutants for which there are National Ambient Air Quality Standards (NAAQS), EPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners) and stationary sources (e.g., factories or refineries).

Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics defined by the Clean Air Act. The MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

The EPA is the lead Federal Agency for administering the Clean Air Act and has certain responsibilities regarding the health effects of MSATs. Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (https://www.epa.gov/iris). In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (https://www.epa.gov/national-air-toxics-assessment/). These are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.
The 2007 EPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOBILE6.2 model, even if vehicle activity (vehicle-miles travelled, VMT) increases by 145 percent as assumed, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050.

3.16.2 Affected Environment

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. Insert the following table in the document.

The following table provides a summary of the State of Oregon and Federal standards for the criteria pollutants.

Table [x] Summary of National Ambient Air Quality Standards and Oregon Air Quality Standards

Pollutant	Averaging Time	State Standard	Federal Standard	Health and Atmospheric Effects	Typical Sources
Ozone (O_3)	8 hours	0.075 ppm	0.075 ppm	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include a number of known toxic air contaminants.	Low-altitude ozone is almost entirely formed from reactive organic gases (ROG) and nitrogen oxides (NO_x) in the presence of sunlight and heat. Major sources include motor vehicles and other mobile sources, solvent evaporation, and industrial and other combustion processes. Biologically-produced ROG may also contribute.
Carbon Monoxide (CO)	1 hour 8 hours	35 ppm 9 ppm	35 ppm 9 ppm	Asphyxiant. CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.
Respirable Particulate Matter (PM_{10})	24 hours Annual	150 µg/m^3 50 µg/m^3	150 µg/m^3 –	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources (wind-blown dust, ocean spray).
Fine Particulate Matter ($PM_{2.5}$)[a]	24 hours Annual	–	35 µg/m^3 15 µg/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – considered a toxic air contaminant – is in the $PM_{2.5}$ size range. Many aerosol and solid compounds are part of $PM_{2.5}$.	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical (including photochemical) reactions involving other pollutants including NO_x, sulfur oxides (SO_x), ammonia and ROG.

Pollutant	Averaging Time	State Standard	Federal Standard	Health and Atmospheric Effects	Typical Sources
Nitrogen Dioxide (NO_2)	Annual Hourly	0.053 ppm	0.053 ppm 0.10 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain.	Motor vehicles and other mobile sources; refineries; industrial operations.
Sulfur Dioxide (SO_2)	3 hours 24 hours Annual	0.50 ppm 0.10 ppm 0.02 ppm	N/A 0.14 ppm 0.03 ppm	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing.
Lead (Pb)[a]	Rolling 3-month average	0.15 µg/m^3	0.15 µg/m^3	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also considered a toxic air contaminant.	Primary: lead-based industrial process like batter production and smelters. Previously: lead paint, leaded gasoline. Moderate to high levels of aerially deposited lead from gasoline may still be present in soils along major roads, and can be a problem if large amounts of soil are disturbed.

Notes: ppm = parts per million; µg/m^3 = micrograms per cubic meter

[a] Diesel exhaust particulate matter is part of PM_{10} and, in larger proportion, $PM_{2.5}$. The U.S. EPA has identified various organic compounds that are precursors to ozone and $PM_{2.5}$ as toxic air contaminants. There is no threshold level of exposure for adverse health effect determined for toxic air contaminants, and control measures may apply at ambient concentrations below any criteria levels specified for these pollutants or the general categories of pollutants to which they belong.

3. Discuss the general climatic and meteorological conditions in the study area. Include prevailing winds, valley effects, inland/coastal influences, etc. In most cases, this discussion should be no longer than 1-2 short paragraphs.

4. Describe the air quality characteristics of the local airshed and project area, including:

   a. A written summary of the NAAQS status of area (non-attainment, maintenance or not designated) for each criteria pollutant.

   b. Monitoring data (when available) and air quality trends. Include the last time a standard was violated in the project area.

5. In a text box, reference the Air Quality Technical Report, date completed and how a copy can be obtained.

3.16.3 Environmental Consequences

Provide a regional conformity statement and a project level air conformity statement; unless the project is exempt (see 40 CFR 93.126 - 93.128). It is unusual for an EIS project to be exempt.

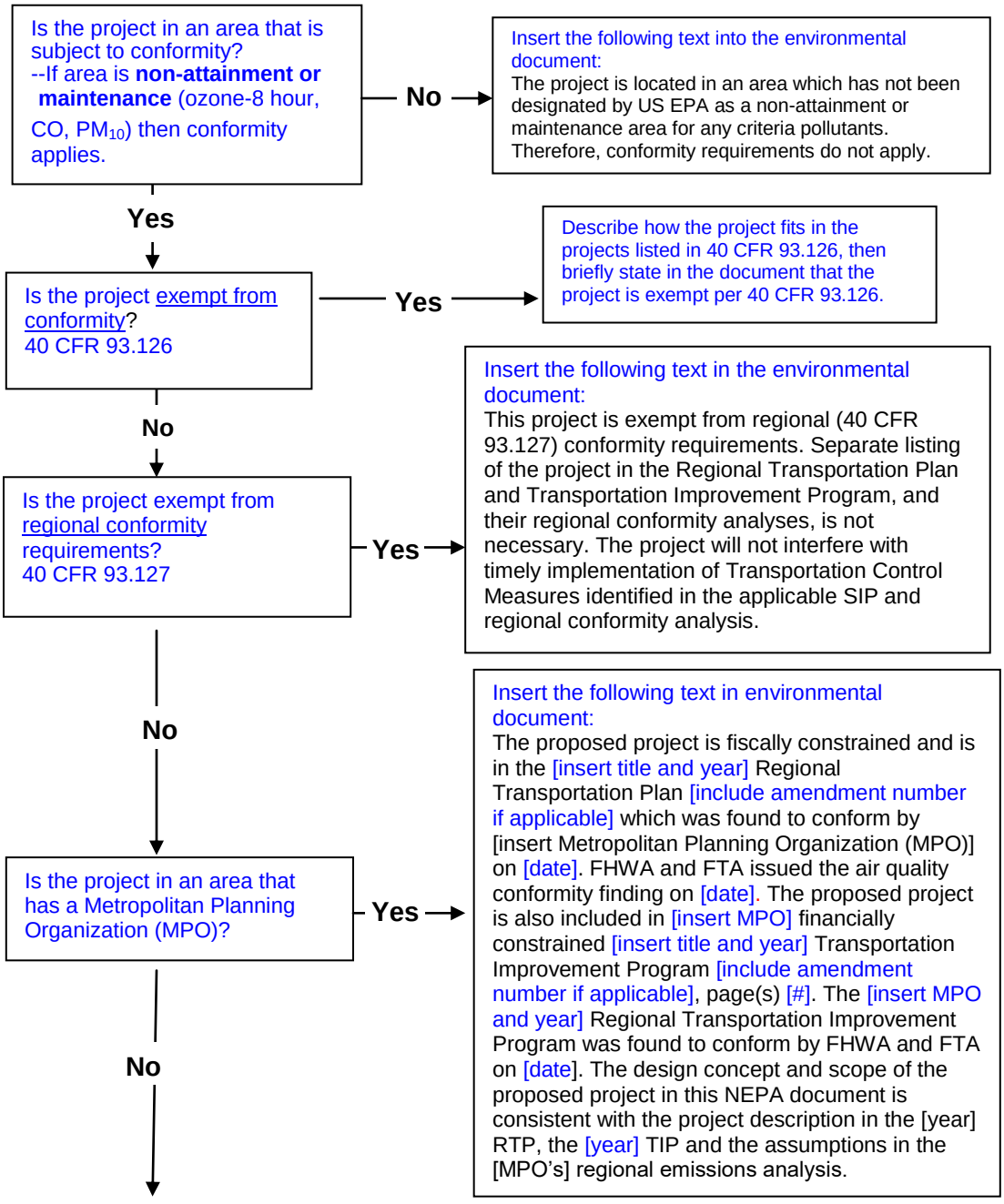
1. Regional Air Quality Conformity

The flow chart on the following page assists in determining the appropriate regional conformity language to include in this section.

On March 2, 2010, EPA announced the availability of the MOVES2010 air quality emissions model. The grace period for using MOVES2010 for regional conformity purposes expires on March 2, 2012. All regional conformity determinations made by USDOT (FHWA and FTA) on or after March 2, 2012, must use the MOVES2010 model. Up until that time the use of MOBILE6.2 model is acceptable.

The proposed project **must** match the design concept and scope of the project as described in the most recent Regional Transportation Plan (RTP) by the time the Record of Decision is signed. In the Air Quality Conformity Supporting Documentation appendix, include a copy of the page from the RTP project listing which includes this project.

Regional Air Quality Conformity Statement Determination Flowchart



Insert the following text in the environmental document (this text is used for rural nonattainment areas).
A regional conformity analysis conducted by [insert either ODOT] covering the [insert name of nonattainment or maintenance area] for [identify pollutant(s)] was carried out that includes this project, and all reasonably foreseeable and financially constrained regionally significant projects for at least 20 years from the date that the analysis was started. The analysis used the latest planning assumptions, and the [name of emission model] and appropriate analysis methods, as determined by Interagency Consultation on [date/s of meeting/s or correspondence]. Based on this analysis, the [insert name of nonattainment area] will conform to the SIP, including this project, based on the [emission budget, project/no project, and/or project/baseline] conformity test(s) and analysis procedures, as described in 40 CFR 93.109(l). The design concept and scope of the proposed project is consistent with the project design concept and scope used in the regional conformity analysis. The project as included in the STIP is included in Appendix [X] of this document. Timely implementation of control measures was reviewed by Interagency Consultation on [date of meeting].

2. Project Level Conformity

Hot spot analysis is only required when the project is in a CO or PM non-attainment or maintenance area. CO hot spot analysis is conducting quantitatively, while PM hot spot analysis is conducted qualitatively. See 40 CFR 93.123. Oregon's air quality status is summarized here. State whether a CO or PM "hot spot" analysis is required for the project. If neither CO nor PM hot-spot analysis is required, proceed to the next section regarding Mobile Source Air Toxics.

On March 2, 2010, EPA announced the availability of the MOVES2010 air quality emissions model. EPA did not approve MOVES2010 for project-level conformity purposes, but is expected to make such approval in the near future. At this time (March 25, 2010), MOBILE6.2 should be used for project-level conformity analysis.

Carbon Monoxide Analysis

- Include a map showing the project alternatives, receptor sites and intersections analyzed for any CO or PM hotspot analysis conducted. Include the location of any monitoring stations used to establish background concentrations.

- Provide a brief statement of the quantitative CO analysis methods used, including the emission and dispersion model and assumptions.

- Use tables to summarize the results of the hot spot analysis relative to the impacts of each build alternative and the No-Build alternative. Include a footnote in the table regarding the background CO concentrations used in the analysis.

  Background concentrations representing the cumulative emissions of other sources in the area are added into the predicted local concentrations for CO at intersections. Because of these inclusive analysis methodologies, the forecast impacts represent cumulative air quality impacts.

- Provide a project-level conformity statement which provides conclusions regarding the project not:

  i. Causing or contributing to any new violations of any standard;

  ii. Increasing the frequency or severity of any existing violation or any standard; and

  iii. Delaying timely attainment of standard.

Particulate Matter Analysis

- If a project is in a PM non-attainment or maintenance area, PM hot spot analysis is required as outlined in the 1995 conformity rule for the following types of projects:

- Projects which are located at sites at which violations have been verified by monitoring;

- Projects which are located at sites which have vehicle and roadway emission and dispersion characteristics that are essentially identical to those of sites with verified violations (including sites near one at which a violation has been monitored); and,

- New or expanded bus and rail terminals and transfer points which increase the number of diesel vehicles congregating at a single location.

EPA expects to release, sometime in 2010, new guidance for PM analysis that will require quantitative hot spot analysis. A two-year grace period will begin upon release of this guidance, during which time qualitative analysis may still be conducted.

- If a PM hot-spot analysis is conducted, describe the analysis methods and results.

- Document project-level findings, using the guidelines in the March 2006 EPA/FHWA PM hotspot guidance.

3. MSAT Impacts

a. Refer to the following flow chart to determine the appropriate analysis and language to include in the document.

b. The EIS must also contain language from Appendix C of FHWA's September 30, 2009, Interim Guidance on Air Toxic Analysis in NEPA documents, which refers to 40 CFR 1502.22(b) regarding incomplete information and analysis methodology.

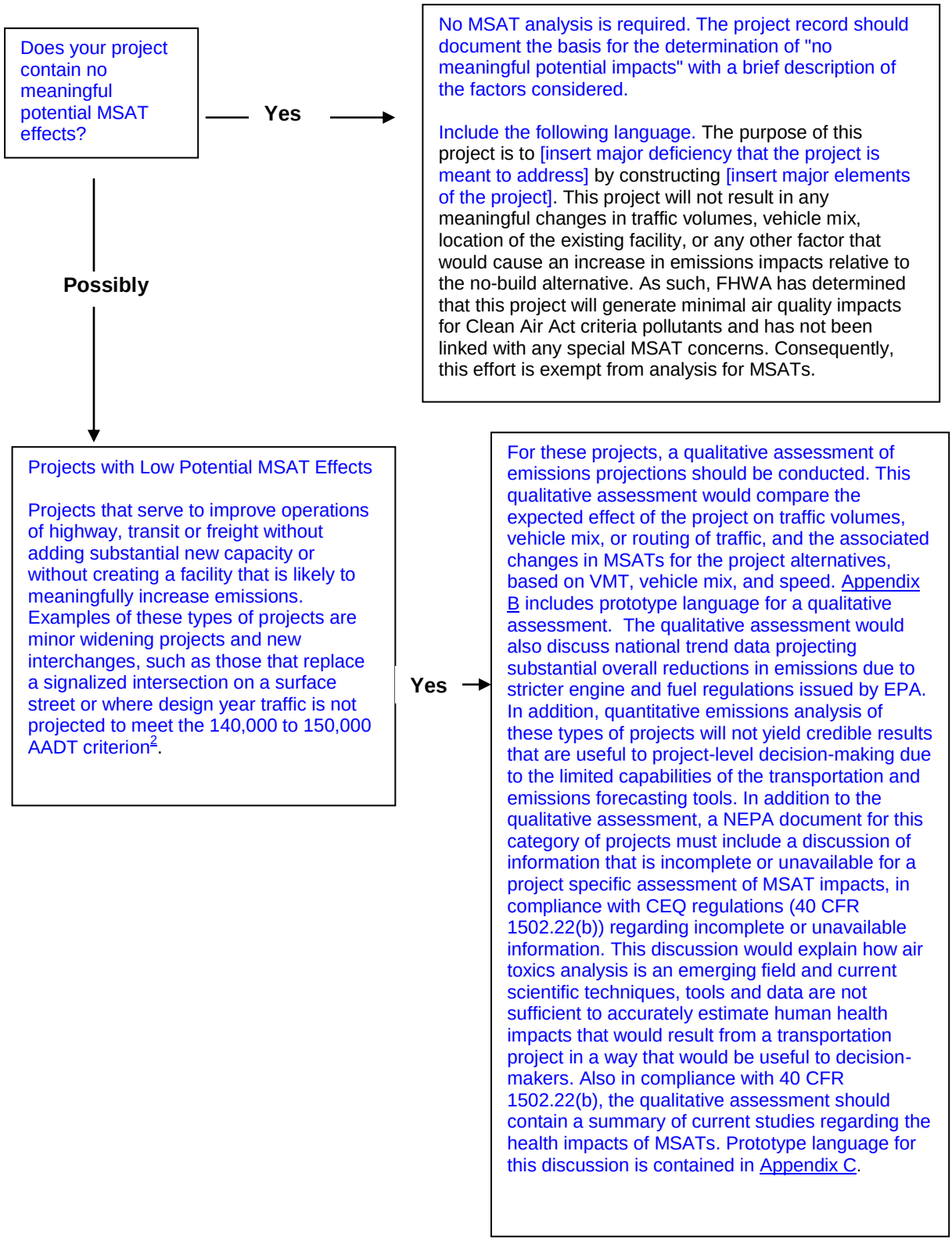
c. In addition to FHWA's interim guidance language include the following:

> "Significant scientific uncertainties remain in our understanding of the relationship between adverse health effects and near-road exposure, including the exposures of greatest concern, the importance of chronic versus acute exposures, the role of fuel type (e.g., diesel or gasoline) and composition (e.g., % aromatics), relevant traffic patterns, the role of co-stressors including noise and socioeconomic status, and the role of differential susceptibility within the "exposed" populations."
> (Citation: Volume 73 Federal Register Page 8441 (February 26, 2007) Control of Hazardous Air Pollutants from Mobile Sources)
>
> Chapter 3 of the EPA Regulatory Impact Analysis for the 2007 MSAT rules states that there are a number of additional significant uncertainties associated with the air quality, exposure and risk modeling. The modeling also has certain key limitations such as the results are most accurate for large geographic areas, exposure modeling does not fully reflect variation

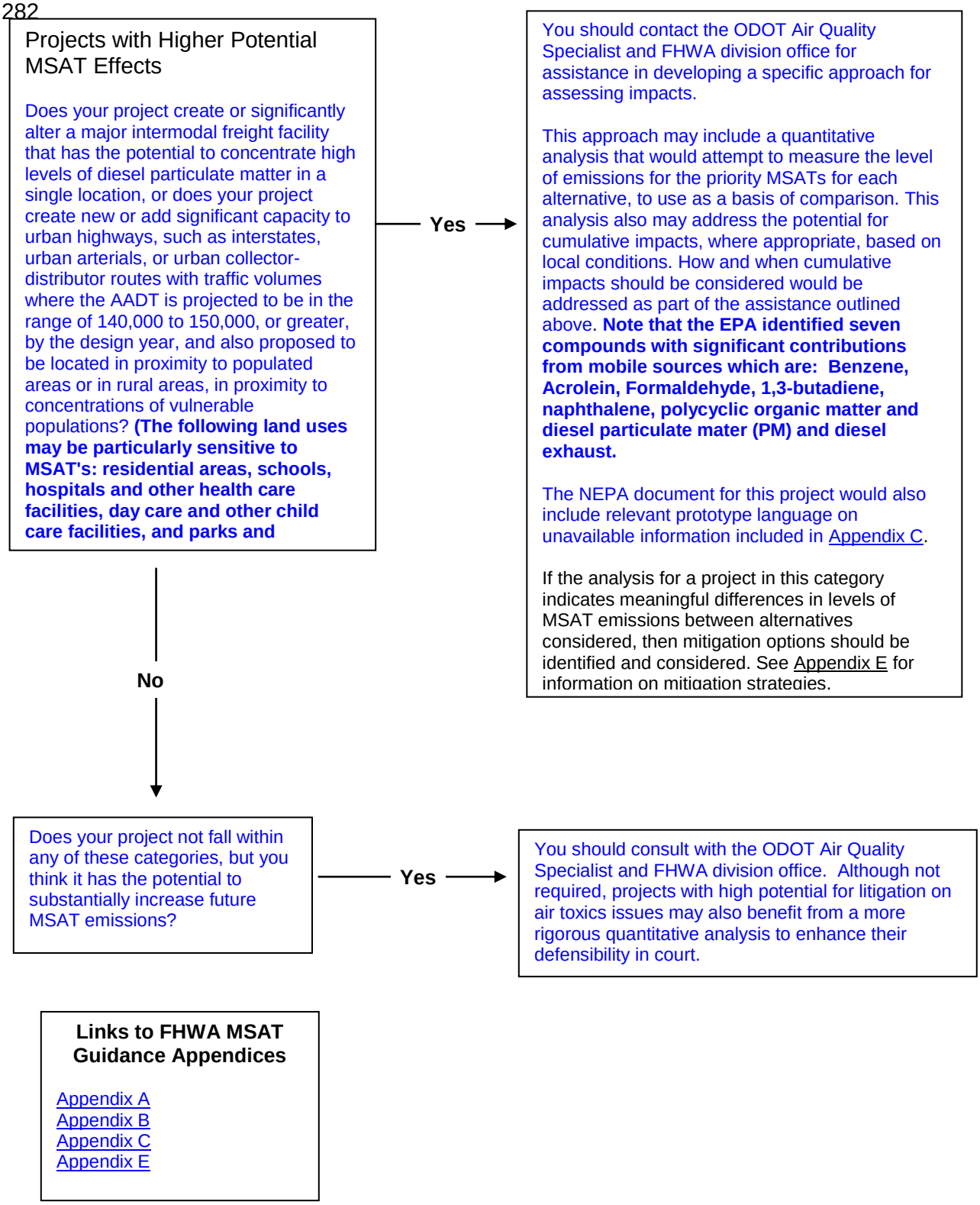
among individuals, and non-inhalation exposure pathways and indoor sources are not taken into account.

d. If a quantitative MSAT analysis is required, use tables and summarize the results of the analysis relative to the impacts of each Build alternative and the No-Build alternative.

Mobile Source Air Toxics (MSAT) Analysis and Documentation Flowchart



Mobile Source Air Toxics (MSAT) Analysis and Documentation Flowchart (continued)



Links to FHWA MSAT Guidance Appendices

Appendix A
Appendix B
Appendix C
Appendix E

4. Construction Impacts

If construction impacts are being discussed under each resource heading instead of in a separate section, then temporary air quality impacts from construction activities need to be discussed here.

The primary construction emission impacts will usually be associated with dust. Oregon Standards Specifications incorporate all applicable regulations and include a fugitive dust control specification. Normally, watering and general dust control efforts will be adequate to meet the rule.

If a project is located in a nonattainment or maintenance area and construction will last more than five years at one site and/or will substantially affect traffic due to detours, road closures, and temporary terminations, then a hot spot analysis for the pertinent pollutant may be needed. **The need for a hot spot analysis is determined and carried out if necessary during the FEIS phase when more specific construction staging information is available. As part of conformity requirements, the analysis must be conducted and conformity met, prior to issuance of the ROD.** The hot spot analysis methodology should be established through interagency consultation.

