

**An Evaluation of the Oregon Department of Transportation's (ODOT)  
Environmental Streamlining Efforts:  
A Focus on CETAS**

**FINAL REPORT**

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## Executive Summary

The Oregon Department of Transportation responded to the federal call in the late 1990s to streamline the National Environmental Policy Act (NEPA) by (1) implementing organizational and procedural changes internal to the agency, (2) funding ODOT-dedicated staff positions in state and federal resource agencies, and (3) convening regular meetings with state and federal agencies with NEPA-related regulatory responsibilities. This latter effort evolved into the CETAS (Collaborative Environmental and Transportation Agreement for Streamlining) process that includes a management and a technical team element.

This document reports an assessment of the effectiveness of these efforts. Phase I of the study was designed to document the perceptions and behaviors in ODOT employees at the onset of ODOT organizational and procedural changes and to compare the responses to ones obtained from ODOT employees after some passage of time. The time period covered in this section is roughly Fall 2001 to Fall 2003. Phase II of the study was designed to assess the effectiveness of the CETAS process and documents factors that affect project timelines in Oregon state highway projects for pre-CETAS projects. The third section of this document includes an analysis of the CETAS process based on interviews conducted in the spring and summer of 2004.

For reasons explained in the body of the document, the comparisons before and after implementation of these major changes was difficult. Important baseline information was obtained, however. The Phase I surveys established that:

- ODOT employees view environmental reviews as a critical component of ODOT work,
- Environmental reviews are seen as time-consuming, with insufficient time allocated to staff for their completion,
- The environmental review process is viewed as unclear,
- ODOT employees are uncertain that the reviews result in social or environmental benefits,
- Consultation with other agencies during ODOT environmental reviews is low.

In addition, common factors that potentially add to project timelines were identified. The top five reasons cited were:

- Political process
- Change in scope
- Stakeholder influence
- Unanticipated site conditions
- Ambiguous purpose and need.

Phase II found consistent results with respect to extended project timelines. A review of the ODOT files for 12 highway projects, supplemented by interviews, revealed that the top two reasons for delay were design changes and concerns raised by citizens and property owners.

These sources can be related to environmental concerns, but are not solely environmental issues. Design changes are sometimes made to reduce environmental impacts identified during the review process. Design changes can result from changes in priorities, responses to land owner concerns, and other issues. The next two factors contributing to extended timelines were communications and staffing problems (including turnover) and funding availability. Factors relating solely to environmental issues (e.g. endangered species listings, wetlands mitigation, etc.) were identified as a source of delay in one-third or fewer of the projects examined. Moreover, an analysis of the actual project timelines did not show that any of the environmental process variables were related to longer overall review periods. In fact, some of the environmental process variables were associated with shorter review periods. In the case of overall timeline, from Notice of Intent (NOI) to Record of Decision (ROD), six variables were correlated with longer timelines:

- Number of business relocations;
- Number of design changes;
- Initial estimate of the total project cost;
- Adding a bikeway to the project;
- The final length (in miles) of the project; and
- Re-doing studies (e.g. noise, air quality, etc.) that became out-of-date due to the length (in time) of the project.

These variables all relate to the size, scope, and complexity of the project and not directly to the environmental review process. Environmental issues may have a stronger impact on the time between the NOI and a draft document or between the draft and final environmental documents. For example, a larger number of acres of wetlands affected and mitigated was associated with a longer time between the NOI and the draft EIS or EA. The strongest correlation was between the number of comment letters from state and federal agencies and the time between the draft and final documents. Other variables associated with longer timeframes between the draft and final relate to the size and scope of the project, particularly if the project changed in length.

The CETAS process, including early consultation and coordination, monthly technical meetings, and implementation special projects such as environmental baseline reports and banking programs, can address many, but not all, of these sources of delay, if implemented successfully.

Finally, participants in the CETAS process were interviewed during June-August 2004, about their perceptions and opinions about the benefits and challenges of the CETAS process.