If an Indirect Source Construction permit will be required for this project it should be documented.

Short-Term Construction Impacts. The following sample text reflects a qualitative assessment of construction emissions. The language should be modified to fit the project, considering the magnitude of the project and expected construction activities.

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling and various other activities. Emissions from construction equipment also are anticipated and would include CO, nitrogen oxides (NO_x), volatile organic compounds (VOCs), directly-emitted particulate matter (PM_{10} and $PM_{2.5}$), and toxic air contaminants such as diesel exhaust particulate matter. Ozone is a regional pollutant that is derived from NO_x and VOCs in the presence of sunlight and heat.

Site preparation and roadway construction would involve clearing, cut-and-fill activities, grading, removing or improving existing roadways, and paving roadway surfaces. Construction-related effects on air quality from most highway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling and transport of soils to and from the site. If not properly controlled, these activities would temporarily generate PM_{10}, $PM_{2.5}$ and small amounts of CO, SO_2, NO_x and VOCs.

Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional

source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_x, VOCs and some soot particulate (PM_{10} and $PM_{2.5}$) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Construction of concrete structures may have associated dust-emitting sources, such as concrete mixing operations. Asphalt mix plants could have particulate, hazardous air pollutant and combustion source emissions. Stationary sources such as concrete and asphalt mix plants are generally required to obtain air permits from Oregon Department of Environmental Quality or the Lane Regional Air Pollution Authority.

Most of the construction impacts to air quality are short-term in duration and, therefore, will not result in adverse or long-term conditions.

5. Indirect Impacts.

Indirect impacts are caused by the project but can be later in time or farther removed in distance from the project. The travel demand model used for the air quality analysis reflects future land use, employment and growth and therefore includes forecast indirect impacts.

6. Cumulative Impacts.

The forecast traffic volumes used to analyze the air quality impacts of the project alternatives include traffic from all sources.

3.16.4 Avoidance, Minimization, and/or Mitigation Measures

1. Discuss any avoidance and minimization efforts that have already been incorporated into the proposed alternatives.

2. Discuss potential mitigation measures to lessen the impact to air quality as a result of the proposed project. Most of the construction impacts to air quality are short-term in duration and, therefore, will not result in adverse or long-term conditions. Consider the following sample text for inclusion in your document.

Construction contractors are required to comply with Division 208 of OAR 340 which addresses visible emissions and nuisance requirements. Subsection 210 of

OAR 340-208 places limits on fugitive dust that causes a nuisance or violates other regulations. Modify the references to DEQ regulations appropriately if project is in Lane County and under the jurisdiction of LRAPA. Violations of the regulations can result in enforcement action and fines. The regulation provides a list of reasonable precautions be taken to avoid dust emissions:

- Use of water or chemicals, where possible, for the control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;
- Application of asphalt, oil, water, or other suitable chemicals on unpaved roads, materials stockpiles, and other surfaces which can create airborne dusts;
- Full or partial enclosure of materials stockpiles in cases where application of oil, water, or chemicals are not sufficient to prevent particulate matter from becoming airborne;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
- Adequate containment during sandblasting or other similar operations;
- When in motion, always covering open-bodied trucks transporting materials likely to become airborne;
- The prompt removal from paved streets of earth or other material that does or may become airborne.

In addition, contractors are required to comply with ODOT standard specifications. Section 290 of the specifications has requirements for environmental protection, which include air pollution control measures. These control measures include vehicle and equipment idling limitations and are designed to minimize vehicle track-out and fugitive dust. These measures would be documented in the pollution control plan that the contractor is required to submit prior to the pre-construction conference. To reduce the impact of construction delays on traffic flow and resultant emissions, road or lane closures should be restricted to non-peak traffic periods when possible.

References and Additional Guidance

FHWA Transportation Conformity Reference Guide

Federal Transportation Conformity Rule

Exempt project listing (40 CFR 93.126)

MOVES2010 Model Guidance

Hot Spot Analysis References

EPA has released guidance on $PM_{2.5}$ and PM_{10} analysis.

EPA Final Rule defining projects for which $PM_{2.5}$ and PM_{10} Hot Spot Analysis is needed for Conformity

March 2006 EPA/USDOT Guidance Document for performing qualitative $PM_{2.5}$ and PM_{10} Hot Spot Analysis

FHWA Examples of PM Hot Spot Analyses

Mobile Source Air Toxics References

FHWA September 30, 2009, Guidance for MSATs in NEPA

Volume 73 Federal Register Page 8441 (February 26, 2007) Control of Hazardous Air Pollutants from Mobile Sources)

Regulatory Impact Analysis for Final Rule: Control of Hazardous Air Pollutants from Mobile Sources

Integrated Risk Information System (IRIS)

1999 National Air Toxics Assessment (NATA)

Oregon References

Air Quality Status for Oregon (updated by ODOT)

Air Quality Statement of Work Matrix for EIS or EA (assists in the identification air quality tasks needed for a project)

Air Quality for EA or EIS Project Standardized Statement of Work (used after the matrix has been completed to write a SOW)

ODOT Air Quality Technical Manual

ODOT Air Quality, Acoustics, and Energy Program website

3.17 Noise (and Vibration, if applicable)

Vibration impacts are generally only analyzed for transit projects when light rail, or bus lanes would be located close to vibration-sensitive buildings. For proposed actions which include a transit component, Federal Transit Administration (FTA) will likely be a co-lead agency. Document authors should understand that the FTA's noise policy varies from the FHWA's noise policy and substantial coordination will be required with the co-lead agencies to determine how each agency's policies will apply to the proposed action.

If a project includes transit vibration analysis, it could be prepared as a separate section from the noise section. There are no Federal requirements that specifically address traffic-induced vibration but FTA's Noise and Vibration Manual should be used when FTA is involved with a proposed action.

3.17.1 Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969 provides a regulatory framework that promotes the general welfare and fosters a healthy environment for noise considerations. 23 CFR 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise* and ODOT Noise Manual provide the basis for analyzing and abating highway traffic noise impacts in Oregon.

3.17.1.1 National Environmental Policy Act and 23 CFR 772

For highway transportation projects with FHWA involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project.

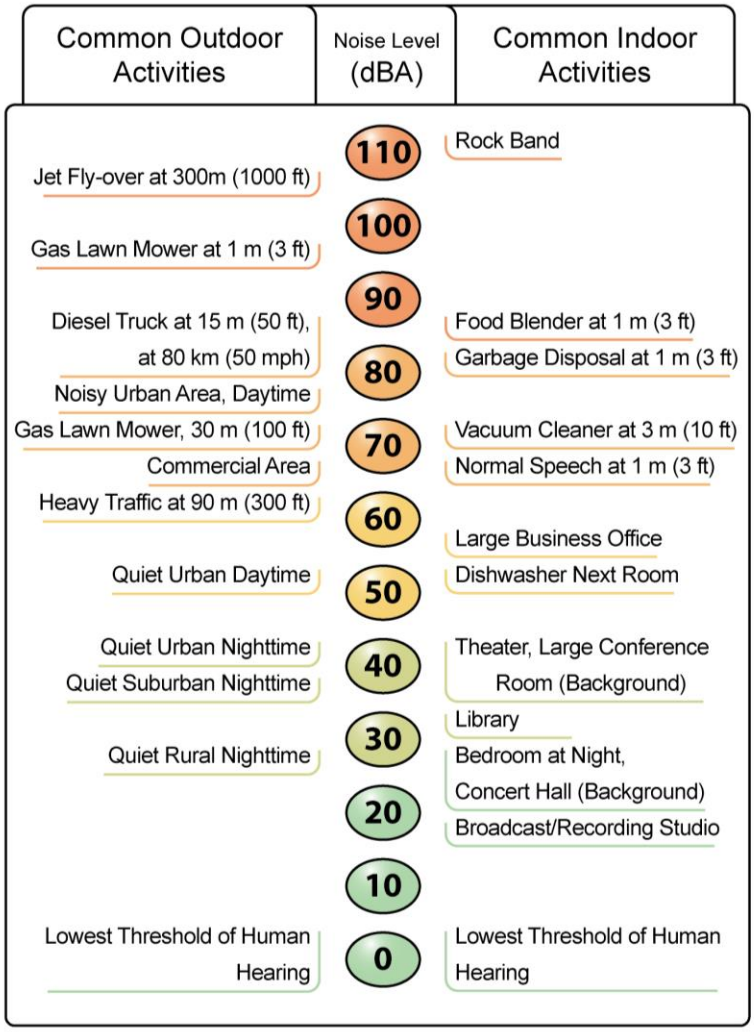
The noise regulations govern noise prediction requirements, noise analyses, noise abatement criteria and requirements for informing local officials. The noise abatement criteria (NAC) are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). Table (insert table #) lists the noise abatement criteria for use in the FHWA noise analysis.

Table [X]

Activity Category	NAC, Hourly A- Weighted Noise Level, dBA $L_{eq}(h)$	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries and hospitals.
C	72 Exterior	Developed lands, properties or activities not included in Categories A or B above.
D	–	Undeveloped lands.
E	52 Interior	Residence, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.

A noise impact occurs if predicted noise levels approach the levels listed in the table above or substantially exceed existing noise levels. Each state defines quantitative levels considered to approach the NAC or substantially exceed existing noise levels. Projects that include construction of new highway or reconstruction of existing highways by significantly changing either the horizontal or vertical alignment or by increasing the number of through traffic lanes require analysis and consideration of abatement. A significant change in the horizontal or vertical alignment occurs when the change is likely to result in increased noise levels to developed lands.

[Insert table number] lists the noise levels of common activities so that readers can compare the actual and predicted highway noise-levels discussed in this section with common activities they may be familiar.



3.17.1.2 ODOT Noise Policy

ODOT is responsible for implementing the FHWA regulations in the State of Oregon. In accordance with the *ODOT Noise Manual*, which explains the ODOT noise policy, [date to be inserted once approved], a noise impact occurs when the future noise level for one or more build alternatives results in a substantial increase in noise level (defined as a 10 dBA or more increase over the existing noise levels) or when the future noise level for one or more build alternatives approaches or exceeds the NAC. ODOT noise policy defines approaching the NAC as 2 dBA less than the NAC. Table [insert table #] summarizes the approach criteria used for highway projects in Oregon.

Table [X]

Activity Category	Oregon Approach Criteria Hourly A- Weighted Noise Level, dBA $L_{eq}(h)$	Description of Activities
A	55 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	65 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	70 Exterior	Developed lands, properties, or activities not included in Categories A or B above.
D	–	Undeveloped lands.
E	50 Interior	Residence, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

3.17.1.3 Oregon Department of Environmental Quality Noise Policy

The Oregon Department of Environmental Quality (DEQ) Chapter 340 Division 35 sets allowable noise levels for individual vehicles and for industrial and commercial uses. Maximum allowable noise levels for in-use vehicles in Oregon are determined by vehicle type, operating conditions, and model year.

3.17.1.4 Local Noise Policy

[County or City] of [_____] [do/do not] have noise ordinances for nuisance noise or limits on construction noise times or sound levels. **Include a summary of applicable local noise ordinances. The Noise Technical Report should have language that describes the local noise requirements that would apply to the project.**

3.17.1.5 Project Noise Abatement Requirements

If the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would be considered in final design of the project.

ODOT's Noise Manual sets forth the criteria for determining when an abatement measure is reasonable and feasible. Abatement must meet ODOT's reasonable and feasible criteria to be considered. Feasibility of noise abatement is primarily an engineering concern. A minimum 5 dBA reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other feasibility considerations include topography, access requirements, other noise sources and safety considerations. The reasonableness determination is basically a cost-benefit analysis, but also considers the input from those property owners which could receive abatement features. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents acceptance, absolute noise levels, the change in the existing noise levels, environmental impacts of abatement, public and local agencies input, newly constructed development versus development pre-dating 1996 and the cost

per benefited residence. ODOT's reasonable cost criterion is $25,000/benefitted residence.

This (insert *draft* if appropriate) EIS provides information on the potential locations of noise abatement measures, that currently meet the reasonable and feasible criteria. This document also provides information on which areas are forecast to be noise impacted, but do not meet the reasonable and feasible criteria and therefore, will not be considered for noise abatement. The final decision on provision for noise abatement is not made until final design, when the exact number of noise impacts are known so that the final assessment of reasonable and feasible criteria can be measured. ODOT strongly considers the desires of residents when considering providing abatement. In some cases, residents may choose not to have reasonable and feasible abatement built. In these cases, those areas would not be able to access Federal-aid funding in the future for noise abatement.

3.17.2 Affected Environment

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. Summarize this information provided in the technical study: land uses and sensitive noise receptors, existing measured noise levels, existing modeled noise levels, particularly areas of frequent human use that would benefit from reduced noise levels. Incorporate any maps and graphics from the noise technical report showing noise measurement sites, sensitive noise receptors, and land use.

3. Write a brief description of noise sensitive areas (residences, businesses, schools, parks, etc.), including information on the number and types of activities that may be affected. This should include developed lands and undeveloped lands for which development is planned, designed and programmed.

3.17.3 Environmental Consequences

1. The noise technical report identifies whether the proposed build alternatives would result in noise impact(s). Pull information from the technical report for the following discussion points. These discussion points are needed in order to satisfy the requirements of 23 CFR 772. If the proposed build alternatives would not result in noise impacts, the environmental consequences section is complete. Mitigation, in terms of noise abatement, beyond best management practices, standard specifications and special provisions is not expected when there are no noise impacts.

    a. Discuss modeling assumptions and input data used. Identify the traffic noise model and version used. Identify the worst noise hour and how it was selected. Discuss project-specific methodology, lack of information, or data limitations that need explanation. If a detailed account of methodology is required in order for the reader/public to understand the quality or limitations of the analysis, summarize briefly in the text and place details in an appendix.

b. Discuss the modeling results of future noise levels for each build alternative and the No-Build (identify the design year traffic that is at least 20 years from the end construction). Provide a table summary of existing, No-Build and future-build modeling results by associated receptors. **There is often a need to review impact analysis results many years after the environmental document has been completed. It is extremely important that the quantitative impacts and locations are included in the EIS either in the text or in the appendix material.**

c. Discuss these types of noise impacts:

i. substantial increase impacts (project will result in 10 dBA increase over existing conditions)

ii. and/or whether the noise approaches (within 2 dBA) or exceeds the NAC.

2. Traffic noise impacts require the consideration of abatement.

a. A table summarizing the results of the noise impact analysis for the build and No-Build alternatives should be included in the document. Depending upon the complexity of the noise analysis you may choose to either provide a table for each build alternative or include the right-hand column of the sample table that follows.

Receptor # and Location	Existing Noise Level (dBA)	Predicted Noise Level without Project (dBA)	Predicted Noise Level with Project (dBA)	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement (dBA)			Is Abatement Reasonable and Feasible?	Build Alternative(s)
					6-foot Wall	9-foot Wall	12-foot Wall		
1—A Street	62	64	79	Yes	74	64	66	Yes	A, B

b. Discuss noise impacts for which no prudent solution is reasonably available and why.

3. Summarize noise impacts from construction from the noise technical report.

Example language: Construction of the Build Alternative may cause localized, short-duration noise impacts. (name of city or county) does/does not have specific regulations governing construction noise. (name of city or county) allows/forbids construction between the hours of 7 a.m. and 7 p.m. Mondays through Saturdays. Using standard ODOT specifications for control of noise sources during construction can minimize construction impacts. The ODOT specifications are described in the Construction Noise Abatement section.

3.17.4 Avoidance, Minimization, and/or Abatement Measures

1. Abatement measures are not relevant for the No-Build Alternative.

2. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

3. Describe minimization measures that were considered and those which were incorporated into the proposed project.

4. Describe noise abatement (include barriers of different heights and types) which meets ODOT's reasonable and feasible criteria. Do not use "mitigate" or "mitigation." FHWA prefers the terms "abate" or "abatement" or "attenuate" or "attenuation" to be used in the noise section of environmental documents.

   Sample text: Receptor 1 represents 10 homes located on A Street in the City of Alphabet. Measurements taken at Receptor 1 indicate that the existing noise level at that location is 62 dBA. The future noise level at Receptor 1 with the project is predicted to be 80 dBA. Because the predicted future noise level approaches or exceeds the NAC for residential uses (67dBA), the 10 homes represented by Receptor 1 would be adversely affected by noise. To achieve a 5 dBA reduction, a 6-foot noise wall would be needed. If the total cost of the wall at this location is less than the total cost allowance, then the wall would likely be incorporated into the project. The total cost allowance, calculated in accordance with the ODOT's Noise Manual, is $175,000. The current estimated cost of the wall is $[____].

   a. Include a map showing receptors and proposed wall/berm locations. Describe what abatement will do for existing and future noise levels. If there are existing noise impacted properties that will now be provided abatement, be sure to describe this beneficial affect.

      When analyzing abatement, we must consider abatement for not only the impacts caused by the project (required by NEPA), but also abatement for existing noise levels that approach or exceed the NACs. Under 23 CFR 772, if the predicted noise level approaches or exceeds the NACs, there is a traffic noise impact regardless of whether or not the proposed project causes it. Consideration of abatement for these impacts is required, as well. The noise technical report should have a discussion that can be summarized for the EIS.

   b. Include ODOT Noise Manual Appendix I worksheets in an appendix. This worksheet is used to determine whether abatement is reasonable and feasible.

   c. Include a cost estimate for all noise abatement that is considered reasonable and feasible.

5. When noise abatement consideration is included in the Preferred Alternative include the following statement:

   Based on the studies completed to date, ODOT intends to incorporate noise abatement in the form of (a) barrier(s) [or berm(s)] at: [_____], with respective lengths and average heights of [_____]. Calculations based on preliminary design data indicate that the barrier(s) or berm(s) will reduce noise

levels by 5 to [__] dBA for [____] residences at a cost of [_____]. If during final design conditions have substantially changed, noise abatement may not be necessary. The final decision of the noise abatement will be made upon: (1) completion of the project design, which occurs following the ROD and (2) the completion of the public involvement processes as outlined in ODOT's Noise Manual.

6. Describe abatement measures for impacts from construction noise. Summarize the section from the noise technical report.

Construction noise levels for the project would result from normal construction activities. These noise levels, although temporary in nature, can be annoying. The following construction noise abatement measures will be included in the project specifications.

- No construction shall be performed within 1,000 feet of an occupied dwelling unit on Sundays, legal holidays, or between the hours of 10 p.m. and 6 a.m. on other days, without the approval of the ODOT Project Engineer.
- All equipment used shall have sound-control devices no less effective than those provided on the original equipment. No equipment shall have unmuffled exhaust.
- All equipment shall comply with pertinent equipment noise standards of the U.S. Environmental Protection Agency.
- No pile driving or blasting operations shall be performed within 3,000 feet of an occupied dwelling unit on Sundays, legal holidays, or between the hours of 8 p.m. and 8 a.m. on other days, without the approval of the ODOT Project Engineer.
- The noise from rock crushing or screening operations performed within 3,000 feet of any occupied dwelling shall be mitigated by strategic placement of material stockpiles between the operation and the affected dwelling or by other means approved by the ODOT Project Engineer. Should a specific noise impact complaint occur during the construction of the project, one or more of the following noise mitigations may be required at the Contractor's expense, as directed by the ODOT Project Engineer.
    - Locate stationary construction equipment as far from nearby noise-sensitive properties as feasible.
    - Shut off idling equipment.
    - Reschedule construction operations to avoid periods of noise annoyance identified in the complaint.
    - Notify nearby residents whenever extremely noisy work will be occurring.

- Install temporary or portable acoustic barriers around stationary construction noise sources.

- Operate electrically powered equipment using line voltage power or solar power.

7. Include a summary of how the noise analysis information has been shared with local officials, consistent with 23 CFR 772.15. Particularly document information shared about noise levels and any planned development on currently undeveloped lands.

References and Additional Guidance

ODOT Noise Manual: ftp://ftp.odot.state.or.us/techserv/Geo-Environmental/Environmental/Procedural%20Manuals/Air%20and%20Noise/ODOT%20Noise%20Manual.pdf

FHWA Noise Information:

Guidance Document**:** https://www.fhwa.dot.gov/environMent/noise/regulations_and_guidance/polguide/polguide04.cfm

Regulations: CFR Title 23, Part 772 (https://www.fhwa.dot.gov/legsregs/directives/fapg/cfr0772.htm)

FTA Noise and Vibration Guidance, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

Oregon Administrative Rule (OAR) 340 Division 35. Oregon Department of Environmental Quality. "Noise Control Regulations." Oregon Administrative Rules. Dept. of Environmental Quality 340 Division 035

3.18 Energy

3.18.1 Regulatory Setting

NEPA (42 USC Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts. In order to comply with NEPA, an energy analysis is appropriate for some proposed transportation projects.

Energy impacts are also considered in the following sections: Relationship between Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity, Irreversible and Irretrievable Commitments of Resources That Would Be Involved in the Proposed Project, and Appendix [X] FHWA National and ODOT Statewide Efforts Related to Climate Change.

ODOT recommends that a quantitative energy analysis be conducted for EIS projects. In some cases, analysis results indicate that construction energy requirements are greater than benefits that may be obtained from operations energy savings. In these cases, there may not be a net long-term energy savings. The quantitative analysis allows for the best comparison of alternatives. In some cases a qualitative analysis is appropriate, but this should be determined in consultation with ODOT Geo-Environmental Section and FHWA.

3.18.2 Affected Environment

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. Provide a quantitative description of the estimated operations energy for the current year. MOVES2010 can be used for operational energy calculations. Operations energy is calculated separately for automobiles and trucks due to different fuel consumption rates at a given speed for these two types of vehicles, and because of the different energy conversion factors for gasoline and diesel fuels. Report in terms of gallons of gasoline since the public can conceptualize this easier than just British Thermal Units (BTUs). Example Table below:

Table [X] Daily Estimated Energy Consumption, Existing Year 2007

	Daily			Annual2		
Roadway Section Vehicle Type	Vehicle Miles Traveled (Daily VMT)	Energy Consumption1 Millions of Btu/day	Fuel Consumption gal/day	Vehicle Miles Traveled (Annual VMT)	Energy Consumption1 Millions of Btu/year	Fuel Consumption gal/year
Existing Street Network						
Auto	400,398	1,752	14,015	146,145,071	639,385	5,115,078
Trucks	12,601	207	1,487	4,599,526	75,441	542,744
Total	412,999	1,959	15,502	150,744,597	714,826	5,657,822

Source: Highway 62 Corridor Solutions Project Traffic Technical Report (Southern Oregon Transportation Engineering, LLC: February 2009)
Btu = British Thermal Unit
VMT = Vehicle Miles Traveled
1 Energy Consumption, Auto: Btu/gallon of gasoline = 125,000, Trucks: Btu/gallon of diesel = 139,000
2 Annual energy consumptions are estimates only and do not accurately account for variations in seasonal energy use

3.18.3 Environmental Consequences

Transportation-related energy is usually separated into construction and operations. Operations energy is defined as the energy consumed from vehicles operating within the transportation facility. Construction energy consists of the energy use that occurs in building a transportation system.

1. The DEIS should discuss estimated energy consumption and conservation potential (beneficial effects) of each alternative. This would include presenting quantitative data for operations energy and construction energy.

   Operations energy is typically calculated for the existing year, year of project completion and for the design year, generally a 20-year projection from the year of project opening. Operations energy is calculated separately for automobiles and trucks due to different fuel consumption rates at a given speed for these two types of vehicles, and because of the different energy conversion factors for gasoline and diesel fuels. Calculations are typically expressed in terms of gallons of gasoline or BTUs. MOVES2010 can be used to calculate operational energy. **Include a table summarizing operations energy requirements for each of the no-build and build alternatives for the appropriate study years (year of project completion and design year). Example table below:**

   In the summary table autos/truck quantities are not listed separately; however, the totals shown reflect automobiles plus truck operation energy. The detailed information is provided in the Energy Technical Report/ Memo.

Table [X] Summary of Operations Energy Consumption

	Daily			Annual[4]		
Conditions	**Vehicle Miles Traveled** (Daily VMT)	**Energy Consumption**[1] Millions of Btu/day	**Fuel Consumption** gal/day	**Vehicle Miles Traveled** (Annual VMT)	**Energy Consumption**[1] Millions of Btu/year	**Fuel Consumption** gal/year
Existing Year 2007	412,999	1,959	15,502	150,744,597	714,826	5,657,822
Design Year 2015						
2015 No-Build Alternative	430,861	2,003	15,846	157,264,761	731,404	5,783,461
2015 Bypass w/ Option 1A[2]	524,628	2,427	19,205	191,489,022	885,898	7,009,697
2015 Bypass w/ Option 1B[3]	521,130	2,405	19,031	190,212,702	877,545	6,946,030
Future Year 2030						
2030 No-Build Alternative	497,439	2,111	16,695	181,565,236	770,694	6,093,544
2030 Bypass w/ Option 1A[2]	635,121	2,681	21,221	231,819,035	979,062	7,745,859
2030 Bypass w/ Option 1B[3]	624,154	2,627	20,790	227,816,352	958,783	7,588,747

Source: *Highway 62 Corridor Solutions Project Traffic Technical Report (Southern Oregon Transportation Engineering, LLC: February 2009)*
Btu = British Thermal Unit
VMT = Vehicle Miles Traveled
[1] Energy Consumption, Auto: Btu/gallon of gasoline = 125,000, Trucks: Btu/gallon of diesel = 139,000
[2] Full Split Diamond Interchange using I-5 Connection using Segment One, Option 1A
[3] Full Highway 62 Connection using Segment One, Option 1B
Segment Two, Option 2A and Option 2B are identical in energy consumption
Segment Three, Option 3A and Option 3B are identical in energy consumption
[4] Annual energy consumptions are estimates only and do not accurately account for variations in seasonal energy use

Construction energy includes an evaluation of the estimated amount of energy required to construct the proposed build alternatives. This includes an analysis of the quantities involved in the physical construction of the roadway for all build alternatives. Energy would be used in the construction of the build alternatives. The construction machinery uses fuel in hauling materials and building the roadway and bridges. The total amount of construction energy for a build alternative is a summation of the energy used for each type of construction activity. Construction activities to be considered typically include excavation, embankment, structural materials, base and surfacing, and guardrail. Construction energy is typically calculated and expressed in BTUs and then converted to gallons of gasoline for ease of comparison. Example Table below:

Table [X] Construction Energy Consumption for the Bypass Alternative

	Bypass with Option 1A1		Bypass with Option 1B2	
Preliminary Construction Cost (2007$)3	$185,000,0004		$220,000,0005	
Construction Measurements	Energy Consumption Millions of Btu	Fuel Consumption Millions of Gallons of Gasoline7	Energy Consumption Millions of Btu	Fuel Consumption Millions of Gallons of Gasoline7
Urban Freeway (Pavement)	151,567	1.21	180,242	1.44
Site Work (Earthwork)	134,999	1.08	160,540	1.28
Bridge Concrete Box Girder (Bridge)	154,872	1.24	184,172	1.47
Structures (Walls)	80,216	0.64	95,392	0.76
Others6	33,750	0.27	40,135	0.32
Total	555,404	4.44	660,481	5.28

Source: *Highway 62 Corridor Solutions Project Traffic Technical Report (Southern Oregon Transportation Engineering, LLC: February 2009)*
Btu = British Thermal Unit
[1] Full Split Diamond Interchange using I-5 Connection using Segment One, Option 1A
[2] Full Highway 62 Connection using Segment One, Option 1B
Segment Two, Option 2A and Option 2B are identical in energy consumption
Segment Three, Option 3A and Option 3B are identical in energy consumption
[3] Costs do not include Right-of-Way
[4] Range of Cost for Bypass Option 1A: $170,000,000 - $200,000,000, the median cost is $185,000,000
[5] Range of Cost for Bypass Option 1B: $200,000,000 - $240,000,000, the median cost is $220,000,000
[6] Others include signals, landscaping, signs, storm drainage, etc.
[7] Fuel Conversion Factor: Btu/Gallons of Gasoline = 125,000

Include comparison statements of no-build and build options with respect to energy consumption.

2. Most proposed EIS transportation projects would affect energy use as a result of changes to traffic patterns or volumes, or involve speed zone changes. Include comparison statements based on the analysis of no-build and build options with respect to energy consumption.

3. Discuss each alternative's relationship to and consistency with departmental policies concerning encouragement of energy conservation, the Oregon Energy Plan and Statewide Planning Goal 13 (Energy).

3.18.4 Avoidance, Minimization, and/or Conservation Measures

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Describe potential mitigation measures, which may be incorporated into the proposed project.

4. Describe the proposed project's long-term potential for energy savings as well as conservation measures to be employed during the construction, operation, and

maintenance phases. No energy regulations exist that require some type of mitigation. However, there are policies that "encourage" energy conservation and it is appropriate to discuss any energy conservation measures included or considered in the project, such as:

- Intersection Improvements that reduce idle times
- Bus Turnouts
- Rail projects
- Rideshare programs
- Pedestrian and bikeway improvements
- Signal synchronization
- Ramp metering
- Recycling
- Projects that reduce congestion

The final EIS should identify any energy conservation measures that will be implemented as a part of the Preferred Alternative. Measures to conserve energy include the use of high-occupancy vehicle incentives and measures to improve traffic flow.

References and Additional Guidance

ODOT NEPA Volume 2 Procedures Manual: Energy Section

ODOT Energy Manual (currently under revision)

ftp://ftp.odot.state.or.us/techserv/Geo-Environmental/Air_Noise_Energy/EnergyREGANDPolices1-2009.pdf

FHWA Technical Advisory T6640.8A

Energy Requirements for Transportation Systems, June 1980 U.S. Department of Transportation

Energy and Transportation Systems, July 1983 CALTRANS

Transportation Energy Data Book, US Department of Energy

EPA Motor Vehicle Emission Simulator - MOVES2010

3.19 Geology

This section discusses geology, soils, and seismic concerns as they relate to the environment, public safety, and project design both during construction and after completion of the project. Landslides, earthquakes, and general soil suitability are prime considerations in the design and retrofit of structures as well as cut and fill slopes for roadway designs. The National Natural Landmarks Programs is codified in 36 CFR 62. This program identifies and preserves natural areas that best illustrate the biological and geological character of the United States, enhances the scientific and educational values of preserved areas, strengthens public appreciation of natural history, and fosters a greater concern for the conservation of the nation's natural heritage.

Local regulations may apply as well. The comprehensive plan of the jurisdiction(s) affected should include references to local standards on this topic area.

A technical report is prepared by Geotechnical staff and should be the basis for the EIS Geology section.

3.19.1 Affected Environment

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. Provide a description of the site geology and subsurface conditions. This Includes: topography and geology (types of soil/rock, depth to bedrock, groundwater depth, local groundwater use) and identification of potential geologic hazards (landslides, weak soils, earthquake hazards, voids and caverns, nonseismic subsidence due to water/gas/other extraction, etc.).

3.19.2 Environmental Consequences

1. Discuss the degree of impact related to the proposed action's susceptibility to erosion and geologic hazards, such as slope stability during project construction. The evaluation should discuss exposure of workers to these hazards during construction as well as the traveling public once the project is completed.

2. As appropriate, discuss long-term geologic hazards such as landslides, volcanic hazards and earthquake hazards and how they might potentially impact the design of both structures and their foundations as well as roadway cuts and fills. Earthquake hazards include, but are not limited to, liquefaction, lateral spread, fault rupture, seiche, and tsunamis.

3. Only when mandatory aggregate or disposal sites are identified, discuss resource quantities and impacts for proposed alternatives.

4. As appropriate, identify and discuss potential impacts to natural landmarks and landforms. Refer to the visual resources section as appropriate.

5. Identify and discuss potential impacts (or benefits) of the project construction on the local geology that are not already listed: impact on groundwater resources, water/groundwater impoundment, impacts on existing water bodies, etc.

3.19.3 Avoidance, Minimization, and/or Mitigation Measures

1. Discuss any avoidance efforts that have already been incorporated into the proposed alternatives.

2. Describe minimization measures that were considered and those which were incorporated into the proposed project.

3. Describe potential mitigation measures, which may be incorporated into the proposed project.

4. Reference BMPs related to both short and long term erosion control identified in the Water Quality section of the document.

5. Discuss measures needed to mitigate for geologic or topographic features identified above as they relate to the structural integrity of the facility. These may include stabilization of a landslide, deep foundation alternatives or ground improvements due to soft soil conditions. The structural improvements should also be presented in the project description section of the document.

6. Discuss measures to mitigate for earthquake hazards. Appropriate measures for liquefaction include both soil and structural improvements. Soil improvements may include mixing soils, stone columns, vibro-compaction and/or drainage. Structural measures may include driven piles or shafts that extend below liquefiable layers.

7. Discuss briefly and/or reference measures to reduce visual impacts to geologic or topographic features. Visual impacts associated with high walls, cuts or fills may also need to be mitigated.

8. Consider potential actions to address site specific impacts to local geology such as groundwater resources.

References and Additional Guidance

Technical Document Guidance, Geology/Soils (pending)

U.S. Code Title 42, Chapter 86, Earthquake Hazard Reduction

ODOT Standard Specifications

3.19.4 Paleontology

Only include this paleontology section if your project falls within the designated areas on the map located at the following links:
GIS Shape Files and PDF Maps: ftp://ftp.odot.state.or.us/techserv/Geo-Environmental/Geotech/Geology/Paleontological%20Resources/

3.19.4.1 Regulatory Setting

Paleontology involves the study of fossils and their occurrence in fossil-containing (fossiliferous) rock formations, the study of fossils across geologic time, their formation, and their evolutionary relationships. Numerous federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as part of federally authorized or funded projects (e.g., Antiquities Act of 1906 [16 USC 431-433], Federal Highway Act of 1935 [20 USC 78]). However, no overarching federal guideline applies to paleontological resources in general. Each federal land management agency manages paleontological resources in accordance with their site-specific procedures. ODOT projects that receive Federal-aid and are located on federally owned lands, will closely coordinate with those federal land management agencies. This project does not involve any lands under the jurisdiction of any federal land management agency/involves land under the jurisdiction of (list all federal land management agencies).

The State of Oregon does not address the preservation of paleontological resources on State Lands except where they may occur in an archaeological context [ORS 358.880(4) and ORS 358.885(1-2)].

Geologic Setting

Fossils are defined as the preserved remains or traces of organisms from the distant past. It is generally accepted that fossils are of pre-Holocene age (or greater than 10,000 years). Fossils are preserved only within a narrow range of physical and chemical conditions, and since the soft tissues of organisms decompose quickly after death, it is uncommon for any remains other than the hard parts such as shell and bone to remain. In order for fossilization to occur, an organism usually must be covered by sediment very soon after (or before) its death. Generally, conditions leading to fossilization of an organism are most prevalent in sedimentary rocks; however, fossilization is also common in pyroclastic rock. Thus, fossilization is actually a rare occurrence as a result of the unusual conditions under which it occurs.

Sedimentary and pyroclastic rock formations are widespread in Oregon, and many are known to contain fossils. Generally, the most significant and scientifically important specimens may be found in known locations such as the John Day Fossil Beds in central Oregon. Vertebrate fossils are usually considered to be the most scientifically important and are typically preserved in the rocks of the John Day and Mascall Formations in the central portions of the state. The southeastern quadrant of the state is dominated by volcaniclastic and pyroclastic rocks that are also known to contain vertebrate fossils.

Since fossils are limited to certain rock types, their occurrence and significance can be readily predicted by ODOT Region geology staff. The likelihood of encountering fossils can be evaluated spatially based on the published and unpublished literature. Projects that occur entirely within nonpyroclastic igneous, metamorphic, or barren sedimentary rocks have very low potential for paleontological resources. Likewise, durable rocks that

are mined for specific highway construction usages are unlikely to contain fossils. Rock that is used as stone embankment, sub base, concrete, or wearing course (pavement) is almost exclusively from cooled lava rocks such as basalts and andesites. The temperature and density of a lava flow precludes fossil formation with some notable exceptions such as the Lava Cast Forest near Bend.

If a proposed project involves ground disturbance in specific geologic formations, there may be some chance of encountering paleontological resources. The potential and consequences for encountering fossil-bearing strata during excavations should be addressed in this section. For projects on Federal lands where proposed excavations may encounter scientifically-valuable fossils, the rules and policies of the jurisdictional agency will dictate what actions are taken. ODOT will coordinate its actions with the applicable federal agency to assure compliance with that agency's regulations and procedures. Actions prescribed will vary by agency, and may include preparation of a separate Paleontological Evaluation Report and Paleontological Mitigation Plan. If such a document is required, a person or consultant qualified to assess paleontological resources is needed.

Actions to mitigate impacts during construction will also vary by agency and by locality. Coordination with the appropriate federal land management agency is needed to fit the requirements of that agency and the site context. In this regard, it may be necessary to avoid fossiliferous units at some localities, but desirable to expose them for future study at others. Region Geology sections must address these requirements in their Engineering Geology reports during project design in addition to preparation of project special provisions and/or bid items to address paleontological resources during construction.

Projects involving earthwork on non-federal lands should determine the potential of encountering scientifically important paleontological resources. If the potential is high, provisions should be considered to either mitigate the impact of the project on the resource or to preserve important fossil specimens in the event that they are exposed during construction. Actions to preserve paleontological resources on non-federal lands are not required by law; however, the potential overall benefit could warrant preservation of scientifically important or rare specimens.

3.19.4.2 Affected Environment

1. A GIS layer has been developed to depict scientifically important fossiliferous formations and their intersection with federal lands in Oregon. This GIS layer should be used to identify locations where paleontological resources may need to be addressed.

2. List the applicable report(s) along with completion date(s) in the references section. Identify formations within or near the study area that have the potential to yield scientifically important vertebrate fossils.

3. Discuss the scientific importance and sensitivity of the resource.

3.19.4.3 Environmental Consequences

For each alternative identify and discuss the potential for exposing and/or disturbing paleontological resources. If there is very little potential of paleontological resources,

provide the factual basis and conclusion here and do not include the following section in the document.

3.19.4.4 Avoidance, Minimization, and/or Mitigation Measures

1. Where scientifically important paleontological resources are identified, a Paleontological Mitigation Plan should be prepared for the project. This document will outline the measures specified by the applicable federal agency and may include avoidance, minimization, and/or compensatory measures for the resource. Additional protocols and documentation may include:

    a. A Principal Paleontologist may be assigned to supervise mitigation or recovery activities.

    b. An on-site paleontological inspector under the direction of the Principal Paleontologist may be tasked with inspection of excavations, examination of spoils, resource recovery, and direction of activities related to paleontological resource mitigation and/or recovery.

    c. Where scientifically important fossils are encountered, the paleontologist or individual working under the paleontologist's direction will recover those fossils. A contract bid item should be prepared for stand-by or recovery operations assisted by the contractor.

    d. Fossils recovered on federal lands will be curated by the applicable agency. Copies of all pertinent field documents such as notes, sketches, photographs, and maps will also be provided to that agency.

    e. Any fossil recovered on state lands will be placed in the possession of the Oregon Museum of Natural History.

    f. A final post-construction report will be completed that details the results of the mitigation, findings, and scientific significance of the work completed. Copies of this report will be submitted to the Region Geology office, Project Manager, relevant federal agency and ODOT Library.

2. Opportunities for the development of educational access to resources should be examined. Examples would be interpretive waysides, parks, or recreational fossil excavation areas in conjunction with other agencies.

References and Additional Guidance

ODOT Standard Specifications (00290.50)

GIS Shape Files and PDF Maps: ftp://ftp.odot.state.or.us/techserv/Geo-Environmental/Geotech/Geology/Paleontological%20Resources/

3.20 Hazardous Materials

This topic area includes contaminated sites potentially encountered by the project, hazardous wastes generated from the project, and hazardous materials likely to be used in construction of the project. The contaminated site context should address both adverse and beneficial impacts, as transportation projects sometimes result in remediation activities.

3.20.1 Regulatory Setting

Hazardous materials and hazardous wastes are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating spill cleanup, air and water quality, human health and land use.

The primary federal laws regulating hazardous wastes/materials are the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). RCRA provides for "cradle to grave" regulation of wastes as well as regulating underground storage tanks, which are a common source of contamination. The purpose of CERCLA, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. Other relevant federal laws and regulations include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act (CWA)
- Clean Air Act (CAA)
- Safe Drinking Water Act
- Hazardous Waste Operations and Emergency Response (HazWOPER) regulations
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

Waste management, hazardous waste, cleanup and underground storage tanks in Oregon are regulated under the authority of RCRA and CERCLA, and the Oregon Revised Statutes, ORS 459, and 459a, ORS 465m and ORS 466, respectively. Other Oregon laws that affect hazardous materials, waste, and hazardous waste are specific to water quality, transportation, emergency planning, community right to know, and worker health and safety requirements.

Health and safety for both workers and the public are key issues when dealing with hazardous materials and hazardous waste. Proper management of hazardous materials and disposal of hazardous waste are vital if it is disturbed during project construction.

The type of hazardous materials/waste assessment required is dependent on existing site conditions. The Part 3 of the Project Prospectus provides an initial project review to

identify preliminary Hazardous Materials concerns. The first type of assessment that could be required is known as a Level 1 Initial Site Assessment, and is the equivalent of a Baseline report for other disciplines. A Level 2 Preliminary Site Investigation is a more in depth look at potential contamination that could impact the project and typically includes soil and groundwater sampling. Other issue-specific hazardous materials reports may include an asbestos survey, lead-based paint testing or other hazardous materials and waste inventories, depending on the findings of the Level 1 Site Assessment.

A Prospectus Part 3 is prepared for each proposed ODOT project and provides an initial Hazardous Materials review that highlights preliminary Hazardous Materials concerns. This includes known sites that use hazardous materials, generate hazardous waste or have become contaminated. It is only a cursory look at such evidence and should never be relied upon as the sole source of information.

Although the Part 3 for the project should identify the major concerns, A Level 1 Site Assessment includes more in-depth research and is required for any project which includes potential excavation, structure demolition or renovation, or property purchase. The Level 1 Site Assessment is intended to identify known and potential Hazardous Materials issues within the Area of Potential Impact, such as contamination, abandoned waste and other hazardous materials. To that end, a Hazardous Materials Specialist will review existing databases for contaminated sites, hazardous waste generators, and spills; will review historic maps and aerial photographs to determine past land use; and will conduct a site visit to confirm current land use. The Level 1 Site Assessment documents information that will serve as the basis for the “Affected Environment” section.

The Level 1 Site Assessment should be sufficient to determine whether there are any “red-flag” issues. A key determinant is whether known hazardous waste sites are significant enough to be a major deciding impact on alternative selection. Such determination should be based on the Region Hazardous Materials Coordinator’s input. At this point risk management enters the decision process.

If the Level 1 Site Assessment identifies potential sources of contamination that could impact the proposed action, a Level 2 Preliminary Site Investigation will be conducted to confirm and delineate the contamination within the proposed project boundaries. In most cases; however, the Level 1 Site Assessment will contain sufficient information to inform the alternative selection and the Level 2 Preliminary Site Investigation will not be conducted until the Preferred Alternative has been identified, Right of Way has determined which properties will be acquired, and the design is sufficient to identify the approximate project boundaries and likely depth of excavation.