Below is a list of benefits interviewees identified:

- “Common sense” discussions, unconstrained by formal lines of agency missions and authority
- Early consultation with resource agencies
- Predictability in review process

- Discussion of “trade offs” with multiple perspectives present
- Opportunities to strengthen social relationships
- Understanding other agencies missions and constraints
- Potential for more comprehensive discussion, to include land use issues

Interviewees also noted indirect and additional benefits from the CETAS process:

- Elevation of environmental issues within ODOT
- Strengthening of staff relationships among all participating agencies
- Cost savings through sharing expertise
- Increased level of trust among staff from different agencies
- Foundation for non-CETAS ODOT work

Finally, the interviewees identified a number of past and future challenges for CETAS:

- Need for ongoing and consistent expression of ODOT’s commitment to CETAS
- Need to increase sense of ownership among participating agencies
- Importance of ensuring continuity through institutionalization and documentation of agreements
- Need to increase education and exposure of ODOT staff to CETAS
- Desire for periodic review of CETAS mission
- Importance of periodic reaffirmation of leadership (in ODOT and all participating agencies)

## Recommendations

On the basis of these findings and toward continuing progress to achieve ODOT’s environmental streamlining goals, we offer the following recommendations.

- **Continue funding dedicated staff at resource agencies to work on ODOT projects.** Although this was not an explicit part of our evaluation, we heard considerable support for this practice during our interviews.
- **Within ODOT, expand the education of employees about the CETAS process.** The benefits of the CETAS process based on CETAS participant interviews are impressive. However, some level of confusion appears to remain among ODOT employees regarding the environmental review process. As ODOT employees become more familiar with the CETAS process, their understanding of procedures within ODOT and in the NEPA-related agencies can be expected to improve. The level of consultation of ODOT staff

with external agency contacts was low in 2001 and 2003, and could also be expected to increase.

- **Continue to support and invest in the CETAS process.** The benefits, obtained and potential, of the CETAS process are impressive, as noted in Section 4. The CETAS process can potentially address a number of causes of confusion and project delay noted from the surveys and review of pre-CETAS projects. Early consultation was highly valued by the CETAS participants and is an obvious method to avoid delays due to design changes that could have been anticipated.
- **Maintain consistency and regularity of communication and personnel.** Again, ODOT commitment of ODOT to the CETAS process is critical. Regularity of communication is an essential sign of commitment and critical for building trust. Although personnel changes may be unavoidable, the ODOT leadership should pay particular attention to its relationships with CETAS participants during such transitions.
- **Consider broader involvement in CETAS, specifically including representation from local governments.** The “political process” was the top cause for delay cited in the survey; involvement of stakeholders such as neighboring landowners and environmental organizations was identified in the review of pre-CETAS projects. One way to avoid such disruptions is to include representation of such views early on by inclusion in the CETAS meetings, for example, either by appointing a “local municipality representative” as a regular member, or by inviting local representation on appropriate cases.
- **Maintain and expand sense of ownership of CETAS process among participating agencies.** There was interest among participating agencies for continued involvement and a desire and willingness to share responsibilities. This might entail collaboration in agenda setting as well as sharing responsibilities for facilitating meetings.
- **Conduct trainings in collaborative decision making for CETAS participants and, if possible, other ODOT employees expected to be involved in the NEPA process.** Efficient and effective group processes require an investment. Group facilitation and participation in collaborative decision making are skills that require training. In accordance with a CEQ task force and other experts in the collaborative processes, ODOT should consider conducting joint trainings in interest-based negotiations and collaborative decision making (NEPA Task Force, 2003, p. 32; Susskind et al.). We also note that joint training in collaborative decision making was included in CETAS annual reports/work plans, which indicates a desire on the part of CETAS participants for such an activity.
- **Conduct a follow-up questionnaire of ODOT employees (with support from CETAS coordinator) to gauge agency morale and culture with respect to environmental reviews in order to address potential problem areas.**



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# 1 Introduction

The State of Oregon responded to the federal call in the late 1990s to streamline the National Environmental Policy Act (NEPA) review of transportation projects with a number of initiatives. In particular, the Oregon Department of Transportation set in motion organizational and procedural changes internal to the agency, funded ODOT-dedicated staff positions in state and federal resource agencies, and began meetings with state and federal agencies with NEPA-related regulatory responsibilities. This latter group became known as the CETAS (the Collaborative Environmental and Transportation Agreement for Streamlining) process that included a management and a technical team component. Many of these initiatives were facilitated by the federal Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21).

This document reports an assessment of the effectiveness of these efforts. Phase I of the study was designed to document the perceptions and behaviors in ODOT employees at the onset of ODOT organization and procedural changes and to compare the responses to ones obtained from ODOT employees after some passage of time. The time period covered in this section is roughly Fall 2001 to Fall 2003. Phase II of the study was designed to assess the effectiveness of the CETAS process and documents the causes of delay in Oregon state highway projects for pre-CETAS projects. The third section of this document includes an analysis of the CETAS process based on interviews conducted in the spring and summer of 2004. This document concludes with recommendations for continuing ODOT's environmental streamlining efforts and for ongoing research to monitor improvements and their sources.

## 1.1 Background

Since the passage of the National Environmental Policy Act (NEPA), state transportation departments across the United States have struggled to accommodate environmental concerns during the construction and maintenance of local, state and federal roads, highways and bridge projects. Despite the efforts of several waves of anti-environmentalism, the protection of natural resources and wildlife enjoys consistent support among the American public and an increasing number of regulatory policies have accrued. In addition to physical, engineering and technological constraints, transportation projects now must consider loss of open space, natural, historic and cultural resources; impacts on natural resources including water quality and wildlife habitat; and impacts on land use and community development.

Not surprisingly, the NEPA regulatory process has been criticized as a cause of delays and increased costs for highway projects. Trends show that environmental reviews took considerably longer in the 1990s than in the 1970s when NEPA was first implemented. In response to concerns over the lengthier processes, the federal government included an environmental streamlining component to the renewed federal transportation legislation, the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21). Passed in 1998, Section 1309 of TEA-21 requires the Federal Highway Administration (FHWA) to pursue streamlining compliance procedures. The purpose of environmental streamlining is to expedite the project development process, including environmental reviews, while not compromising environmental protection. According to Section 1309, state transportation departments are required to implement a coordinated interagency review in which projects are reviewed in a timelier manner according to predetermined concurrence points addressing purpose and need, evaluation criteria, and selection of the preferred alternative.

In 2000, the Oregon Department of Transportation (ODOT), under the leadership of then ODOT director Grace Crunican, undertook a massive effort of soul-searching and re-organization in order to improve the efficiency and effectiveness of the environmental reviews of ODOT projects. In June 2000, consultants were hired to examine ODOT's approach to negotiations with relevant state and federal regulatory agencies. The consultants advised that while initiating a collaborative approach with regulatory agencies might be promising, the Department should be mindful first of the social and technical operations within the organization. In fact, a number of internal structural changes were underway at ODOT. One such modification was a restructuring that created a new Environmental Section under an Environmental Manager. The goal of this move was to increase the communication between field offices and the headquarters in Salem.

Crunican's efforts came on the heels of an effort begun in 1998, an initiative in the Transportation Operations Division called "Roles and Responsibilities," (Lulay memo 1998) and reviewed with disappointing results in November 2000 (Taylor 2000). Coincidentally, the state House of Representatives provided instruction to the Department towards improving the efficiency and effectiveness of ODOT projects (in House Bill 2680). The problems defined in a House Task Force report included: (1) the high perceived costs of the environmental compliance process, and (2) dissatisfaction with the lengthiness of the project review process. The Task Force instructed that the remedies to these problems should include increased coordination between state and federal agencies and changed roles inside ODOT. The consequent House Bill 2680 Committee issued its report in December 2000, and made two pointed recommendations:

1. Explore the options for funding dedicated staff at regulatory agencies and staff exchanges or loans.
2. Develop a method to ensure regulatory agencies, when requested by ODOT or local government, to become involved in the appropriate planning stages, where systematic, comprehensive planning is taking place (HB 2680 Committee, 2000).