In addition, the Level 1 Site Assessment should identify the potential presence of hazardous materials associated with structures, such as lead-based paint, mercury lamps, asbestos containing materials, treated timbers, PCB containing equipment, and abandoned containers. Such potential issues should be investigated further and documented in issue specific hazardous materials reports. Note that asbestos surveys in Oregon can only be conducted by Asbestos Hazard Emergency Response Act (AHERA) certified inspectors.

When preparing this section, the Level 1 Site Assessment will provide the information needed for the affected environment section. In some cases, as noted above, the Level 2 Preliminary Site Investigation may also be available to provide supplementary information. The key is to have sufficient information to describe potential adverse and/or beneficial impacts as well as avoidance, minimization, and/or mitigation measures.

3.20.2 Affected Environment

1. In the references section, list applicable technical report(s) along with completion date(s). Include a text box in this section that names the technical report, date and that it is available upon request, should the reader want more information.

2. Describe the type and scope of site assessments and investigations conducted.

3. Summarize the findings of the site assessments or investigations for the study area considered—type of contaminant, level of contamination and extent in relationship to the project.

4. Disclose any limitations with the site assessments or investigations.

3.20.3 Environmental Consequences

1. Describe how each proposed alternative could adversely or beneficially affect known hazardous materials/wastes in the project area.

2. Disclose known or suspected contaminants that could be encountered during construction, including potential worker/public exposure and/or health impacts.

3. Disclose any hazardous wastes that could be generated by the proposed action.

4. Provide a map that depicts the location of hazardous waste contamination relative to the currently estimated footprint of the alternatives. Include the study area boundary on the map.

5. As appropriate, discuss coordination or consultation with regulatory agencies, local entities or property owners. Agencies may include U.S. EPA and/or state agencies such as the Department of Environmental Quality (DEQ) and Water Resources Department, or local agencies such as Lane County Regional Air Pollution Authority.

6. Discuss justification for avoiding or not avoiding known or suspected hazardous material contamination for each alternative, as appropriate. Remember that not avoiding a site may increase costs, but may also provide positive environmental benefit in that a portion of the contamination or hazardous waste may be removed from the environment as a consequence of project construction.

7. State whether further investigation/monitoring is needed.

8. Provide justification for any postponement or dispensing of further investigations.

3.20.4 Avoidance, Minimization, and/or Mitigation Measures

For each Build alternative:

1. Describe avoidance measures that were considered and those which were incorporated into the proposed project.
2. Describe minimization measures that were considered and those which were incorporated into the proposed project.
3. Describe potential mitigation measures, which may be incorporated into the proposed project.
4. Include a rough estimate of the cost of avoiding, reducing, or mitigating hazardous waste impacts (both in dollars and time).
5. Summarize efforts to avoid or minimize involvement with known or suspected hazardous material contamination sites during construction.
6. State any required special considerations, contingencies or provisions to handle known or suspected hazardous material contamination during right-of-way negotiation and acquisition, property management, design, and/or construction.
7. State any required further coordination, approvals, permits, and site closure with regulatory agencies.
8. Provide justification for any postponement of coordination with regulatory agencies.

References and Additional Guidance

ODOT Policy ENV 16-02: Contaminated Site management

ODOT Policy ENV 16-01: Hazardous Materials and Wastes

ODOT HazMat Program Procedures Guidebook

FHWA Interim Guidance – Hazardous Waste Sites Affecting Highway Project Development, 1998

FHWA Supplemental Hazardous Waste Guidance (1997)

FHWA Policy Revision to Support the Brownfield Economic Redevelopment Initiative (1998)

FHWA HazMat Documentation Requirements

AASHTO Hazardous Waste Guide for Project Development (1990)

Chapter 4 - CUMULATIVE IMPACTS

Cumulative impacts are typically discussed in Chapter 4. However, if you would like to include cumulative impacts in Chapter 3 please check with the ODOT EPM, ODOT NEPA Program Coordinator, and your FHWA contact.

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this project. A cumulative impact assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive types of agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

Regulatory Setting

Cumulative impact is defined in 40 CFR, Section 1508.7 of the CEQ Regulations as: The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

A cumulative impact analysis, while complex, can be broken down into several steps that will facilitate the overall analysis. Gathering the necessary information about each resource, pulling the needed specifics from the whole, and organizing this into a usable format for the analysis are generally the most time consuming parts of a cumulative impacts analysis.

It is helpful to keep in mind that an analysis of cumulative impacts looks at the impacts on a resource by multiple actions, including the proposed project. This means that a cumulative impact analysis focuses on the resource. The analysis will be easier if you keep asking, “What will happen to the resource?”

Potential cumulative impacts should be considered as early as possible, as you are identifying direct and indirect impacts. A cumulative impact analysis builds upon information derived from direct and indirect impacts. This makes it tempting to postpone the identification of cumulative impacts until the direct and indirect impact analyses are well under way. However, such early consideration of cumulative impacts may facilitate the design of alternatives to avoid or minimize impacts. Therefore, do not defer the consideration of cumulative impacts. Instead, as you begin to consider a project's potential direct and indirect impacts, start outlining the potential cumulative impacts as well. Once more information about direct and indirect impacts becomes available, use it

to further refine the cumulative impact analysis. If you determine that cumulative impacts are not an issue, document that decision along with the reasons for the decision.

Unlike direct impacts, quantifying cumulative impacts may be difficult, since a large part of the analysis requires projections about what may happen in a project area. Actions taken by governmental and private entities other than and including ODOT need to be considered for a cumulative impact analysis. Partnering with other agencies will make it easier to identify additional information that might be needed.

For the analysis use information from any environmental documents such as discipline reports, as well as other relevant information, such as local comprehensive plans, existing zoning, recent building permits and interviews with local government. These may also be good sources for information on past actions.

A partnership approach for transportation projects can be of great benefit throughout the life of the project, presenting opportunities for gathering valuable information and for partnering on mutually beneficial mitigation. These will benefit your cumulative impact analysis as well. Forging early, cooperative working relationships can result in:

- Collaborative planning among federal, state, and local agencies (see FHWA's web site on scenario planning, an approach that integrates land use and transportation).
- Incorporating reasonable avoidance and minimization opportunities for identified resource impacts.
- Thoroughly documenting your analysis (including assumptions and sources of information), conclusions, and rationale.
- Assuring consistency with regional habitat/restoration planning efforts.
- Identifying opportunities for project stakeholders to become involved in regional planning efforts.

Early collaboration and integrated planning is supported in Section 6001 of SAFETEA-LU. It requires Metropolitan Planning Organizations to discuss potential mitigation activities and locations in the Regional Transportation Plan. Also, FHWA's linking of planning and NEPA provides tools for interagency collaborative transportation, land use, and environmental planning.

Writing the Document

The following eight steps serve as guidelines for identifying and assessing cumulative impacts: Document and discuss each step.

1. ***Identify the resources to consider in the analysis*** - Identify each resource area for which the project could cause direct or indirect impacts. The cumulative impact analysis should focus on: 1) those resources that could be substantially affected by the project in combination with other past, present, and reasonably

foreseeable future actions: and 2) resources currently in poor or declining health or at risk even if project impacts are relatively small.

There is a caveat - if the impacts caused by the ODOT project are minor, but actions by other agencies/developers cause substantial impacts, this should be included. The key factor is whether there are substantial impacts on the resource under consideration, not whose actions are causing the impacts. In other words, the impacts can be substantial even if the impact of ODOT's proposed action is minimal. Regardless of the cause, the health of the resource should be discussed. Because the focus is resource by resource, it may be necessary to conduct separate cumulative impacts analyses.

If a project will not cause direct or indirect impacts on a resource, it will not contribute to a cumulative impact on that resource, and need not be further evaluated. This conclusion must be explained in the environmental document.

2. ***Define the study area for each resource*** - Cumulative impacts are considered within spatial (geographic) and temporal boundaries. By defining a Geographic Resource Study Area for each resource, you will identify the geographic boundaries for each resource to be included in the cumulative impact analysis. You will also identify a temporal boundary (past and future).

Environmental specialists (biologists, archaeologists, historians, land use planners, water quality specialists and others) can help to identify appropriate Geographic Resource Study Area boundaries for each resource in the cumulative impact analysis based on their knowledge of the resources and regulatory mandates. Agency representatives, tribes and interested citizens may also offer input during the scoping process.

Geographic Resource Study Area

Many approaches are available to define a geographic resource study area for a cumulative impact analysis. Start with the direct and indirect impacts study area already defined for each resource. The following examples describe ways to identify the Geographic Resource Study Area for a few specific resources:

- **Wetlands and water quality.** Identify the drainage basin (watershed) or sub-basins in which the project would be located. If necessary, consult with environmental specialists to discuss potential Resource Study Areas.

- **Archaeological resources.** Identify prehistoric and/or historic archaeological sites in the project vicinity. Determine the geographic context for the type of archaeological resources being affected. Examine the project's historic property survey report. A context will be described in this document, typically including a discussion of geographic range or distribution of sites. Refer to the Area of Potential Effects (APE) if already set.

- **Historic architectural resources.** Identify historic districts and neighborhoods containing affected buildings or structures. Project-specific historical resource analyses typically define the geographic context needed to

understand the historic significance of a structure (e.g., period of significance and neighborhood, community, or resource type).

- **Threatened and endangered species.** Determine the local population of individual species and a general study area by considering the range, sub-range, or population distribution for the species. Consult biologists specializing in particular species for assistance in defining reasonable Resource Study Areas. Remember that this guidance is for NEPA compliance only. ESA has different requirements for cumulative effects analyses. This guidance is not intended for cumulative impact analyses for biological assessments prepared to comply with Section 7 of the federal Endangered Species Act (ESA). For ESA cumulative effects, only non-federal actions are included in the specific consultation analysis. Effects of these actions on species are analyzed within the action area; the area subject to consultation.

- **Community disruption/division/displacement.** Identify neighborhood or community boundaries using census and other data such as public school data. Local comprehensive plans can be a data source as well as public involvement and interviews with local service agencies.

Temporal Resource Study Area

Cumulative impact analyses should include a time frame as well as a geographic study area. There is no predetermined time frame. The time frames chosen should reflect the resource concerns, geographic resource study areas, the project, and how other important resources fit in. Choose past and future time frames based on what has happened and is proposed to happen in the area. For instance, when did past actions decrease the quality and health of a particular resource? The idea is to use a timeframe that goes back far enough to provide a reasonable historical context to tell the story about important trends and the current state of the resource.

A “future” year should also be selected. As with historical timeframe, the projected year should be based on providing a reasonable context to estimate the future state of the resource. This may be when a proposed development (subdivision or regional shopping mall as examples) is complete. Another example is using the long range transportation plan horizon year or project design year. Some impacts or trends may require an even longer future horizon to be meaningfully examined.

After describing why the temporal study years were selected, you should also describe the characteristics of the study years. Describing the rationale for why the temporal study years were selected allows decision makers and interested readers to know the reasons behind your decision.

3. ***Describe the current status/viability and historical context for each resource*** - The purpose of Step 3 is to begin to "tell the story of the resource" by: A) describing the current health, condition, or status of the resource within the Resource Study Area and B) providing historical context for understanding how

the resource got to its current state. Historical context includes historical uses of a resource or an area or past practices and behaviors. The information in the "Affected Environment" section can provide one useful reference keeping in mind it may only give current conditions. Once the health and historical context of these resources is described, the impacts of future actions on these resources will be assessed (Steps 4 and 5).

Current Health of the Resource

"Health," as it is used here, refers very broadly to the overall conditions, stability, or vitality of a resource, regardless of whether it is natural (e-g., a wetland) or social (e.g., a community). There are a variety of ways to determine the current health or status of the resource within the Resource Study Area. The practitioner may rely on their own professional expertise; consult other technical specialists on the project team; access resource inventories, assessments, or other data sources; and review environmental documents for other nearby projects. When determining the health of the resource use the Resource Study Area you defined in Step 2.

The health or status of the resource should include a description of trends affecting it. These recent trends are meant to help provide an historic context of the current condition of the resource. (Recent trends are distinct from the more long-range historical context that will be considered below). Many circumstances might indicate a trend that could affect the resource. Examples include: government decisions (e.g., a recent zoning change or preparation of a habitat conservation plan), community preferences (e.g., passage of a measure to protect a historical downtown neighborhood), demographic changes (e.g., a shift in population growth rate), or natural phenomena (e.g., changes resulting from an earthquake, flood, or fire). Examine the circumstances to determine if there is a pattern indicating a trend or if it is a single event without a discernable pattern.

These trends may indicate whether the health of the resource is improving, stable, or in decline. This is valuable to the analysis in two ways: first, it will help the practitioner to focus the cumulative impact analysis more closely on the resources that are in decline and second, it may help the practitioner to propose more effective mitigation in Step 8 of the analysis.

In some cases it is clear that a resource is in good health. For example, if a historic district consists of multiple buildings that have retained their original character, are occupied and the economic forecast is good, this may indicate that the health of the historic district is good or excellent. In some cases it is also clear the resource is in poor health, such as when a species is listed as Threatened or Endangered, or when major streams within the proposed project's Resource Study Area are listed on the federal Clean Water Act Section 303(d) list of impaired waters.

Similarly, in some cases it will be easy to determine the impact of recent trends on the health of a resource. If a historic district includes many abandoned historic buildings, and the local agency has recently approved building permits that could demolish some of the historic buildings and construct new high-rise

buildings in their place, these trends could indicate that the condition of the historic district is declining. If an organization funded and implemented a plan to clean up a polluted stream, including protecting riparian habitat, providing an appropriate buffer, and committing to long-term monitoring and adaptive management, this might lead to an improvement in the stream's water quality.

Historical Context of the Resource

The goal of identifying the historical context is to give the reader (decision maker) a reasonable explanation of how the resource got to its current state. Providing historical context is not the same as providing a list of every project or action that has affected the resource over time. It is not realistic or necessary to provide an exhaustive "laundry list" of projects throughout the years. Rather, the historical context should identify key historical patterns or activities that have contributed to the current condition of the resource.

To describe the historical context of a resource, begin by identifying key patterns or activities in the past that have influenced it. These may be related to notable changes to the region's land use or demographic patterns. Then characterize the nature of the influence that these patterns or activities have had on the resource, such as destruction or degradation of habitat. To describe the historical context, use historical information. This information may be quantitative, qualitative, or both. Quantitative information is useful for determining trends over time, but it is not always available. A qualitative description can also be useful in providing historical context. The goal is to tell the story about the resource. If there are not enough quantitative data, then use qualitative information. Conversely, even if a lot of quantitative information is available, it may not all be relevant to the analysis. Unless it is useful to the analysis, do not include it.

These examples show that the historical context, current health and trends of a resource can be described with a few sentences. You only need to use enough data or words to tell the story about each resource.

Four Examples of Historical Context

Example 1: Farmland

The project is located in a rural area that is now transitioning and being rezoned into suburban and industrial land uses. Since approximately 1980, more than 400 acres of land used to produce hops and daffodils have been converted to residential and industrial land uses. The study area encompasses half of that area.

Example 2: Wetlands

The project crosses a stream. While the stream is not navigable, it is subject to the jurisdiction of the U.S. Army Corp of Engineers under Section 404 of the Clean Water Act. Past land development has been minimal, but approximately .25 acres of the stream have been disturbed by another infrastructure project.

Example 3: Community Cohesion

The project is located in an area where there is large Hispanic population. A previous project bisected the community. Development has occurred along the existing roadway. Current development plans within the resource study area indicate the development of a single family subdivision of 127 units, and a commercial strip mall. The total impact of these third party actions is the development of 222 acres. These developments are occurring regardless of the ODOT project.

Example 4: Peregrine Falcons

Peregrine falcons began to experience a substantial decline in the 1940s as a result of the use of the pesticide DDT. By the 1970s populations in the west were reduced by 80 to 90 percent. In 1970 they were listed as an endangered species by the U.S. Fish and Wildlife Service. A survey in 1980 identified only five nesting pairs in Oregon. They were listed as a state endangered species that year. DDT was banned in 1972. Since then, the peregrine falcons' numbers have increased. In 1999 they were removed from the federal threatened and endangered species list. In 2002 they were down-listed at the state level from endangered to sensitive in Oregon.

4. ***Identify direct and indirect impacts of the project that might contribute to a cumulative impact*** - A cumulative impact analysis must look at the impacts of a proposed project in combination with the impacts of other past, present and reasonably foreseeable projects identified within a Resource Study Area.

If your project does not have a direct or an indirect impact on a resource it cannot have a cumulative impact on that resource.

Step 4 helps to identify the direct and indirect impacts for each of the proposed project alternatives on the resources identified in Step 1. It is important to differentiate each alternative's potential to contribute incrementally to cumulative impacts.

Direct Impacts

The cumulative impacts analysis should summarize the direct impacts of the project. The information may be presented in a table, referring back to the text of the environmental document for more information on the direct impacts.

Indirect Impacts

These are impacts that often relate to changes in land use, such as addition of new impervious surface, filling of wetlands, modification of habitat. While land use changes are the direct result of local planning decisions (and FHWA and ODOT have no control over local land use decisions), there may be indirect impacts associated with transportation projects that affect the rate and pattern of development that should be analyzed. For example, if ODOT constructs a bypass route around a town, restaurants, gas stations and other forms of

development may relocate to the bypass in order to get more business from intercity traffic, while development and economic vitality along the original route may decline.

In general, projects in a new location or projects in which there is a dramatic change in travel lanes (e.g., from two to six lanes with grade separations) are more likely to contribute to indirect impacts than projects in areas which are already developed, or involve a smaller increase in capacity.

To evaluate the potential for indirect impacts, you should evaluate the likelihood of development in the project area following project construction. To do this, use the following:

- Look at population and land use trends in the project area and region or subarea. How has the area developed? How fast is it planned to develop? Will the project affect the rate of development? Are people building in the area? Look at the pattern of zoning. Has it recently changed or is it about to change?

- Review the local comprehensive plans. Are there plans/plats in the project area approved or currently under review? Is the area within the urban growth boundary or outside it? Is the city planning on moving the urban growth boundary to allow for growth or are they concentrating on infill? Does the transportation element of the plan include the transportation project? Would the transportation project support the local decisions contained within adopted plans? Do the city planners expect the project to support or encourage development?

Use your professional judgment, as well as discussions with the city or county in the project area, as well as any other experts in the area to determine what development is probable. For instance, if a developer has a good track record in completing platted developments, the proposed development is likely to be developed.

Examples

Example 1: Project Z is proposed to bypass the City of Whoville. According to the city, there are plans for several local businesses to relocate to the western terminus of the proposed bypass, to maximize intercity travel stops. The developments will not occur in this location if the bypass is not constructed nor will they be constructed if not granted rezoning and building permits by local agencies. The local businesses planning to relocate from the downtown area include a gas station and a restaurant. In addition, the city planners indicate that two fast food restaurants are planning to locate new franchises in Whoville and plan to locate at the western terminus of the proposed bypass. If the bypass is not built, these developments will not be located there.

Given that there are no frontage roads along the bypass and limited access, it is likely that only the termini and interchanges will experience land changes. At this time, only the western terminus has development proposed. Beyond the land

use changes discussed, there are no other developments planned with one exception. A "big box" store is going to be built in the area of the bypass. This development will happen regardless of whether the bypass is built or not. These third party actions would total 50 acres.

In addition to the 20 acres of land rezoned and converted from agricultural to retail/commercial as a result of business relocating along the new corridor, another indirect impact of the bypass could be some deterioration of the downtown as a result of the new corridor. The bypass could be particularly difficult for city center businesses that rely on pass through traffic. Some of these impacts could be beneficial. If the project improves access to the city, it could lead to an increase in density which is supportive of improved transit services. Additionally, the concentration of growth within the urban growth boundary can slow down sprawl.

Use the information in Step 4 to combine it with the impacts of other reasonably foreseeable actions (Step 5) to perform the cumulative impact analysis (Step 6).

5. ***Identify other current and reasonably foreseeable actions*** - Step 1 and 2 of this guidance identified the resources to consider in the cumulative impact analysis and the geographic area to be considered for each resource (Resource Study Area). The procedures set forth in Step 3 help with describing the health of the resource by discussing the historic context and current trends affecting the sustainability of each resource. Step 4 identifies direct and indirect actions or project impacts that could contribute to a cumulative impact. The purpose of Step 5 is to identify other current and reasonably foreseeable projects to be considered in the cumulative impact analysis. Ask yourself what else might affect these resources.

   The following list suggests some examples of current and reasonably foreseeable trends, events, actions or projects that may be included in a cumulative impacts analysis:

   - Projected land use and other information in local or regional comprehensive plans
   - A development proposal, which has been filed with the local government, county or other plat-approving agency and has permit applications complete.
   - Population/ employment trends which are identified in local or regional comprehensive land use plans
   - Planned and funded transportation improvements by city or county governments
   - Building permits issued by the local agency with jurisdiction, but that are not built yet.
   - Local or regional infrastructure projects that could impact resources (schools, hospitals, manufacturing, shipping etc.)

- Trends related to global climate change, as we currently understand them and related to the project, should be discussed to the extent possible.

- Trends in land development patterns, such as, growth/expansion around interchanges; zoning changes to accommodate development pressures once transportation improvements occur.

Alternative	Direct + Indirect Acres	Third Party Actions Acres	Cumulative Acreage
No-Build	100+20	50	170
Alternative 1	0+0	50	50
Alternative 2			

Keep in mind that CEQ regulations, as reflected in FHWA's *Questions and Answers Regarding the Consideration of Indirect and Cumulative Impacts in the NEPA Process* (Interim Guidance, January 2003), require cumulative and indirect impact analyses to focus on actions "that are likely or probable, rather than those that are merely possible." It can be challenging to discern "probable" from "possible." There are tools and processes that can be used to help make the distinction. You can begin by asking some basic questions.