In response to pressures from the federal and state level, ODOT undertook a number of initiatives. ODOT availed of the opportunity under Section 1309(e) of TEA-21 that allows states to use federal highway funds to pay for staff at resource agencies to meet the time limits for environmental reviews. Such positions were created in the National Oceanic and Atmospheric Administration (NOAA) Fisheries office, the state Office of Historic Preservation, the U.S. Army Corps of Engineers, and the Oregon State Department of Lands. ODOT leadership also believed that appropriate changes were already occurring in the review process within ODOT and as a result of internal reorganization. In an effort to fulfill the second committee recommendation, ODOT stepped up its efforts to create what became known as the Collaborative Environmental and Transportation Agreement on Streamlining (CETAS). CETAS expanded on the 1996 NEPA/404 Accord, a partnership established between the State of Oregon, FHWA, the United States Environmental Protection Agency, and the United States Army Corps of Engineers. By January 2001, the group developed a charter agreement (the Charter) that set forth goals, values, and groundrules for a process intended to create a "more harmonious and streamlined process for meeting agencies' missions." (ODOT, January 2001). This statewide interagency collaborative effort is meant to address the NEPA environmental review process.

The interagency collaboration includes one representative and one alternate from each of the following agencies:

- Oregon Department of Transportation
- Federal Highway Administration
- Oregon Division of State Lands
- Oregon Department of Environmental Quality
- Oregon Department of Fish and Wildlife
- Department of Land Conservation and Development
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- U.S. Army Corps of Engineers
- National Marine Fisheries Service
- Oregon State Historic Preservation Office

Agency representatives attend a monthly meeting to share information, discuss current issues, and collaborate on current state transportation projects. The agency representatives understand that their contributions at meetings must be reflective of their agency’s position, not their individual opinions.

The Charter defines the participating agencies’ responsibilities, the decision-making and assessment process, and the operational tasks and formation of work groups. Further agreements are created as the CETAS scope broadens and becomes refined through experience and state transportation goals. The CETAS Vision Statement (The Vision) was the first additional CETAS agreement. The Vision is comprised of six pillars, each defined as individual activity areas to be addressed under CETAS: 1) Environmental Management System; 2) Habitat Mitigation Program; 3) Natural and Cultural Resource Mapping Program; 4) Expanded Programmatic Approvals; 5) Seamless Performance by Local Governments and Contractors; and 6) Expanding CETAS Partnerships.

In December 2001, CETAS agencies signed the Major Transportation Project Agreement (MTPA or The Agreement). The Agreement is a “coordinated environmental review process for the development, design and construction of highway projects” (CETAS Major Transportation Projects Agreement, 2001). The Agreement defines the projects eligible for streamlining and each agency’s responsibilities under the streamlined process. The Agreement’s anticipated benefits include improved cooperation and efficiency among agencies, greater environmental protections, and projects completed within budget and on time (CETAS Major Transportation Projects Agreement, 2001).

Table 1.1 provides a summary chronology of key events at the federal and state level, and ODOT’s responses. It also lays out key dates pertaining to this research effort.