The cumulative impact analysis should only include those proposed actions or projects with a reasonable expectation of happening. When identifying reasonably foreseeable actions begin with asking questions like the following:

• Is the proposed project included in a financially constrained plan?

• Is it permitted or in the permit process?

• How reasonable is it to assume that the proposed project will be constructed?

• Is the action identified as high priority?

An affirmative answer to any of these questions may indicate the action is reasonably foreseeable.

Count what counts. According to CEQ, "a cumulative impacts analysis should 'count what counts', not produce superficial analyses or a long laundry list of issues that have little relevance to the impact of the proposed action or the eventual decisions."

CEQ advises practitioners to consult with the staff of an appropriate agency to identify reasonably foreseeable future actions based on that agency's planning

process. Project scoping can provide an opportunity for these agency discussions. For further information, refer to Chapter 2 of CEQ's guidance document, *Considering Cumulative Effects under the National Environmental Policy Act* (1997).

Both quantitative and qualitative data are appropriate to use in evaluating cumulative impacts. Quantitative data are preferable, and should be used whenever relevant data are available. However, qualitative data are also important, particularly to those analyses more dependent on human perception, such as aesthetics or community disruption.

Use the best data you have available. In cases where data are incomplete or unavailable, communicate with experts, individuals and cooperating agencies as soon as possible, because such communication can lead to additional opportunities for data collection and help all participants reach an understanding concerning the availability and acceptability of relevant information. When there is incomplete or unavailable information for a reasonable foreseeable significant adverse impact, refer to CEQ's guidance at 40 CFR 1502.22. It lays out principles regarding what to say about the incomplete or unavailable information, and when to obtain additional information. In some cases, it may be helpful to obtain objective professional judgment through a structured and efficient process such as a Delphi Panel. Keep in mind that a cumulative impacts analysis could likely change over a 24-60 month period, so the analysis and data may need to be revisited during the life of an EIS.

It is important when preparing NEPA documents to be clear on what information was available and analyzed. The NEPA document should be viewed as a disclosure document. NEPA is an open process. NEPA does not require an answer that will satisfy everyone; rather, NEPA requires a well-researched and reasoned analysis based on a hard look at the best available information.

Be sure to document the assumptions and methods used to identify actions included in the analysis, the agencies and experts consulted, and any other research. It is important to identify our sources and maintain a record of methods, assumptions, and analyses. This is especially important when data are scarce.

6. ***Identify and assess cumulative impacts*** - After the Resource Study Areas have been identified for each affected resource (Step 2), the health of the resources has been assessed and put into historical context (Step 3), the direct and indirect impacts of the proposed project have been identified (Step 4), and the direct and indirect impacts of other reasonably foreseeable actions have been assessed (Step 5), the information is ready for analysis. In Step 6, the information is reviewed and analyzed.

Review the Information Gathered

The information gathered to define the Resource Study Area and to define the context for the resource should provide a sense of the health of the resource. Developing the “reasonably foreseeable” list of actions to include in the

cumulative impact analysis will also provide insight into the prospective changes within the Resource Study Area, and how those changes will affect resources. This review will also provide a sense of the amount and quality of data that will be available to conduct the cumulative impact analysis.

Assess the Cumulative Impacts

The proposed project's cumulative impacts can be assessed using a variety of methods and tools that are suited to different levels of analysis. The practitioner, with appropriate input as needed, selects the methods(s) and tool (s) on a case-by-case basis for each resource being analyzed. Chapter 5 of CEQ's *Considering Cumulative Effects* describes a variety of methods or tools - both qualitative and quantitative for evaluating cumulative impacts. These range from simpler methods that may require less time and financial resources, such as matrices or mapping overlays, to data-intensive methods such as modeling or trends analysis. Table 5-3 on pages 56-57 of the CEQ document describes these methods, as well as their strengths and weaknesses.

The method(s) used may vary depending on the resource considered, the type of available information, and the scale of the proposed project. More than one method can be used to assess cumulative impacts on a single resource. For example, the cumulative impact analysis of a species could combine Geographic Information Systems (GIS) mapping and consultation with species experts. GIS would show historical and anticipated changes in the size and location of species habitat, and the consultation would provide information on the condition of the species and the species' ability to adapt to anticipated biological stressors.

Drawing Conclusions

In previous steps, the practitioner collected data and information and applied a method(s) to analyze this information. Based on that analysis, the practitioner now draws conclusions about the cumulative impacts to resources by applying professional judgment to the results, and by coordinating with technical experts as warranted.

First, the practitioner answers the question, "Is there a cumulative impact?" If the results of the analysis indicate that the proposed project, in combination with other actions, would affect the health of the resource or a trend associated with a resource, the practitioner can conclude that the proposed project will contribute to a cumulative impact (either beneficial or adverse).

Next, the practitioner uses the results of the analysis to characterize the severity or magnitude of the cumulative impact. Consider the following question: "What do decision-makers need to know about the status of this resource within the Resource Study Area?" The practitioner should document the following for each resource:

- The health, status or condition of the resource as a result of past, present and reasonably foreseeable impacts.

- Avoidance and Minimization. Any project design changes that were made or additional opportunities that could be taken, to avoid and minimize potential impacts in light of cumulative impact concerns.

The CEQ guidance discusses using the concepts of context and intensity in making impact conclusions. We recommend considering the context and intensity of the proposed project's cumulative impacts. This will help the practitioner to make conclusions about the severity of these impacts. Chapter 4 of CEQ's *Considering Cumulative Effects* provides additional information on assessing the magnitude and significance of cumulative impacts. For most resources, the NEPA cumulative impact analysis conclusion will not require a description of the severity of impact (e.g., substantial, moderate, minor, significant) unless the method specifically reports results in such terms.

Once the cumulative impact analysis is complete, review the conclusions of the cumulative impact analysis with the conclusions from the direct and indirect impact analyses of the proposed project. This comparison can test the soundness of the conclusions about each resource. For example, if the direct and indirect project impacts would result in a 0.2-acre loss of wetland habitat in a Resource Study Area that contains more than 100 acres of similar habitat, a substantial contribution to cumulative impacts might not be anticipated. However, recognize that if this same 0.2- acre impact affects an extremely rare or threatened resource, the cumulative impact may be considered substantial. You will need to know what is happening and anticipated for the other 99.8 acres to draw your conclusions.

7. ***Document the results*** - The purpose of Step 7 is to document the results of the step-wise cumulative impact analysis process. The product of Step 7 will be included in the NEPA document. It is a summary of the analysis approach and conclusions. This summary should include the identification of resources considered in the analysis, the Resource Study Area for each resource, and the conclusions concerning the health and historical context of the resource (Steps 1 through 3). Step 7 also presents project impacts that might contribute to a cumulative impact (Step 4), other reasonably foreseeable actions considered in the cumulative impact analysis (Step *5),* and the conclusion of the analysis as outlined in Step 6.

The information presented in Step 7 is a summary, consistent with NEPA disclosure requirements. The audience for the information presented in this step is decision-makers and interested members of the public, agencies, and affected tribes. Therefore, it is important for the practitioner to clearly state the conclusions of the analysis. Include information about the methods and assumptions underlying the analysis.

Describe the Analyses, Methods or Processes Used

Briefly state how the impact analysis was conducted. For example, you may have plotted GIS overlays of proposed projects (developments) and known locations of an endangered plant species. Briefly explain this approach and include any of the figures or data used to draw conclusions if they provide

illustration or clarification. Provide references or footnotes as needed to document sources.

Explain the Assumptions

Explain any limitations that were faced in conducting the analysis. Reviewers will need to know how conclusions were reached in situations for which there were data gaps, scarce information, or limitations or obstacles associated with obtaining the data (e.g., data were cost prohibitive). If models were used, explain the assumptions on which the models are based.

For the purposes of NEPA disclosure, the cumulative impacts discussion should compare the cumulative impacts of each alternative (including the "No Action" alternative). A typical statement might say, "Alternative A would adversely affect 0.4 acre of wetlands. Alternative A, in combination with other actions, contributes to an adverse cumulative impact to wetlands, while Alternative B does not."

How to Summarize Cumulative Impact Analyses in the Environmental Document

The document should include a summary of the results of each analysis, all the steps in adequate detail to fully disclose the strengths and/or weaknesses of the analysis as well as the analytical methods and assumptions used. This cannot be overstated - the decision-maker (as well as any other reader) should be able to determine not only what you concluded, but how and why you concluded what you did.

It's the project team's decision on where to best place the Cumulative Impacts Analyses in the environmental documents. In some cases, it should be a separate section to effectively show all the cumulative impacts and how they interrelate. In other cases, it can easily be summarized in each technical report. Which ever approach you use make sure the cumulative impacts analyses compares the reasonable and feasible alternatives fully considered in the environmental document and the No Action Alternative.

8. ***Assess the need for mitigation*** - In most cases, a cumulative impact results from the combined actions of numerous agencies and private entities. In Step 3, you looked at trends and disclosed those with adverse or negative impacts on a resource if that resource is also affected by your project. Now, in Step 8, you need to discuss potential mitigation. Implementing a potential mitigation measure to address cumulative impacts is often beyond the jurisdiction of FHWA, ODOT, or other cooperating agencies. By using the steps in this guidance, you would gather information early in the process, become aware of how the impacts of the proposed project may combine with other impacts, giving you opportunities to use elements of mitigation (avoidance and minimization) throughout the development of the project. If unavoidable, adverse cumulative impacts remain, you will need to describe or suggest compensatory mitigation that could be implemented by the appropriate party. Let us explain further.

FHWA's NEPA regulations in 23 CFR 771.105(d) and CEQ's CFR 1502.14(f) call for the consideration of mitigation for adverse impacts. Mitigation should be identified for adverse impacts disclosed in the environmental document, whether direct, indirect, or cumulative. FHWA is directed to mitigate for impacts that "actually result from the Administration action and represent a reasonable public expenditure after considering the impacts of the action and the benefits of the proposed mitigation measures. In making this determination, the Administration will consider, among other factors, the extent to which the proposed measures would assist in complying with a Federal statute, Executive Order, or Administration regulation or policy." 23 CFR 771.105(d)

For more information about presenting mitigation, see CEQ's discussion of mitigation in *NEPA 's Forty Most Asked Questions* (nos. 19a and 19b) In summary, 19 (a) discusses consideration of impacts not "significant" in themselves, but "significant" in combination with other impacts. Question 19 (b) discusses how mitigation measures outside the jurisdiction of the lead or cooperating agency or unlikely to be adopted or enforced by the responsible agency should be dealt with.

Although ODOT does not mitigate for cumulative impacts caused by others, and there exists no regulatory requirement for an agency to do so, we do need to disclose the impact and describe mitigation that may be planned or suggest possible mitigation to those agencies responsible. If practical mitigation options exist, we need to determine whether such options are within the control of ODOT or FHWA. This is a key point: In cumulative impacts analyses you do not have to commit to compensatory mitigation for actions that are not part of the proposed project – but you do have to discuss it.

For example, mitigation measures for air quality impacts might require numerous local communities to modify their comprehensive plans to reduce the amount of planned development and reduce the number of vehicle miles traveled within the geographic study area. ODOT and FHWA do not have the authority to implement the necessary planning decisions, obtain local legislative approvals, or change the regional distribution of future development. Therefore, disclosure of mitigation for cumulative impacts is not based on or limited to specific mitigation measures that can be implemented by the lead agency.

In Step 8, you should consider <u>all</u> avoidance and minimization measures that are planned or in place to benefit the affected resource. Some of these measures may be part of the proposed project, others may be actions taken by other entities.

Consider the impacts of any statewide initiatives such as the removal of fish passage barriers. Partnering opportunities, not associated with a project, for retrofitting or similar regional efforts could also produce some benefits to be considered. See discussion in "Recommended Approach".

If it is not possible to identify a mitigation measure, the discussion may consist of listing the agencies that have regulatory authority over the resource and recommending actions those agencies could take to influence the sustainability

of the resource. By doing so, the needed mitigation would be disclosed to the public and reviewing agencies even though it could not be implemented by FHWA or ODOT. Once disclosed, the information could be used to influence future decisions or to help identify opportunities for avoidance and minimization when other projects are proposed.

Climate Change

Greenhouse Gas Impacts and Global Climate Change

The issue of greenhouse gas (GHG) emissions and global climate change is an important national and global concern that is being addressed by various state and federal agencies, including ODOT and FHWA.

Since the context for GHG emissions is a global scale, it is virtually impossible to perform a meaningful analysis of most local transportation projects. GHG emissions analyses are more informative at regional, state, or national levels and should be accomplished during local and regional land use planning processes when more capable modeling tools are developed. While it still may be possible to quantify GHG emissions associated with a proposed transportation project, tools have not been developed for how to translate those emissions into impacts on climate change on any scale. ODOT's recent land use and transportation modeling efforts have shown that land use patterns have a much greater impact on all emissions than do highway expansions. Further, the needs for most highway projects are typically a result of land use changes, development, growth, and other local and regional changing trends. Therefore, to best inform decision making, GHG emissions estimation needs to be done during the transportation system and land use panning processes.

As of the date of publication of this document, no federal laws specifically require GHG emissions analyses in project-level NEPA documents. NEPA requires federal agencies to scope and address the significant issues of any proposal and to concentrate on the analyses of issues that can be truly meaningful to the consideration of and comparison between project alternatives. In the absence of federal regulations and a regional or national framework for considering the implications of project-level GHG analyses, FHWA concludes that GHG emissions calculated for project alternatives cannot be usefully evaluated in the same way that vehicle emissions are evaluated within a local project-level context and that such an attempted analysis would not inform project decision-making in any meaningful way.

Oregon Strategies

Greenhouse gas (GHG) emissions are currently not regulated in the State of Oregon. However, there are numerous goals for states and the nation to meet, and strategies to reduce GHG emissions are currently being addressed by ODOT and other state agencies throughout Oregon. On August 7, 2007 the Climate Change Integration Act came into effect with the passage of Oregon house bill 3543. Oregon House Bill 3543 creates GHG emissions reduction goals for the State of Oregon, which aim to reduce emissions 10 percent below 1990 levels by 2020 and achieve a 75 percent reduction below the 1990 levels by 2050. Oregon House Bill 3543 also created the Oregon Global Warming Commission (Commission) that is responsible for

recommending policies to state and local governments to reduce GHG emissions. The Commission is expected to promulgate rules to direct agencies on how to regulate and enforce the legislation.

Intelligent transportation systems (ITS) and land use planning policies will be among several strategies necessary to meet the state's goal of recuing GHG emissions. To accomplish this, the Commission has formed a Land Use and Transportation Committee (Committee). The scope and function of the Committee is to work with state agencies including ODOT and the Oregon Department of Land and Conservation and Development (DLCD) to integrate GHG reduction goals into state transportation planning and land use policies currently under development. Transportation and land use policies will be designated to stop the growth of GHG emissions, and then reduce over time, according to the specific goals set out the Oregon Legislature.

Research is also underway to develop more capable models for measuring, analyzing, evaluating, and reporting GHG emissions. ODOT is coordinating with other state and federal agencies (DOE, DEQ, FHWA, EPA) to determine appropriate contexts for measuring impacts from transportation and land use changes.

ODOT and U.S. DOT specific strategies regarding climate change efforts are summarized in Appendix [X].

References and Additional Guidance

There are many fine publications in print that can help you with a cumulative impact analysis. The intent of this annotation is to provide a brief, simple explanation of this type of analysis. For more information please visit and/or obtain any of the following:

California Department of Transportation (CALTRANS)
Guidance for Preparers of Cumulative Impact Analysis Approach and Guidance (2005)
http://www.dot.ca.gov/ser/cumulative_guidance/purpose.htm

Council on Environmental Quality
Considering Cumulative Effects under the National Environmental Policy Act (1997)
https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQ-ConsidCumulEffects.pdf

Guidance on the Consideration of Past Actions in Cumulative Effects Analysis (2005) https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQ-PastActsCumulEffects.pdf

Environmental Protection Agency
Consideration of Cumulative Impacts in EPA Review of NEPA Documents (1999)
https://www.epa.gov/sites/production/files/2014-08/documents/cumulative.pdf

Federal Highway Administration
Question and Answers Regarding the Consideration of Indirect and Cumulative Impacts in the NEPA Process. (Interim Guidance, January 2003)
https://www.environment.fhwa.dot.gov/projdev/qaimpact.asp
Standard Environmental Reference, Chs 32 and 36

Draft Baseline Report. Executive Order 13274 Indirect and Cumulative Impacts Work Group. March 2005.

McCold, L.N. and J.W. Saulsbury. Including Past and Present Impacts in Cumulative Impact Assessments. Environmental Management. Vol. 20 no.5 pp. 767-776. 1996.

Chapter 5 - RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE HUMAN ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Discuss in general terms the proposed action's relationship of local short-term impacts and use of resources, and the maintenance and enhancement of long-term productivity. This general discussion might recognize that the build alternatives would have similar impacts. Explain how the transportation improvements are based on State and/or local comprehensive planning. Explain how these plans consider(s) the need for present and future traffic requirements within the context of present and future land use development.

5.1 Build Alternatives

The build alternatives may have similar impacts. Include brief discussion of the following in this section:

Short-term impacts and use of resources may include: construction impacts such as noise, motorized and non-motorized traffic delays or detours, and materials and labor to construct the improvement.

Maintenance and enhancement of long-term productivity may include: Improvement of the transportation network of the State and/or region, increased access, reduction of congestion on local streets and highways, or other benefits identified in the project purpose. Identify in general terms how the project purpose is consistent with local and regional planning for transportation, land use, and development.

The following sample text may be used as the concluding statement of this section:

Project implementation will result in the short-term impacts and use of resources as described above, while increasing the long-term productivity of transportation, land use and economic systems.

5.2 No-Build

The No-Build offers none of the gains or losses described above. However, the No-Build would not meet the proposed project's purpose and need [such as, resolve worsening congestion on local streets and highways].

Chapter 6 - IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The irreversible and Irretrievable Commitment of Resources analysis is required by NEPA Section 102 (C)(v) and 40 CFR 1502.16.

Discuss in general terms the proposed action's irreversible and irretrievable commitment of resources. This general discussion may recognize that the build alternatives would require a similar commitment of natural, physical, human and fiscal resources. An illustrative discussion follows as a guide to writing this section:

Implementation of the proposed action involves a commitment of a range of natural, physical, human and fiscal resources. Land used in the construction of the proposed facility is considered an irreversible commitment during the time period that the land is used for a highway facility. However, if a greater need arises for use of the land or if the highway facility is no longer needed, the land can be converted to another use. At present, there is no reason to believe such a conversion would ever be necessary or desirable.

Considerable amounts of fossil fuels, labor, and highway construction materials such as cement, aggregate, and bituminous material are expended. Additionally, large amounts of labor and natural resources are used in the making of construction materials. These materials are generally not retrievable. However, they are not in short supply and their use would not have an adverse impact upon continued availability of these resources. Any construction would also require a substantial one-time expenditure of both state and federal funds, which are not retrievable. The commitment of these resources is based on the concept that residents in the immediate area, region and state would benefit from the improved quality of the transportation system. These benefits would consist of improved accessibility and safety, which are expected to outweigh the commitment of these resources, such as: savings in energy, time, and a reduction in accidents. In addition to the costs of construction and right-of-way acquisition would be costs for roadway maintenance, including pavement, roadside, litter/sweeping, signs and markers, electrical and storm maintenance.

Chapter 7 - COMMENTS AND COORDINATION

1. Documenting Coordination

a. Provide a brief introduction to this Chapter (sample text below)

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts, proposed mitigation measures and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including: project development team meetings, interagency coordination meetings, (continue list as appropriate). This chapter summarizes the results of efforts to fully identify, address and resolve project-related issues through early and continuing coordination.

b. Appendix [X] includes all appropriate Section 6002 material for this proposed project. Provide a weblink to the current Section 6002 coordination plan prepared for the project. Summarize these major points of the Section 6002 process, include dates where appropriate:

i. Notice of initiation, include dates.

ii. Summary of invited cooperating agencies and their response, include dates.

iii. Summary of invited participating agencies and their response, include dates.

iv. Describe the process that was used for early identification of issues. This should include a summary of the scoping process (dates of the Notice of Intent, dates of meetings, list of participants, issues identified).

v. Describe Section 6002 opportunities for cooperating and participating agency involvement and public involvement and how substantive comment received was incorporated for:

Purpose and Need

Range of Alternatives

Preferred Alternative

Methodology for analyzing alternatives

c. Describe Consultation and Coordination with Public Agencies

i. State which public agencies were contacted during the project's development.

Provide a chronology of all meetings, workshops, hearings, etc.

Describe the results of the coordination to date; in other words, document critical decisions. If an agency has taken a position on the project or an issue associated with the project, state the agency's position.

ii. Summarize MTPA coordination that occurred for the proposed project.

d. Discuss Public Participation

i. Describe the public participation methods used for the proposed project. Methods could include: participation on Project Development Team, citizen advisory committees, mailing lists, newsletters, newspaper notices/articles, public meetings/workshops, web-based information, etc. Include dates when applicable.

ii. Describe the results of the public participation process—number of attendees, comments received, issues raised, etc.

iii. Include the following information about the public hearing:

Date, time and location of hearing

Type of hearing

Number of attendees

Number of written comments

Number of comments taken by court reporter

Summary of meeting outcome, issues raised, etc.

iv. Outreach to specific groups. If particular groups have been identified with an interest in the project, describe what specific actions have been taken to outreach to those groups, what feedback has been received and how that comment was considered in project development. Groups could include EJ communities, business districts, limited English proficiency communities, etc.