**Table 1.1: Chronology of key actions**

Date	Federal	State	ODOT	PSU
1998	TEA-21, Section 1309		“Roles and Responsibilities” Initiative	
2000 ~ August			Consultant report issued	
October				ODOT contracted with PSU
November			Review of “Roles and Responsibilities”	
December		H.B. 2680		
2001 January			CETAS Charter approved	
March				Report on ODOT culture and climate
Oct. – Nov.				Survey of ODOT employees
December			CETAS approved the MTPA	
2002 September	Executive Order 13274			Began Phase II
2003 January		Inauguration of governor		
Oct.-Nov.				Conducted survey #2
2004 June-August				Conducted CETAS Interviews

## **1.2 PSU Evaluation**

In Fall 2000, ODOT staff approached faculty at Portland State University to discuss an evaluation of ODOT’s environmental streamlining efforts. This evaluation was to focus on



“assessing the internal components of the CEAP [Coordinated Environmental Agreement Process, which later evolved into CETAS].”<sup>1</sup> Given the early stages of the reorganization, gathering evidence of improvement was expected to be challenging. ODOT and PSU researchers agreed on a research design that was intended to rely on the perceptions and experiences of ODOT staff with respect to relevant changes in behaviors, communication patterns, and relationships concerning the conduct of environmental reviews. A prior step in this evaluation, however, was a series of interviews with key ODOT staff to verify the “problem definition.”

A report on these interviews identified two main areas of concern. PSU researchers called these “Environmental Compliance Process Issues” and “Non-Environmental Compliance Process Issues.” They are excerpted below from the PSU March 21, 2001 report to ODOT.

#### Environmental compliance process issues

- Securing permits. From the perspective internal to ODOT, the bottom line of the environmental review process problem is difficulty in securing permits
- Complex regulations. A result of HB2680 investigations was a realization that the focus of streamlining must be the decision processes, because the number and complexity of regulations could not be decreased
- Project costs. Highway projects are regularly over budget, delayed, and designed with flaws, encumbering approval for new projects. A major finding from investigations instigated by HB2680 was that the decision practices related to environmental reviews were extremely costly, redundant, inefficient and overly lengthy inside and outside ODOT's jurisdictions.
- Unclear processes. When there is a lack of clarity about process requirements, individuals are not confident about exercising their professional judgment. They also feel unconfident about how to proceed if conflicting views arise.

#### Non-environmental compliance process issues

- Communication issues. Issues that were not related to environmental reviews also caused concern. In particular, frequently changing administrative priorities was cited. These issues need to be addressed well enough to understand their impact, if not at a level capable of making change. If they cannot be changed, they must be accommodated.
- Lack of consultation across functions. The problem of "silo mentality" was identified as an internal cultural and behavioral cause of ODOT's difficulties with parallel processing, especially across functions. When personnel only identify with responsibilities of their own division, function, or region, they neglect the simultaneous work done on the same projects.

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<sup>1</sup> Scope of Work, 2001.

- Partial implementation of the “roles and responsibilities” initiative and administrative changes.

In order to track potential changes, it was agreed that a “before” self-administered survey would be disseminated in Fall 2001, and an “after” surveys would follow 18-24 months later.

The questions on the survey (see Appendix 1, Section 7.1) were intended to collect information on how ODOT staff perceived the environmental review process. Albeit subjective, it was expected that this survey design would provide early indications of improvement in terms of timeliness, effectiveness, appropriateness and efficiency. The open-ended questions on the survey would also allow for the reporting of anecdotal evidence of process improvements or areas needing further attention. ODOT staff and Dr. Ozawa agreed that although more objective measures of savings in costs and timelines would be desirable, such indicators would require a substantially longer timeframe and more resources.

After a presentation at a meeting of the CETAS group, ODOT staff and FHWA staff sought and obtained additional monies to allocate toward acquiring data and analysis of project completion timelines. This portion of the research became known as Phase II of the Environmental Streamlining Evaluation.

Phase II of this research project intended to answer two questions:

1. Are the highway projects completed more efficiently? More specifically, are the land use and environmental reviews conducted in a more timely manner and are project costs reduced?
2. Are the environmental results of highway projects improved in frequency and/or magnitude? (Including the percent of environmental impacts avoided, minimized and/or mitigated)

The original intent was to compare projects completed before CETAS to projects that went through the CETAS concurrence process outlined in the MTPA.