2. Comments and Responding to Comments

If comments are received on the Draft EIS during the public availability period and/or at the public hearing, the Final EIS must be modified to reflect all substantive comments and responses to comments. Substantive comments are those comments that are related to the facts of the project, environmental document or studies; comments that are purely just expressing support or opposition to the project without any factual substantiation may be acknowledged but do not generally require a response. Comments and responses to comments should be included in this chapter**. The comment period can only be extended**

by joint agreement of the lead federal agencies, including FHWA. Only in unusually circumstances would the comment period be extended.

a. A response must be made to all substantive comments received on the Draft EIS. Options for responding include:

   i. Modifying the design of the proposed project and reflecting the modifications in the document

   ii. Supplementing, improving or modifying the analysis in the Final EIS.

   iii. Making factual corrections; and/or

   iv. Explaining why the comments do not warrant modification to the document and/or proposed project

   If a modification to the project is not warranted, the response should cite sources, authorities or reasons that support that position.

b. To improve readability, it is recommended that the comment letter and corresponding response(s) be side by side on the same page. If numerous comments are received, the comments and responses may be summarized; however, comment letters from elected officials and federal, state, and local agencies and planning groups should always be included in their entirety in the document, along with appropriate responses.

c. "Comment noted" is typically not an appropriate response to a substantive issue. Do not use "comment noted" as a way to avoid difficult issues. "Comment noted" is only appropriate when someone has expressed an opinion, such as "I don't think this project is needed." or "I support alternative XYZ," or when there is simply no other response possible. Consider responding with "your support for project 'X' for alternatives 1, 2, and 3 is acknowledged and included in the project record."

   Responses to comments should address the issue or concern of the person that made the comment and should be based on facts and/or reasoned judgment. In responding to comments, it is often necessary to engage other members of the internal project development team.

d. Be careful not to bundle comment responses for ostensibly similar comments. Bundle comments with caution because similar sounding comments may communicate different concerns or have different contexts.

e. Remember to deal sensitively with public comments. When responding to comments, keep in mind that the person cared enough about the issue to make a comment, a good response requires at least as much care.

References and Additional Guidance

AASHTO Practitioners Handbook Responding to Comments

FHWA 6002 Guidance

Revised Guidance on Co-operating Agencies (March 1992)

A Vision for Joint Environmental and Transportation System Stewardship in Oregon

Chapter 8 - LIST OF PREPARERS

This section should include lists of:

1. State (and local agency) personnel, including consultants, who were primarily responsible for preparing the EIS or performing environmental studies, and a brief summary of their qualifications, including educational background and experience.

2. The FHWA personnel primarily responsible for preparation or review of the EIS and their qualifications.

3. The areas of EIS responsibility for each preparer.

Refer to the table below as an example.

Text color key: Black = generally required text and headings Blue = instructions/guidance to be deleted
Purple = sample text Underlined text: Web links

Name	Company/Agency	Role	Education	Experience
Jeff Graham	FHWA	FHWA Operations Engineer	B.S. Civil Engineering	20 Years
Michelle Eraut	FHWA	FHWA Environmental Program Manager	MPA	16 Years
Michael Holthoff	ODOT	Environmental Planner	M.S. Environmental Science	17 Years
	ODOT	ODOT Environmental Project Manager		
Jane Doe	XYZ Associates	Wetland Technical Report	B.S. Environmental Science	10 Years

Chapter 9 - DISTRIBUTION LIST

Draft EIS: List the recipient addressee, agency name, and addresses of each entity from which comments are being requested (40 CFR 1502.10).

Final EIS: Additionally, identify those entities that submitted comments on the draft EIS and the recipient addressee, agency name and addresses of each entity receiving a copy of the final EIS (23 CFR 771.125(a) and (g)).

The table below is a master distribution list, only include agencies that have an interest in the project.

Distribution of Draft and Final EISs

*** There are 2 lists: 1. Interested Parties List (list of project Stakeholders, prepared 'new' for each project), 2. Standard NEPA Document Distribution List (list of Agencies that may be interested).**

- The Region NEPA Lead (EPM, Planner, PL, CPM, etc.) is responsible for making and/or maintaining an Interested Parties list for each project in a spreadsheet or database format for ease of sorting addresses/entries as needed. **Include email addresses in the database if you plan to send electronic web links via email to distribute the document.*
- Postcards can be used (during the draft and final document (Quality Control Review Process) at the NEPA Lead's discretion asking the Interested Parties if they would like to receive the NEPA document (and what is their preferred format: web link, CD, hard copy, etc.). A project summary should be included with the letter and sent to the Interested Parties list. When postcards are returned, the names need to be added to the distribution lists for the project.
    - *An option to the postcard process is to send a CD (through the USPS mail) or a web link to the appropriate ODOT Region NEPA document/project website (via email—so you would have to have a column in the Interested Parties list for email addresses) to the entire Interested Parties list.*
- The Region NEPA Lead also prepares an Agency Distribution List (**include/modify as needed the Standard NEPA Document Distribution List**; also see **Guidance from FHWA TA6640.8** for distributing NEPA documents to Agencies, following).

Coordination with the project team and the appropriate FHWA NEPA liaison is normal practice for achieving a comprehensive project-specific distribution list.

- The Region NEPA Lead ensures that all appropriate interested parties and agencies are listed.
- The Region NEPA Lead ensures the appropriate number of CDs and/or paper copies are printed and distributed.

1.2 Standard NEPA Document Distribution List

* Default, if not noted otherwise: send each agency CD(s) with a letter
The NEPA Lead is responsible for coordinating the distribution of NEPA documents to the following agencies, including the CETAS member list (*check both lists to eliminate redundancy deliveries), as well as to the project-specific Interested Parties list created for the specific NEPA project proposal. A letter should accompany the CD or bound copy of the NEPA document, or should be included in an email distribution if that method is used. The letter should note why the agency/group is receiving the document, how long

the review is scheduled and when comments are due, and should also ask the agency for verification of their contact information as well as the number of copies they received and a preferred copy choice (so you may wish/need to send a different letter to parties versus agencies). The letter should be on ODOT Region letterhead (or whoever the project sponsor is), and should contain the Region address, NEPA Lead's contact information (email address and phone number), and a signature by whichever management level of authority is appropriate for the NEPA document (per the discretion of the NEPA Lead and/or their Manager).

**As the Region NEPA Leads, or other project sponsor NEPA Leads, receive updates from the agencies to this list (address changes, weblink changes, document request changes, etc.), you (NEPA Lead) are responsible to forward copies of those comments to ODOT Geo-Environmental, NEPA Program Coordinator or Manager, in order to update, and maintain as current, this standard list. ***It is advisable that the NEPA Lead, via Region support staff if available, prepare a label database well in advance of the document's readiness for distribution.*

State Agency (Oregon) NEPA Document Distribution (***verify all contact information below via the weblinks)	Number of Copies (CD, paper, weblink)
Department of Agriculture **www.oregon.gov/ODA/** **ODA** **635 Capitol St. NE** **Salem, Oregon 97301-2532** **503-986-4550** **Email: info@oda.state.or.us**	1
Department of Energy **www.oregon.gov/ENERGY/** **ODOE** **625 Marion St. NE** **Salem, OR 97301-3737** **503-378-4040** **Email: energy.in.internet@state.or.us**	2
Department of Environmental Quality **https://www.oregon.gov/deq/pages/index.aspx** **DEQ Headquarters** **811 SW 6th Avenue** **Portland 97204-1390** **503-229-5696** **Email: deq.info@deq.state.or.us**	1

State Agency (Oregon) NEPA Document Distribution (***verify all contact information below via the weblinks)	Number of Copies (CD, paper, weblink)
Department of Fish and Wildlife **www.dfw.state.or.us/** **ODFW Headquarters, Land Resources Program Manager** **3406 Cherry Avenue N.E.** **Salem, OR 97303** **503-947-6000** or **Toll Free: (800) 720-ODFW** **E-mail: Jon.P.Germond@state.or.us**	1 CD 1 e-link
Department of Forestry **https://www.oregon.gov/ODF/pages/index.aspx** **ODF** **2600 State St.** **Salem, Oregon 97310** **503-945-7200** **E-mail: jeri.chase@odf.state.or.us**	1
Department of Geology and Mineral Industries **www.oregongeology.org/** **DOGAMI Administrative Offices** **800 NE Oregon Street #28, Suite 965** **Portland, Oregon 97232** **971 673-1555**	1
Department of Land Conservation and Development **https://www.oregon.gov/lcd/** **DLCD** **635 Capitol St. NE, Suite 150** **Salem 97301-2540** **503-373-0050**	1
Department of State Lands **https://www.oregon.gov/dsl/Pages/index.aspx** **DSL** **775 Summer St. NE Suite 100** **Salem, OR 97301-1279** **503-986-5200**	1

State Agency (Oregon) NEPA Document Distribution (***verify all contact information below via the weblinks)	Number of Copies (CD, paper, weblink)
Economic & Community Development Department **ECDD** **775 Summer St. NE, Suite 200** **Salem OR 97301-1280** **503-986-0123** **Email: oedd.info@state.or.us**	1
Parks and Recreation Department **https://www.oregon.gov/OPRD/** **OPRD** **Oregon Parks and Recreation Department** **725 Summer St. N.E. Suite C** **Salem, OR 97301** **503-986-0707** **800-551-6949** **Email: park.info@state.or.us**	2
Public Utilities Commission **https://www.oregon.gov/puc/Pages/default.aspx** **PUC of Oregon** **550 Capitol St NE #215** **PO Box 2148** **Salem OR 97308-2148** **503-378-6611** **800-522-2404**	1
State Historic Preservation Office **https://www.oregon.gov/oprd/OH/Pages/default.aspx** **OPRD** **Heritage Programs** **725 Summer St NE, Suite C** **Salem OR 97301** **503-986-0671** **Email: Heritage.Programs@state.or.us**	1

State Agency (Oregon) NEPA Document Distribution (***verify all contact information below via the weblinks)		Number of Copies (CD, paper, weblink)
State Library (and ODOT Library) **www.oregon.gov/OSL/** **Oregon State Library** **250 Winter St. NE** **Salem 97301-3950** **503-378-4243** **Email:** **reference@library.state.or.us**	**ODOT Library copies: 1 bound copy & 1 CD** **State Library copies: 10 bound copies & 10 CDs & 1 electronic link (to NEPA project webpage)** **(CAVEAT: if printing 10 hard copies is cost prohibitive or just not reasonable, send at least 1 hard copy with 10 CDs instead).** **https://www.oregon.gov/ODOT/CS/BSS/library.shtml**	1 CD & 1 bound 10
Water Resources Department **https://www.oregon.gov/owrd/Pages/index.aspx** **Water Resources Department** **725 Summer Street NE, Suite A** **Salem, OR 97301** **503-986-0900** **Email: webmaster@wrd.state.or.us**		1

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Federal Agency NEPA Document Distribution (***verify all contact information below via the weblinks)	Number of Copies (CD, paper, weblink)
U.S. Environmental Protection Agency (Region 10) **www.epa.gov/Region10/** **US Environmental Protection Agency** **Region 10** **1200 Sixth Avenue, Suite 900** **NEPA Unit (ETPA-088)** **Seattle, WA 98101** **800-424-4EPA or 206-553-1200**	5 (paper/bound copies)
U.S. Environmental Protection Agency (if Section 404 permit needed) **US Environmental Protection Agency** **U.S. EPA-Oregon Operations Office** **c/o Yvonne Vallette** **805 SW Broadway, Suite 500** **Portland, OR 97205** **503-326-2716** **Email: vallette.yvonne@epa.gov**	1 (paper/bound copy)
U.S. Department of the Interior, National Park Service **https://www.nps.gov/** **NPS** **U.S. Department of the Interior** **1849 C Street, NW** **Washington, DC 20240** **202-208-6843** **Email: webteam@ios.doi.gov**	1
Advisory Council on Historic Preservation **www.achp.gov** **ACHP** **1100 Pennsylvania Avenue NW, Suite 803** **Old Post Office Building** **Washington, DC 20004** **202-606-8503** **E-mail: achp@achp.gov**	1

Federal Agency NEPA Document Distribution (***verify all contact information below via the weblinks)	Number of Copies (CD, paper, weblink)
U.S. Department of the Interior, Washington D.C. **(if individual 4(f))** **www.doi.gov/** **U.S. DOI** **1849 C Street, N.W.** **Washington DC 20240** **202-208-3100** **E-Mail: webteam@ios.doi.gov**	7
U.S. Coast Guard (if Coast Guard permit needed) **https://www.uscg.mil/** **U.S. Coast Guard Headquarters** **Commandant, U.S. Coast Guard,** **2100 Second Street, SW,** **Washington, DC 20593** **202-372-4400** **Email: https://www.uscg.mil/contact/**	1
U.S. Army Corps of Engineers **www.usace.army.mil/** **US Army Engineer District, Portland, CENWP** **P.O. Box 2946** **Portland, OR 97208-2946** **503-808-5150**	1
National Oceanic & Atmospheric Administration National Marine Fisheries Service **https://www.nmfs.noaa.gov/** **https://www.westcoast.fisheries.noaa.gov/habitat/conservation/oregon_habitat_resources.html** **Oregon State Habitat Office** **1201 NE Lloyd Blvd, Suite 1100** **Portland, OR 97232** **503-231-2202**	1

Federal Agency NEPA Document Distribution (***verify all contact information below via the weblinks)	Number of Copies (CD, paper, weblink)
U.S. Department of Interior, Fish & Wildlife Service **www.fws.gov/** **U.S. Fish and Wildlife Service** **Paul Henson, State Supervisor** **Oregon Fish and Wildlife Office** **2600 SE 98th Ave., Suite 100** **Portland, OR 97266** **503-231-6179** **www.fws.gov/pacific**	1
Federal Transit Administration **https://www.transit.dot.gov/** **FTA** **East Building** **1200 New Jersey Ave SE Washington,** **DC 20590** **866-377-8642** **Email: FTA.ADAAssistance@dot.gov**	1
Federal Aviation Administration (as needed) https://www.faa.gov/ **Federal Aviation Administration** **Northwest Mountain Region** **1601 Lind Avenue Southwest** **Renton, WA 98057** **(800) 220-5715 or (425) 227-2001**	1
Federal Railroad Administration (Region 8) (as needed) **https://www.fra.dot.gov/** **USDOT, FRA** **500 Broadway - Suite 240** **Vancouver, WA 98660** **Phone - (360)696-7536** **Fax - (360)696-7548**	1

Federal Agency NEPA Document Distribution (*verify all contact information below via the weblinks)**	**Number of Copies (CD, paper, weblink)**
U.S. Forest Service (Region 6) (If Cooperating agency, or if project is on FS land) **https://www.fs.fed.us/r6/welcome.shtml** **USDA Forest Service – Pacific Northwest Region** **PO Box 3623, 333 SW First Avenue** **Portland, Oregon 97208-3623 USA** **503-808-2468** **http://www.fs.fed.us/r6/contactus/comment-card.shtml**	1 (or as requested)
U.S. Bureau of Land Management (Oregon and Washington Region) (If Cooperating agency, or if project is on BLM land) **https://www.blm.gov/oregon-washington** **BLM Oregon Office** **333 S.W. 1st Avenue** **Portland, OR 97204** **503-808-6001** **202-208-3801 (DC office)** **mailto:woinfo@blm.gov or mailto:ORwaland@blm.gov**	1 (or as requested)

[DRAFT OR FINAL] SECTION 4(f) EVALUATION

The Basic Section 4(f) Analysis

This Section 4(f) evaluation is used only to document individual Section 4(f) evaluations. Chapter 3 documents determinations that properties are not subject to Section 4(f), temporary occupancy determinations, Section 4(f) ***de minimis*** determinations, and programmatics.

FHWA's Section 4(f) policy paper and Section 4(f) regulations found at 23 CFR 774, should be consulted throughout the Section 4(f) determination processes. Seek frequent advice if unsure of applicability or process. A poorly conceived and/or written Section 4(f) evaluation will delay the project schedule. FHWA legal sufficiency review is required for all individual Section 4(f) evaluations. Be sure to appropriately consider all planned park and recreational facilities.

1. For properties that require an individual Section 4(f) evaluation you must identify alternatives that would avoid the use of a Section 4(f) property, including the No-Build Alternative.

    a. Analyze if each of the avoidance alternatives is prudent and feasible (23 CFR 774.17 Feasible and Prudent Avoidance Alternative definition).

        i. An avoidance alternative is prudent and feasible if it avoids using the Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property. In assessing the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the Section 4(f) property to the preservation purpose of the Section 4(f) statute. An avoidance alternative is not feasible if it cannot be built as a matter of sound engineering judgment. 23 CFR 774.117 sets forth 6 factors to consider when determining whether an alternative is prudent. When documenting that an alternative is not feasible and prudent, clearly document how each of the 6 factors is considered in the analysis of each alternative.

        ii. Prudent and feasible refers only to avoidance alternatives and not to minimization measures.

    b. Include a description of all possible measures to minimize harm to the resource (23 CFR 774.117 All Possible Planning definition).

Writing the Section 4(f) Evaluation

1. Include a text box in this appendix that names the technical report, date, and that it is available upon request, should the reader want more information.

2. The Section 4(f) evaluation should be organized as follows:

    - Introduction.

- Description of proposed project alternatives.

- Description and map of each Section 4(f) property. The description of each property should include discussion of the attributes and features that qualify the property for Section 4(f) consideration. The map of each Section 4(f) property should clearly depict the property boundary, major features (footprints of major structures, parking lots, etc.) of the property and especially features and attributes of the property which qualify the property for Section 4(f) consideration.

- Impacts on Section 4(f) properties [discuss impacts caused by each alternative]. Discuss in terms of the right-of-way required, the impact to the features, activities and attributes which qualify the resource for Section 4(f) consideration. Overlay project alternatives on the Section 4(f) resource map(s) so that the "use" of the property can be readily identified.

- Avoidance alternatives.

- Measures to minimize harm.

- Coordination.

- Concluding statement.

- Other park, recreational facilities, wildlife and waterfowl refuges, and historic properties evaluated relative to the requirements of Section 4(f).

  The following properties [list] were evaluated to determine if they were Section 4(f) properties. Each was determined to not be a Section 4(f) property. Please see the cultural or parks and recreational sections of Chapter 3 for additional information on these determinations.

- Letters and other correspondence.

3. If the proposed project has multiple protected Section 4(f) properties, it may be easier for the reader if the evaluation is organized so that all the discussion of a given property is in one location. In other words, describe the property, then discuss impacts on that property, then alternatives that would avoid that property, measures to minimize harm to that property, then coordination for that property and lastly the concluding statement. Then move on and do the same for each Section 4(f) properties. Using this approach, the overall organization would look as follows (for two properties, in this example):

- Introduction.

- Description of Proposed Project [include all alternatives].

- List and Description of Section 4(f) Properties.

- Impacts on [Insert name of 1st property] [discuss impacts caused by each alternative].
- Avoidance Alternatives for [Insert name of 1st property].
- Measures to Minimize Harm to [Insert name of 1st property].
- Coordination for [Insert name of 1st property].
- Concluding Statement for [Insert name of 1st property].
- Impacts on [Insert name of 2nd property].
- Avoidance Alternatives for [Insert name of 2nd property].
- Measures to Minimize Harm to [Insert name of 2nd property].
- Coordination for [Insert name of 2nd property].
- Concluding statement for [Insert name of 2nd property].
- Other Park, Recreational Facilities, Wildlife or Waterfowl Refuges, and Historic Properties Evaluated Relative to the Requirements of Section 4(f).
- Letters and Other Correspondence.

Introduction

Include the following boilerplate language in the introduction.

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 U.S.C. 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that the Secretary [of Transportation] may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- there is no prudent and feasible alternative to using that land; and
- the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture and Housing and

Urban Development in developing transportation projects and programs that use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer or Tribal Historic Preservation Officer is also needed.

Description of Proposed Project

1. Discuss the proposed project, including each build alternative and the No-Build alternative.

   Give enough detail so that the reader can understand the proposed project and alternatives. Maps of each alternative, including Section 4(f) properties being analyzed, shall be provided. Refer the reader to Chapter 1, Project Description and Alternatives for more detailed information.

2. Restate the complete purpose and need for the project. Refer the reader to Chapter 1, Purpose and Need, for additional information.

Description of and Impacts on Section 4(f) Properties

1. All archaeological and historic sites within the Section 106 area of potential effects (APE) and all public and private parks, recreational facilities, and wildlife or waterfowl refuges within or adjacent to the APE if any of the project alternatives should be analyzed to determine whether they are protected Section 4(f) resources.

2. If protected Section 4(f) resources have been identified in the project vicinity, then include the following for each property that would be used by any alternative(s) under consideration.

   Detailed map(s) showing the relationship of the property and its boundary (including its attributes, activities and features which qualify it for Section 4(f) consideration) to the alternative(s).

   Ownership and type of Section 4(f) property.

   Lease, easements, covenants, restrictions that affect ownership.

   Function of or available activities on the property.

   Description and location of all existing and planned facilities (baseball fields, playgrounds, etc.).

   Access (pedestrian, bicycle, car) and usage (approx. # of visitors).

   Relationship to other similarly used lands in the vicinity (what other parks, recreational facilities or historical structures exist in the area).

   Unusual characteristics of the property that either enhance or reduce its value.

3. Discuss the impacts on the property for each alternative.

   a. Clearly identify (i.e., quantify) and discuss the following impacts on each property for each alternative:

      Facilities, functions, and/or activities potentially affected.

      Size (in acres or square feet, as appropriate) and location of property, and size (in acres, or square feet, as appropriate) of the Section 4(f) use.

      Accessibility.

      Visual.

      Noise.

      Vegetation.

      Wildlife.

      Air quality.

      Water quality.

   b. Cross-reference other sections of the EIS as appropriate.

Avoidance Alternatives

1. Identify and discuss any alternatives that would avoid the use of Section 4(f) resources, including the No-Build, new alignments, and design variations.