In the following sections, we present our findings of Phase I and Phase II efforts to document the improvements in the environmental review of ODOT development projects. We also report on interviews conducted with CETAS participants. The CETAS process represents an important element in the Department’s overall efforts to streamline the environmental review process. Section 2 reports on the baseline survey responses as well as a far less successful follow-up survey. A low response rate in the fall 2003 survey prevents conclusions based on these surveys alone; however, an analysis of similarities and differences in responses to the closed and open-ended questions is offered as additional information to be interpreted in combination with other study elements. In Section 3, we report on our review of 12 ODOT projects that were initiated before the CETAS process. Our analysis presents a picture of the major causes of delay and other factors that influence the timeliness of the environmental review process. Finally, in Section 4 we report on a series of interviews we conducted with members of the CETAS team. The interviews provide a broader view of the perceptions of the regulatory agencies and ODOT with respect to prospects for a more streamlined environmental review of ODOT projects. In this section, we also report on concurrent efforts and comment on the connection between CETAS and related efforts, such as the joint biological opinion obtained through the OTIA 3 Bridge Program.

## **2 Phase I**

### **2.1 Background**

As ODOT began to invest in major revisions to its environmental review process, staff identified a unique opportunity to attempt to measure the impact of these organizational and relationship-based changes. The underlying assumptions of the organizational and relationship-based changes was that by changing patterns of communication and increasing opportunities for interaction, the review process would overcome many of the obstacles of the past, as noted in the PSU pre-Phase I study. Whereas actual dates and cost data on ODOT highway projects might be the most desirable measure of a streamlined review process, it was recognized that such data would not be available for several years. Therefore, ODOT and PSU agreed on a research design that would draw on ODOT employees' perceptions of processes and self-reported behaviors that could foreshadow more effective and efficient environmental reviews and could be obtained within a shorter time frame.

### **2.2 Methodology**

The basis approach of this research was to ask ODOT employees their perceptions of the ODOT environmental review process, its clarity and effectiveness, and to self-report their own behaviors with respect to the review process. Answers to questions on the process itself will help to establish the status of the ODOT review process within the agency and to surface potential deficiencies and obstacles. Questions pertaining to individual behaviors would reinforce the process-related responses, as well as characterize additional channels of communication and relationships.

In fall 2001, e-mail surveys were sent out to 109 ODOT employees who were selected by ODOT staff for their perceived or expected involvement in the ODOT environmental review process. Sixty-four (64) responses were returned, for a response rate of 59%. Of the respondents, most reported involvement in project development (86%), about half in planning (52%), and slightly less than half (47%) the construction phase. About 30% indicated involvement in decisionmaking..

The questionnaire and the results of this "baseline" survey are included in Appendix 1 (Section 7.1) in the rows labeled "2001."

A follow-up survey was conducted during fall 2003. This second questionnaire differed from the baseline questionnaire only by minor revisions of dates to reflect appropriate time frames. As mentioned earlier, the intention of this second survey was to detect changes in the perceptions and experiences of ODOT staff with respect to relevant behaviors, communication patterns, and relationships after a number of procedural and organizational modifications were implemented around fall 2003. These modifications were intended to speed up the environmental review process of ODOT projects without incurring undesirable environmental impacts. Changes in the perceptions and behaviors of relevant ODOT staff were expected to indicate future benefits to the environmental review, either in terms of speed or effectiveness.

In contrast to the first survey, ODOT employees in Survey #2 were requested to complete the survey by accessing a website, rather than as an attachment to the original e-mail. A hotlink was provided in the text of the email message. Despite follow-up reminders through e-mail and

telephone calls from ODOT and PSU staff, the response rate was disappointing. Only 16 responses were received. In discussions with ODOT staff in mid-2004, a number of explanations for the lack of the response were suggested including yet additional reorganization (locating environmental reviews in the regional offices), a transition in personnel, and the change in leadership priorities (consequent to a change in governors). Roughly the same level of participation was reported in project development and construction as in the first survey, but only 3 persons (19%) reported involvement in the planning stages of ODOT projects. Only person reported involvement in decisionmaking. The responses for the fall 2003 survey are reported in Appendix 1 (Section 7.1) in the rows labeled “2003”.