2. **In the Final Section 4(f) evaluation, discuss whether the avoidance alternatives are prudent and feasible. If they are not prudent and feasible, discuss why they are not. Quantify where possible and be as specific as possible.**

   a. An avoidance alternative is prudent and feasible if it avoids using the Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property. In assessing the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the Section 4(f) property to the preservation purpose of the Section 4(f) statute.

      An avoidance alternative is not feasible if it cannot be built as a matter of sound engineering judgment. 23 CFR 774.117 sets forth these 6 factors to consider when determining whether an alternative is prudent:

      - Compromises the project so that it is unreasonable to proceed with the project in light of its stated purpose and need;
      - Results in unacceptable safety or operational problems;

- After reasonable mitigation, it still causes:
  - Severe social, economic, or environmental impacts;
  - Severe disruption to established communities;
  - Severe disproportionate impacts to minority or low income populations; or
  - Severe impacts to environmental resources protected under other Federal statutes;
- Results in additional construction, maintenance, or operational costs of an extraordinary magnitude;
  - Consider factors such as: the percentage difference in the costs of the alternatives; how the cost difference relates to the total cost of similar transportation projects in the applicant's annual budget; and the extent to which the increased cost for the project would adversely impact that applicants' ability to fund other transportation projects. Review of the section-by-section analysis of the NPRM comments and the Administration's response may be helpful when writing this section.
- Causes other unique problems or unusual factors; or
- Involves multiple factors listed above that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

Document the consideration of the 6 factors above for each avoidance alternative and remember that this analysis puts a "thumb on the scale" in favor of protecting Section 4(f) properties.

Measures to Minimize Harm to the Section 4(f) Property

1. Discuss all possible planning for measures that are available to minimize the impacts on the property. Document all efforts undertaken even if they seem relatively minor. Summarize and refer readers to other sections of the environmental document as appropriate. All possible planning means all reasonable measures identified in the Section 4(f) evaluation to minimize harm or mitigate for adverse impacts and effects must be included in the project (see 23 CFR 774.17 definition of *All Possible Planning*).

   a. In evaluating the reasonableness of measures to minimize harm, consider and document the preservation purpose of the statute and:

      i. The views of the officials with jurisdiction over the Section 4(f) property;

      ii. Whether the cost of the measures is a reasonable public expenditure in light of the adverse impacts of the project on the Section 4(f) property and the benefits of the measure to the property; and

      iii. Any impacts or benefits of the measures to communities or environmental resources outside of the Section 4(f) property

b. Measures should be developed in consultation with the official of the agency having jurisdiction over the property and may involve replacement land, replacement facilities or monetary compensation to enhance the remaining land. **For Final Section 4(f) Evaluation include letters from the officials with jurisdiction concurring with proposed measures.**

Coordination

1. Document coordination with the agency having jurisdiction over the resource, the Department of the Interior (NOTE: they have 45 days to respond), and, as appropriate, the U.S. Department of Agriculture (for National Forest System Lands) and the Department of Housing and Urban Development (property for which HUD funding was used). Coordination should center on:

    a. Significance of property;

    b. Primary purpose of the land;

    c. Proposed use and impacts; and,

    d. Proposed measures to avoid and/or minimize harm.

Least Harm Analysis

If a project plans to use a least harm analysis coordinate early and closely with FHWA and ODOT. If there is no prudent and feasible alternative to avoid harm to Section 4(f) properties, then only the alternative that causes the least overall harm in light of the statute's preservation purpose can be chosen. The least overall harm is determined by balancing the:

a. Ability to mitigate adverse impacts to each Section 4(f) resource;
b. Relative severity of the remaining harm, after mitigation, to the protected activities, attributes and features;
c. Relative significance of each Section 4(f) property;
d. Views of the officials with jurisdiction over each Section 4(f) property;
e. Degree to which each alternative meets the purpose and need;
f. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
g. Substantial differences in costs among alternatives.

Document the process and the results of the balancing above. Consider using a summary table to help differentiate the balancing of each factor for the alternatives.

Concluding Statement

Include the concluding statement for each resource:

Based on the above considerations, there is no feasible and prudent alternative to the use of land from [name the Section 4(f) property(ies)] and the [proposed action, specify which alternative] includes all possible planning to minimize harm

to [name the Section 4(f) property(ies)] resulting from such use and causes the least overall harm in light of the statutes preservation purpose.

References and Additional Guidance

49 USC 303

23 CFR 774

FHWA Environmental Impact and Related Procedures; Section 4(f) Technical Advisory T6640.8A, Guidance for Preparing and Processing

Section 4(f) Policy Paper, March 1, 2005

Section 4(f) Checklist (FHWA Western Resource Center) Update hotlink to here: https://www.fhwa.dot.gov/cadiv/docs/4fCheck.htm

FHWA Interim Guidance, August 22, 1994. Applying Section 4(f) on Transportation Enhancement Projects and National Recreation Trail Projects

FHWA Guidance on Section 4(f) *De Minimis*

Section 4(f) Net Benefit Programmatic.
https://www.environment.fhwa.dot.gov/4f/4fnetbenefits.asp
4(f) Historic Bridge Programmatic.
https://www.environment.fhwa.dot.gov/legislation/section4f.aspx

4(f) Interstate Exemption Guidance.
https://www.fhwa.dot.gov/hep/guidance/interstate4f.cfm

4(f) Interstate Questions and Answers:
https://www.environment.fhwa.dot.gov/legislation/authorizations/fastact/ga_parks_1301.aspx

AASHTO Practitioner's Handbook Complying with Section 4(f) of the USDOT Act

Section 4(f) *de minimis* Template for Section 106 Resources

Section 4(f) Temporary Occupancy Documentation

APPENDICES
(This list will be customized to the EIS document, including a letter for each appendix)

Right-of-Way / Summary of Relocation Benefits (if applicable)

Civil Rights Act: Title VI Policy Statement

National Historic Preservation Act: Section 106 Documentation

FHWA National and ODOT Statewide Efforts Related to Climate Change

Air Quality Conformity Supporting Documentation

ESA Documentation

SAFETEA-LU Section 6002

ODOT Noise Manual Appendix I Worksheets

List of Acronyms

Glossary of Technical Terms

List of Technical Reports

Appendix [X]. Right-of-Way / Summary of Relocation Benefits (if applicable)

If the proposed project involves any relocations, then include the following Relocation Assistance Program Brochures:

1. "Moving Because of the Highway or Public Projects?"
   https://www.oregon.gov/ODOT/HWY/ROW/docs/PDF/Publications/734-3772_brochure.pdf

2. "Acquiring Land for Highways & Public Projects"
   https://www.oregon.gov/ODOT/HWY/ROW/docs/PDF/Publications/734-3773_brochure.pdf

These brochures are also available in Spanish. Brochures in Spanish should also be included in the appendix when there are Spanish-speaking individuals within the project area.

1. "Moving Because of the Highway or Public Projects?"
   https://www.oregon.gov/ODOT/HWY/ROW/docs/PDF/Publications/734-3772S.pdf

2. "Acquiring Land for Highways & Public Projects"
   https://www.oregon.gov/ODOT/HWY/ROW/docs/PDF/Publications/734-3773s_brochure.pdf

Text color key: Black = generally required text and headings Blue = instructions/guidance to be deleted Purple = sample text Underlined text: Web links

Appendix [X]. Civil Rights Act: Title VI Policy Statement

Oregon
Theodore R. Kulongoski, Governor

Department of Transportation
Office of the Director
Rm 135
355 Capitol St. NE
Salem, Oregon 97301-3871

FILE CODE:

TITLE VI AND RELATED STATUTES
NONDISCRIMINATION STATEMENT

November 12, 2008

It is the Oregon State Department of Transportation's (ODOT) policy to assure that no person shall, on the grounds of race, color, national origin, disability, age or sex, as provided by Title VI of the Civil Rights Act of 1964 and related statutes, be excluded from participation in, be denied the benefits of, or be otherwise discriminated against under any of the programs or activities it administers.

Matthew L. Garrett, Director

Form 731-0323 (11-06)

Text color key: Black = generally required text and headings Blue = instructions/guidance to be deleted
Purple = sample text Underlined text: Web links

Appendix [X] – National Historic Preservation Act: Section 106 Documentation

This documentation could include programmatic agreement memos, Determinations of Eligibility, Findings of Effect, and Memorandum of Agreement.

Appendix [X] – FHWA National and ODOT Statewide Efforts Related to Climate Change

Federal Highway Administration and state DOTs are involved in a wide variety of efforts related to climate change. This appendix summaries some of the activities that FHWA and ODOT are pursuing related to climate change.

USDOT and Federal Highway Administration Climate Change Efforts

Insert the information provided at this link:

https://www.fhwa.dot.gov/federalaid/120924.cfm

Oregon Department of Transportation Climate Change Efforts

Insert the document provided at the following link:

ODOT's Efforts on Climate Change

Text color key: Black = generally required text and headings Blue = instructions/guidance to be deleted
Purple = sample text Underlined text: Web links

Appendix [X] – Air Quality Conformity Supporting Documentation

Include a copy of the page of the RTP that includes the project subject to the NEPA document.

Text color key: Black = generally required text and headings Blue = instructions/guidance to be deleted
Purple = sample text Underlined text: Web links

Appendix [X] – ESA Documentation

Documentation could include No Effect Memos; May Affect, Not Likely to Adversely Affect concurrence letter; or the cover letter transmitting a Biological Opinion (need not include entire BO here).

Appendix [X]. SAFETEA-LU Section 6002

Pursuant to 23 CFR 771.125(b) the following documentation is required for legal sufficiency review.

1. Is the SDOT and/or Local Government a joint lead agency?

Legal Requirement: Sec. §139(c): Along with FHWA as the lead federal agency, any state or local government project sponsor that is the direct recipient of FHWA funds shall serve as joint lead agency. Joint lead agencies may include other federal agencies.

Multnomah County is a joint lead agency along with the Oregon Department of Transportation (ODOT) and the Federal Highway Administration (FHWA).

2. Has FHWA received a project initiation letter from the SDOT prior to the start of NEPA?

Legal Requirement: Sec. §139(e) requires the project sponsors to notify FHWA regarding the type of work, termini, length, general location of the project, and any federal approvals anticipated to be necessary. The purpose of the letter is to inform FHWA that the environmental review process should be initiated.
Documentation Required: A copy of the initiation letter or notice that includes the type of project, termini, length, general location of the project, and anticipated approvals that will be required.

An initiation letter was sent by Jason Tell, Manager, ODOT Region 1 to David Cox with FHWA on August 21, 2006.

3. Have participating agencies been identified?

Legal Requirement: Sec. §139(d): The lead agency shall identify other federal and non-federal agencies "that may have an interest in the project and shall invite such agencies to become participating agencies." There is little room for discretion here unless, as guidance suggests, the lead agency believes the entity has no interest. Any legal commenting or permitting agency is "interested" per se.
Documentation Required: Invitation letters or notices and replies.

Invitation letters were mailed out to the appropriate agencies on October 6, 2006.

4. **Have Cooperating Agencies been identified as appropriate?**

Legal Requirement: Sec. §139(d)(5): Participating agencies can also be cooperating agencies.
Documentation Required: List of cooperating agencies, invitation letters, and replies.

Invitation letters were mailed out to the appropriate agencies on October 6, 2006.

5. Has the lead agency provided an opportunity for involvement by Participating Agencies in the development of the project's Purpose and Need?

Legal Requirement: Sec. §139(f): Lead Agency shall provide an opportunity for involvement by the participating agencies in defining the project's Purpose and Need.
Documentation Required: Invitation letters or notices, dates of events, and summary of involvement.

Invitation letters were mailed on November 17, 2006 announcing a Coordination Scoping meeting on December 9, 2006. The letter also included a draft purpose and need for the review of all participating agencies. Comments were collected during the scoping meeting and written comments were received from DSL, ODFW, SHPO, and NMFS.

6. Has the lead agency provided and opportunity for involvement by the public in the development of the project's Purpose and Need?

Legal Requirement: Sec. §139(f): Lead agency shall provide an opportunity for involvement by the public in defining the project's Purpose and Need.
Documentation Required: Invitation letters or notices, dates of events, and summary of involvement by the public.

A newsletter was mailed to residents and businesses in the project area through general mail routes. Additionally, those who had attended the previous meetings or joined the mailing list on the project website received a newsletter. A public open house was held on October 25, 2006 to receive written comments from the public. An on-line survey also collected public comments on the draft purpose and need statement. This survey was available for public response between September 6 and October 26, 2006 and received over 800 responses.

7. Has the lead agency provided an opportunity for involvement by the participating agencies in the development of the projects range of alternatives?

Legal Requirement: Sec. §139(f)(4): Lead agency shall provide and opportunity for involvement by participating agencies in defining the project's range of alternatives
Documentation Required: Invitation letters or notices, dates of events, and summary of involvement by the participating agencies.

A majority of the participating agencies are on the Policy Advisory Group (PAG) or Project Management Team (PMT), and the other agencies are on CETAS. The PAG and PMT have been involved at every key decision-making step and all PAG meeting materials can be found on the project website. The project team met with CETAS at key points in the project.

8. Has the lead agency provided an opportunity for involvement by the public in the development of the projects range of alternatives?

Legal Requirement: Sec. §139(f): Lead agency shall provide and opportunity for involvement by participating agencies in defining the project's range of alternatives
Documentation Required: Invitation letters or notices, dates of events, and summary of involvement by the participating agencies.

A public workshop was held on April 4, 2007 to begin collecting the public's thoughts on initial concepts. An on-line survey was also conducted at this time(March 8 through April 12) covering this same topic. After results of the open house and survey were shared with the Community Task Force, Policy Advisory Group, and technical teams another open house was held on July 25, 2007. The 100 plus alternatives were explained through an on-line tool, called Build-A-Bridge. A survey collected the opinions of the public, based on what they learned from the tool. The survey had over 3,000 responses and the results were shared with the Community Task Force and Policy Advisory Group.

9. Has the lead agency determined the methodologies to be used and the level of detail required to analyze each alternative? Has this determination been made in collaboration with the participating agencies?

Legal Requirement: Sec. §139(f)(4)(C):
Documentation Required: List of methodologies and evidence of collaboration as applicable.

Methodologies were written for each DEIS section and reviewed by the lead agencies. The participating agencies had the opportunity to review the methodologies before completion of the DEIS.

10. Has a coordination plan been developed by the lead agencies with consultation of the participating agencies?

Legal Requirement: Sec. §139(g)(1): The coordination plan is intended to coordinate public and agency participation in and comment on the environmental review process.
Documentation Required: The coordination plan.

The coordination plan was last revised in September 2007.

11. If a schedule has been established as part of the coordination plan, were the four statuary factors considered?

Legal Requirement: Sec. §139(g)(1)(B): If a lead agency develops a project schedule or modifies it, the lead agency shall consult with the participating agencies, the state DOT, and project sponsor if not the state DOT, and consider the four statuary factors.
Documentation Required: The schedule, any correspondence showing consultation, and how the four statuary factors were addressed.

A schedule is part of the coordination plan and was reviewed by all agencies prior to adoption. The factors listed for consideration in 139(g)(1)(B) are:

- *Responsibilities of participating agencies – These responsibilities are outlined in the coordination plan.*
- *Resources available to the cooperating agencies – Cooperating and participating agencies were included existing teams to reduce redundant meeting participation.*
- *Overall size and complexity of the project and overall schedule for and cost of the project - Due to the complexity of the project, the schedule was extended initially to provide for public outreach.*
- *Sensitivity of natural and historic resources that could be affected by the project – Since the project includes parks on both sides of the river, these resources were identified and considered early on in the NEPA process.*

12. Has Lead Agency established the comment deadlines to be used during Environmental Review process?

Legal Requirement: §139(g)(2)
Documentation Required: The letters or notices to agencies and the public of applicable deadlines.

Once the draft EIS is completed, it will be sent to the public and agencies via postal mailings. A postcard was mailed out to the mailing list members that do not have an email address on file (approximately 350 people) on Monday, October 13, 2008 requesting a response on the mode of the DEIS requested (hard copy or CD). An email announcement with the same information was sent sent out to the remaining mailing list members on the same day.

The comment period will be 45 days and will be announced in the document and on the web site. The comment period is expected to start on November 7, 2008.

13. Has Lead Agency mad Environmental and Socioeconomic information available to Participating agencies early during the review process?

Legal Requirement: §139(h) requires lead agencies to make available to participating agencies as early as practicable information about environmental and socioeconomic resources in the project area and general locations of the alternatives. Based on this information, participating agencies shall identify issues of concern.
Documentation Required: Notice or letter of the information provided to participating agencies and their responses.

Participating agencies will receive environmental and socioeconomic information in the form of the DEIS when it is distributed.

14. Optional – Has a higher level of detail for the preferred alternative been developed?

Legal Requirement: §139(f)(4)(D) allows development of the preferred alternative, once identified, to a higher level of detail for the purposes of facilitating development of mitigation measures and/or concurrent compliance with other laws.

Documentation Required: FHWA's determination that development of a higher level of detail will not prevent the lead agency from making an impartial decision whether to accept another alternative under consideration.

All alternatives have been developed to the same level of detail.

Text color key: Black = generally required text and headings Blue = instructions/guidance to be deleted
Purple = sample text Underlined text: Web links

Appendix [X]. ODOT Noise Manual Appendix I Worksheets

Include the ODOT Noise Manual Appendix I worksheets here.

1 Appendix [X] – List of Acronyms

American Association of State Highway and Transportation Officials	AASHTO
Advisory Council on Historic Preservation	ACHP
Americans with Disabilities Act	ADA
Asbestos Hazard Emergency Response Act	AHERA
Area of Potential Effects	APE
Area of Potential Impact	API
Archaeological Resources Protection Act	ARPA
Biological Assessment	BA
Bureau of Land Management	BLM
Best Management Practices	BMPs
British Thermal Units	Btu
Clean Air Act	CAA
Crash Analysis and Reporting System	CARS
Council on Environmental Quality	CEQ
Comprehensive Environmental Response, Compensation and Liability Act of 1980	CERCLA
Comprehensive Environmental Response, Compensation, and Liability Information System	CERCLIS
Community Environmental Response Facilitation Act	CERFA
Collaborative Environmental and Transportation Agreement for Streamlining	CETAS
Contributing Impervious Area	CIA
Capital Improvement Programs	CIP
Carbon Monoxide	CO
U.S. Army Corps of Engineers	Corps
Clean Water Act	CWA
Coastal Zone Management Act	CZMA
Design Acceptance Package	DAP
Decibels Adjusted	dBA
Department of Environmental Quality	DEQ
Department of Land and Conservation Development	DLCD
Department of Transportation Act	DOT Act
Department of State Lands	DSL
Exclusive Farm Use	EFU
Environmental Justice	EJ
Executive Order	EO
Endangered Species Act	ESA
Environmental Cleanup Site Information System	ESCI
Environmental Protection Agency	EPA
Federal Emergency Management Agency	FEMA
Federal Highway Administration	FHWA
Federal Insecticide, Fungicide, and Rodenticide Act	FIFRA
Farmland Protection Policy Act	FPPA
Federal Transit Administration	FTA

Highway Advisory Radio System	HARS
Habitat Conservation Plans	HCP
High Occupancy Vehicle	HOV
High Capacity Transit	HCT
Land and Water Conservation Fund Act	LWCF
Least Environmentally Damaging Practicable Alternative	LEDPA
Location Hydraulics Study	LHS
Level of Service	LOS
Memorandum of Agreement	MOA
Metropolitan Planning Organization	MPO
Mile Point	MP
Mobile Source Air Toxics	MSAT
Multiple Species Conservation Plans	MSCP
Oregon Major Transportation Projects Agreement	MTPA
National Ambient Air Quality Standards	NAAQS
Noise Abatement Criteria	NAC
National Cooperative Highway Research Program	NCHRP
National Environmental Policy Act	NEPA
No Further Action	NFA
National Flood Insurance Program	NFIP
National Historic Preservation Act	NHPA
National Low Emission Vehicle Standards	NLEV
National Marine Fisheries Service	NMFS
Nitrogen Dioxide	NO2
National Pollutant Discharge Elimination System	NPDES
National Priority List	NPL
National Park Service	NPS
Natural Resources Conservation Service	NRCS
Ozone	O3
Oregon Coastal Management Program	OCMP
Oregon Department of Agriculture	ODA
Oregon Department of Fish and Wildlife	ODFW
The Oregon Department of Transportation	ODOT
Oregon Economic and Community Development Department	OECDD
Office of Management and Budget	OMB
United States Environmental Protection Agency	US EPA
Oregon Department of Agriculture	ODA
Oregon Natural Heritage Information Center	ORNHIC
Oregon Administrative Rules	OARs
Oregon Revised Statutes	ORS
Programmatic Agreement	PA
Lead	Pb
Polychlorinated biphenyl	PCB

Project Leader	PL
Particulate Matter	PM
Resource Conservation and Recovery Act of 1976	RCRA
Reformulated Gasoline	RFG
Record of Decision	ROD
Regional Transportation Improvement Program (delete this and do a find/replace for TIP)	RTIP
Regional Transportation Plan	RTP
Right-of-Way	ROW
Special Areas of Concern	SAC
Safe, Accountable, Flexible, Efficient Transportation Equity Act	SAFETEA-LU
State Historic Preservation Office	SHPO
State Implementation Plan	SIP
Sulfur Dioxide	SO2
Safety Priority Indexing System	SPIS
State Transportation Improvement Program (delete this and replace with statewide)	STIP
Statewide Transportation Improvement Program	STIP
Threatened and Endangered	T&E
Traditional Cultural Properties	TCPs
Transportation Demand Management	TDM
Tribal Historic Preservation Office	THPO
Transportation Improvement Program	TIP
Total Maximum Daily Loads	TMDLs
Transportation Management Agencies	TMA
Transportation Planning and Analysis Unit	TPAU
Toxic Substances Control Act	TSCA
Transportation System Management	TSM
Transportation System Plan	TSP
Underground Injection Control Systems	UIC
United Stated Department of Agriculture	USDA
United States Forest Service	USFS
United States Fish and Wildlife Service	USFWS
Volume to Capacity	v/c
Vehicle Hours Traveled (double check if should be caps or not)	VHT
Vehicle Miles Traveled	VMT

Appendix [X]. Glossary of Technical Terms (This should be customized fit)

303(d), water quality limited waters	This is a Clean Water Act classification for waters where application of best management practices or technology-based controls are not sufficient to achieve designated water quality standards. Under Section 303(d) of the 1972 Clean Water Act, states, territories, and authorized tribes are required to develop a list of water quality limited segments. Waters on the 303(d) list do not meet water quality standards, even after the minimum required levels of pollution control technology have been installed at the point sources of pollution.
Access management	Access management seeks to protect the function of a transportation facility by restricting access to it from driveways and cross-streets.
Affordable housing	Affordable housing generally refers to housing that persons in the "low to moderate" income category can afford, meaning that they earn 80 percent or less of the area's median family income.
Alluvium	Alluvium is soil or sediments deposited by a river or other running water.
Anadromous	Anadromous refers to fish that hatch in fresh water, spend their adult lives in salt water, and return to fresh water to spawn.
Archaeological site	This term refers to those sites that are eligible for or are listed on the National Register (historic properties), as well as those that do not qualify for the National Register. The commonly used term, cultural resource, does not have a consistent or legal definition. The Oregon State Historic Preservation Office (SHPO) generally defines an archaeological site as: A) Ten or more artifacts likely to have been generated by patterned cultural activity within a surface area reasonable to that activity; or B) The presence of any archaeological feature, with or without associated artifacts. Examples of features include peeled trees, cache pits, hearths, housepits, rock shelters, cairns, historic mining ditches, petroglyphs, or dendroglyphs.
Attainment and Maintenance Areas	Attainment and Maintenance Areas refer to a region's ability to meet National Ambient Air Quality Standards and to maintain them over time.
Background	Background in the context of visual impact analysis is the area farthest from the viewer where distance effects are primarily explained by aerial perspective (i.e., emphasis is primarily on outlines or edges).
Best Management Practice(s) (BMPs)	BMPs, typically state-of-the-art technology, are designed to prevent or reduce impacts. They represent physical, institutional, or strategic approaches to environmental problems.
British thermal unit (Btu)	To compare energy use from different sources such as diesel, gasoline, and electricity, energy is often expressed in British thermal units (Btu) which assigns a common value to the energy used.
Census block groups	Census block groups are a collection of census blocks within a census tract, sharing the same first digit of their four-digit identification numbers.
Census tracts	Census tracts are small statistical subdivisions of counties, generally having stable boundaries and, when first established, were designed to have relatively homogeneous demographic characteristics.
Colluvium	Colluvium is sediment that has been deposited or built up at the bottom of a low-grade slope or against a barrier on that slope, transported by gravity.
Comprehensive Environmental Response (CERCLIS)	The CERCLIS list is a database of known and potentially hazardous waste facilities reported to the Environmental Protection Agency by state and local agencies and the general public in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). It is one of the databases associated with identifying potential hazardous materials sites or risks.
Cumulative impacts	Cumulative impacts are the result of incremental impacts of an action, when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (federal or nonfederal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

dBA	The term dBA stands for A-weighted decibels. For comparative purposes, human breathing is approximately 10 dBA, a calm room ranges 40-50 dBA, normal talking ranges 40-60 dBA, typical television setting is about 60 dBA at 10 feet, and a passing car is 60-80 dBA at 50 feet.
Detention	A water detention pond is designed to temporarily detain stormwater runoff from impervious surfaces and to release the runoff at a desired rate.
Direct impacts	Direct impacts are caused by an action and occur at the same time and place as the action.
Endangered Species Act (ESA)	The ESA provides for the protection of animal and plant species currently in danger of extinction (endangered) and those species that may become so in the near future (threatened).
Energy use	Energy use is calculated using the number of average daily vehicles, the average distance those vehicles travel, and fuel consumption rates.
Environmental Cleanup Site Information System (ESCI) & Confirmed Release List	The ECSI system includes facilities entered into the Oregon Department of Environmental Quality database pursuant to the site discovery requirements of Oregon Revised Statutes 466.560. The list includes facilities where there has been a confirmed release of hazardous substances, facilities where investigation or cleanup has been initiated, and facilities suspected of a release of hazardous substances. It is one of the databases associated with identifying potential hazardous materials sites or risks.
Environmental Impact Statement (EIS, DEIS, SDEIS, FEIS, SFEIS)	An EIS is a statement of the potential environmental impacts of a proposed action and alternatives to it. A Draft EIS (DEIS) is released to the public and other agencies for review and comment. A Final EIS (FEIS) is issued after consideration of public comments. Supplemental EISs (SEIS, SDEIS) are EISs issued after a DEIS has been published and address new aspects of a project, new regulations, or new impacts not previously addressed.
Expressway	Expressways are generally high-speed, limited-access facilities whose function is to move inter- and intra-urban traffic. Expressways often serve as major freight corridors and may be located on a designated freight route.
Folded diamond interchange	An interchange is a system of interconnecting roadways in conjunction with one or more grade separations that provides for the movement of traffic between two or more roadways or highways on different levels (grade-separated). Diamond interchanges have numerous possible configurations, a common one has on-ramps and off-ramps angling away from the main highway, forming a diamond shape. A folded diamond has one or more of the ramps looped inside another ramp, so that one side or quadrant has both the on- and off-ramp. A folded diamond can be used to limit the amount of right-of-way needed.
Foreground	Foreground in the context of visual impact analysis is the area closest to the viewer, which can be designated with clarity and simplicity because the observer is a direct participant.
Habitat classes	Metro ranks upland habitat and riparian corridors as low, medium, or high based on their value for protecting fish and wildlife (Class A, B, and C for upland habitats and Class 1, 2, and 3 for riparian habitat). This classification scheme provided the basis for mapping wildlife habitat within the Sunrise Project area.
High capacity transit (HCT)	This term refers to fixed rail light rapid transit or high-speed rapid bus.
Historic resource	A historic property (or historic resource) is defined in the national Historic Preservation Act (NHPA) [16 U.S.C. 470w(5)] as any "prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on, the National Register, including artifacts, records, and material remains related to such a property or resource."
Historical significance	The significance of a property refers to its ability to meet one of the four National Register criteria. Integrity is the ability of the property to convey this significance through physical features and context. Historic properties are significant because they do meet these criteria and have integrity.
Impervious surface	Impervious surfaces are mainly constructed surfaces such as rooftops, sidewalks, roads, and parking lots, covered by impenetrable materials such as asphalt or concrete. These materials seal surfaces, repel water, and prevent precipitation from infiltrating soils. Soils compacted by urban development can also be highly impervious.
Indirect impacts	Such impacts are impacts on the environment that are caused by the action and occur later in time or farther removed in distance but are still reasonably foreseeable.

In-stream flow	In-stream flow is water in its natural setting (as opposed to waters diverted for "off-stream" uses such as industry or agriculture).
Intactness	Intactness in the context of visual impact analysis looks at the integrity of visual order and how much the view is free from encroaching features.
Lead agency	The agency or agencies that have the primary responsibility for preparing the environmental impact statement.
Level of service (LOS)	LOS is a qualitative measure to describe how a road is operating in terms of performance measures related to speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. The levels range from A (least congested) to F (most congested).
Limited access	Limited access generally means that access to, from, and across a highway is limited to intersections or interchanges.
Liquefaction	Liquefaction describes the behavior of loose saturated sands, which go from a solid state to the consistency of a heavy liquid, or reach a liquefied state.
Low-income	Low-income persons are defined as residing in households with an income between the federal poverty guidelines and an amount two times greater than those guidelines.
Microtopography	As it relates to wetlands, microtopography refers to small-scale changes in elevation, typically of a few feet or less.
Middleground	Middleground in the context of visual impact analysis is where parts of the landscape may be seen to join together (e.g., where trees become a forest) or revealed as either comfortable or conflicting with the landscape.
Minorities	Minorities are defined as Black (or African American, having origins in any of the black racial groups of Africa); Hispanic (of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race); Asian American (having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or American Indian and Alaskan Native.
Mitigation	Mitigation measures are designed to counteract environmental impacts or to make such impacts less severe.
Mobile Source Air Toxics	Mobile Source Air Toxics refers to several hazardous air pollutants that cause or may cause cancer or other serious health effects.
National Ambient Air Quality Standards (NAAQS)	These standards are used to measure air quality, expressed as concentrations of pollutants averaged over fixed time periods.
National Environmental Policy Act (NEPA)	This federal legislation establishes environmental policy for the nation. It provides an interdisciplinary framework for federal agencies to prevent environmental damage and contains "action-forcing" procedures to ensure that federal agency decision-makers take environmental factors into account.
National Historic Preservation Act (NHPA)	In 1966, NHPA established a National Register of Historic Places and the Advisory Council on Historic Preservation.
National Priority List (NPL)	The NPL (Superfund) database is a subset of CERCLIS properties and identifies over 1,200 facilities for priority cleanup under the Superfund Program. It is one of the databases associated with identifying potential hazardous materials sites or risks.
National Register of Historic Places	The official list of sites, districts, buildings, structures, and objects significant in the nation's history or whose artistic or architectural value is unique.
No build alternative	This designation represents the most likely condition expected to exist in the future if current policies, plans, and programs were to continue unchanged.
No Further Action (NFA)	NFA is a term used by the Oregon Department of Environmental Quality (ODEQ) for a cleanup site where sufficient cleanup has been done to reduce the hazard of potential exposure of contamination in soil and/or groundwater to human health and environmental receptors to acceptable standards. NFAs are so worded that the ODEQ has the ability to reclassify a site if changes occur such as a change in land use, buildings are removed that covered the contamination, and/or excavations expose buried contamination.

Noise impacts	Noise impacts occur when traffic noise levels exceed the Oregon Department of Transportation (ODOT) impact criteria or if levels increase by 10 dBA or more over existing levels.
Palustrine emergent (PEM)	Palustrine emergent wetlands are a subset of palustrine wetlands and are dominated by erect, rooted, herbaceous hydrophytic (i.e., water tolerant) vegetation, excluding mosses and lichens (Cowardin et al. 1979). This vegetation is present for most of the growing season in most years. These wetlands are often dominated by perennial plants.
Palustrine forested (PFO)	Palustrine forested wetlands are a subset of palustrine wetlands and include areas dominated by woody vegetation that is 6 m (20 feet) tall or taller (Cowardin et al. 1979).
Palustrine scrub-shrub (PSS)	Palustrine scrub-shrub wetlands are a subset of palustrine wetlands and include areas dominated by woody vegetation less than 6 m (20 feet) tall (Cowardin et al. 1979).
Palustrine wetlands	Palustrine wetlands consist of vegetated wetlands traditionally called by such names as marsh, swamp, bog, fen, and prairie, which are found throughout the United States (Cowardin et al. 1979).The Palustrine wetland type is distinguished from other wetland types where areas of open water are typically greater than the area occupied by vegetation (i.e. riverine [river systems], lacustrine [lakes]).
Record of Decision (ROD)	A public document that reflects the agency's final decision, rationale behind that decision, and commitments to mitigation.
Remedial Investigation (RI)	Remedial Investigation is a term commonly associated with an EPA or ODEQ required site investigation to characterize contamination at a site. The original use of RI came through the EPA Superfund Program, where one was required to do a Remedial Investigation/Feasibility Study (RI/FS) for contaminated property. The ODEQ also uses the term for state regulated cleanup sites that are managed under ODEQ's Voluntary Cleanup Program.
Resource Conservation, and Recovery Act (RCRA)	The RCRA list identifies facilities that have obtained identification numbers from the Environmental Protection Agency (EPA), which designate these businesses as generators, transporters, or storers/disposers of hazardous waste. It is one of the databases associated with identifying potential hazardous materials sites or risks.
Right-of-way	This term applies to land acquired by reservation, dedication, prescription, or condemnation and intended to be occupied by a road, crosswalk, railroad, electric transmission line, oil or gas pipeline, water line, sanitary or storm sewer, or other similar use.
Riparian	Riparian areas have distinctive soil and vegetation between a stream or other body of water and the adjacent upland, including wetlands.
Salmonid	Salmon and trout species that are born in freshwater streams, live in the ocean during maturity, and return to the streams of their birth to spawn and die.
Screenline	Screenlines represent imaginary lines drawn across a series of parallel roadways that are used to evaluate traffic demand changes.
Section 106	Section 106 of the NHPA requires federal agencies to "take into account" the effects of their undertakings on historic properties and to provide the Advisory Council on Historic Preservation a "reasonable" opportunity to comment.
Single-point diamond interchange (SPUI)	A SPUI is a form of a diamond interchange with a single signalized intersection through which all left turns utilizing the interchange must travel. All right turns into and out of ramp approaches are generally free-flowing.
Species of concern	Species of concern are those that might be in need of conservation action, ranging from a need for periodic monitoring of populations and threats to the species and their habitat to the necessity for listing as threatened or endangered.
Subsidized Rental Housing (Section 8)	Section 8, or the Housing Choice Voucher Program, is a federal housing program that provides housing assistance to low-income renters and home owners.
Threatened/endangered species	Endangered – an animal or plant species in danger of extinction throughout all or a significant portion of its range. Threatened – an animal or plant species likely to become endangered within the foreseeable future.
Unity	Unity in the context of visual impact analysis looks at the degree to which the visual resources of the landscape form a coherent, harmonious visual pattern and the compositional harmony or compatibility between landscape elements.

Upland habitat	Non-riparian areas that provide wildlife with food, shelter, and corridors for moving from one habitat area to another.
Underground storage tank (UST) and leaking underground storage tank (LUST)	An underground storage tank (UST) system is a tank and any underground piping connected to the tank that has at least ten percent of its combined volume underground. Federal UST regulations apply only to underground tanks and piping storing either petroleum or certain hazardous substances. An LUST is a leaking underground storage tank.
Very-Low-income	Very-low-income persons who are defined as people residing in households with income below the federal poverty guidelines. Poverty guidelines are determined for households by household size.
Vividness	Vividness in the context of visual impact analysis is the memorability of the visual impression received from contrasting landscape elements as they combine to form a striking and distinctive visual pattern and looks at: landform, vegetation, water, and man-made development.
Volume/capacity ratio (v/c)	The v/c ratio illustrates how many vehicles are using the roadway compared to the room available for them.
Weaving sections	Weaving sections are highway segments where the pattern of traffic entering and leaving at contiguous points of access results in vehicle paths crossing each other.
Wetland	Wetlands for the purposes of the Clean Water Act, must meet a three-parameter approach that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present, under normal circumstances, and the wetland must be connected to or have a significant nexus with one of the other waters of the US, for an area to be designated as a jurisdictional wetland under the Clean Water Act.
Wildlife corridor	A wildlife corridor provides a link for wildlife to travel between habitats.

Text color key: Black = generally required text and headings Blue = instructions/guidance to be deleted
Purple = sample text Underlined text: Web links

Appendix [X]. List of Technical Reports

This [Draft/Final] Environmental Impact Statement summarizes the technical Documentation prepared for the [_____] project. The complete technical documents are lengthier and more detailed than their representative sections in this DEIS.

These reports are available on request from:
Region [x]
Oregon Department of Transportation
ODOT Environmental Project Manager [name]
[Address]

(xxx) xxx-xxxx

Air Quality Technical Report

Archaeological Resources Technical Report

Biological Resources Technical Report

Cultural Resources Technical Report

Energy Technical Report

Geology Technical Report

Hazardous Substance Technical Report

Hydrology Technical Report

Land Use Technical Report

Noise Study Technical Report

Parks and Recreational Resources Technical Report

Public and Agency Involvement Technical Report

Right-of-Way Technical Report

Socioeconomic Technical Report

Traffic, Transportation, and Safety Technical Report

Visual Resources Technical Report

Water Quality Technical Report

Wetlands Technical Report

Highway Division
Project Delivery Leadership Team
Operational Notice

OPERATIONAL NOTICE NUMBER	ORIGINAL EFFECTIVE DATE	REVISED EFFECTIVE DATE	REVIEW OR RESCIND DATE	REVIEWING POSITION
PD-04	**September 1, 2000**	**June 5, 2018**	**November 1, 2021**	**Project Delivery Leadership Team**
OPERATIONAL NOTICE TITLE **Environmental Performance Standards**			TOPIC / PROGRAM **Environmental**	

PURPOSE:

This Operational Notice (Notice) provides expectations and guidance to the ODOT Project Delivery business line for meeting environmental performance standards (EPS) required by Section 18 of the Oregon Jobs and Transportation Act (JTA) and Oregon Administrative Rule (OAR) 734-024-0005 to 0040.

BACKGROUND / RATIONALE:

The JTA, passed by the 2009 Oregon Legislature, supports transportation infrastructure. Section 18 of the JTA required ODOT to adopt an OAR that (a) incorporates EPS into the design and construction of all ODOT highway construction projects, including local agency highway construction projects funded by ODOT, and (b) improves the environmental permitting process for state highway construction projects. The Oregon Transportation Commission adopted these administrative rules in May 2011 (OAR 734-024-0005 to 0040).

The use of EPS is a standard of environmental stewardship and a refinement of environmental regulatory requirements. EPS support efficient project delivery and public safety while providing reasonable and improved protection of the natural environment. The EPS guide both environmental stewardship and ODOT's responsibility to manage Oregon's infrastructure investment and public safety.

Outcome-based EPS, such as fluvial design standards, allow for predictability and consistency statewide. ODOT will continue its evaluation and consideration of outcome-based EPS, anticipating further flexibility from regulatory agencies in the form of less prescriptive permit conditions in favor of programmatic permit standards.

OVERVIEW/DIRECTION:

This Notice applies to ODOT highway construction projects and local government highway construction projects funded wholly or in part by ODOT. This Notice does not apply to non-STIP related Maintenance actions.

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The EPS are to be considered and incorporated, when triggered, at project milestones in the ODOT Project Delivery System. EPS analysis must be integrated into standard operating procedures for project delivery, including forms and checklists, in order for it to be effective.

EPS are **required** when regulated resources may be impacted above regulatory thresholds. When regulated resources are not impacted, EPS must be **considered** and may be incorporated into the project when practical as enhancements.

ACTION REQUIRED/PROCESS:

Definitions

Enhancement	With respect to the environment, an opportunity to be considered, not a requirement. Enhancement includes activities that go beyond the agreed-upon regulatory requirements whether in planning, design, construction, maintenance, or operations. For purposes of this Notice, enhancements are natural or cultural resource improvements added to or resulting from a highway construction project.
Environmental performance standards	Acceptable levels of environmental performance specified for project activities.
Environmental stewardship	The responsibility for environmental quality while developing and managing the transportation infrastructure. It means actively working to protect and enhance our natural and cultural resources for current and future generations. It is demonstrated through continuous improvement of environmental performance while conducting the scope and purpose of ODOT's mission.

Environmental Performance Standards

EPS define acceptable levels of avoidance, minimization, and compensation or enhancement.

EPS categories include, but are not limited to:

1. Aquatic Biological Resources
2. Terrestrial Biological Resources
3. Storm water Management
4. Erosion and Sediment Control
5. Pollution Control
6. Cultural Resources
7. Enhancement

. Additional EPS may be developed for other regulated resources.

Direction/Guidelines

EPS must be considered, implemented, and documented at appropriate project development milestones and construction.

The reference section below provides links to documents with direction and guidelines for considering and incorporating EPS into highway project development and construction activities. The following enhancement section and reference documents provide the enhancement policy and associated EPS.

Enhancement

EPS must be considered and may be incorporated into highway construction projects when practical as enhancements.

Enhancement activities are voluntary actions within the scope of the project that benefit resources and go beyond required mitigation. Characteristics of good enhancement opportunities include actions that are:

- Opportunistic and typically low-cost when compared to project budget and provide a justifiable resource benefit relative to cost;
- An outgrowth or extension of work already planned, constructed, or maintained, or is similar in scope and location to such work.

When deciding whether or not to take advantage of an enhancement opportunity the following factors must be evaluated:

- Right-of-way needs
- Future maintenance requirements
- Project schedules
- Life cycle costs
- ODOT business line interests
- Project budgets
- Increased community and political goodwill

ROLES & RESPONSIBILITIES:

Effective collaboration between stakeholders is key to success when situations require the balancing of competing priorities. Each individual involved is responsible for resolving disagreements around competing priorities directly, at the technical resource level. However, in cases where this is not possible, each individual should consult his or her manager for assistance in achieving an acceptable resolution.

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Positions	Responsibilities
Area Managers Region Tech Center Managers	Provide oversight and guidance as needed to ensure EPS are considered and incorporated into highway projects.
Region Environmental Managers	• Facilitate compliance of highway projects with EPS requirements. • Implement. Notice through coordination with ODOT Region staff and managers. • Document and report, as required.
Geo-Environmental Section Managers	• Facilitate collaborative relationships between environment regulatory agency representatives and Region managers and staff to meet JTA Section 18 requirements. • Ensure environmental standards in ODOT technical guidance are consistent with the EPS. • Compile documentation and reporting results, as required.
Project Managers	Prior to approval by the Project Manger's office, coordinate construction changes to plans and specifications that may affect natural resources or environmental permit requirements with environmental managers to assess whether the proposed changes meet the EPS.
Project Leaders and Local Area Liaisons	Ensure project teams consider and incorporate EPS into highway projects during the project development phase and that documentation is included in the project file.

References:

Project Delivery Notice: PD-02 Project Development Decision Structure

Technical Guidance: Jobs and Transportation Act