The low response rate from the second round of surveys limits “before and after” comparisons or strong conclusions with respect to change between 2001-03 in response to organizational and procedural revisions, as intended from the original research design. Nonetheless, these surveys constitute valuable information about the general attitude among ODOT staff with respect to the environmental review process. While “improvements” must be weighed cautiously in terms of change, consistency among the results constitutes important information particularly with paired with other parts of this study.

## **2.3 Findings**

In general, responses from the two survey groups revealed a high degree of consistency. The full comparison of response figures is provided in Appendix 1. The following pages discuss the consistencies between the responses from the survey groups, notable differences between the two sets of responses, and key observations that can be drawn from the surveys.

### **2.3.1 Agreement among respondents**

Perhaps not surprisingly, due to the selection bias of those choosing to respond to this survey, the responses in both survey groups show generally similar responses on 14 questions. Table 2.1 below displays this data.

**Table 2.1 Comparison of 2001 and 2003 survey responses: Similarities**

	Response	2001	2003
<b>PROCESS RELATED QUESTIONS (1-18)</b>			
Q1. The ODOT environmental review process involves many regulations.	agree	100%	93%
Q2. ODOT reviews are a critical component of ODOT business.	agree	100%	100%
<b>Q3. ODOT environmental reviews are regarded by other ODOT staff as a critical component of ODOT business.</b>	<b>“usually” or “always”</b>	<b>72%</b>	<b>63%</b>
Q4. ODOT staff persons responsible for conducting environmental reviews are the appropriate professionals to do so.	“usually” or “always”	83%	81%
<b>Q5. ODOT staff persons responsible for conducting environmental reviews are given sufficient time to do so.</b>	<b>“usually” or “always”</b>	<b>37%</b>	<b>37%</b>
<b>Q7. The ODOT environmental review process corresponds to the Federal Highway Administration’s process.</b>	<b>“usually” or “always”</b>	<b>59%</b>	<b>62%</b>
<b>Q9. The ODOT environmental review process creates social environmental benefits.</b>	<b>“usually” or “always”</b>	<b>33%</b>	<b>43%</b>
<b>Q10. The ODOT environmental review process creates natural environmental benefits.</b>	<b>“usually” or “always”</b>	<b>58%</b>	<b>66%</b>
Q11. The ODOT environmental review process entails consultation with external agencies and organizations.	“usually” or “always”	95%	88%
<b>Q18. Different judgments in the review process are satisfactorily reconciled.</b>	<b>“usually” or “always”</b>	<b>38%</b>	<b>44%</b>
<b>BEHAVIOR RELATED QUESTIONS (20-32)</b>			
Q21. How confident are you in your understanding of the environmental review process within ODOT?	“moderately” or “very” confident	75%	69%
<b>Q24. How confident are you in your understanding of the standards and criteria of the environmental review process within ODOT?</b>	<b>“moderately” or “very” confident</b>	<b>56%</b>	<b>57%</b>
Q25. When you have questions about the environmental review process, do you feel comfortable seeking assistance?	“usually” or “always”	89%	94%
Q29. How often do your assessments during an environmental review process conflict with the assessments of another ODOT staff person?	“sometimes” or “never”	73%	75%
Number of respondents		64	16

The patterns of these responses represent *consistency* over time in the responses of ODOT employees. The bolded items identify potential issues of concern to ODOT and will be discussed further on.

### 2.3.2 Differences between response groups

Table 2.2 displays data from the survey that reveal differences between the two survey groups. As mentioned earlier, the low response rate of the 2003 survey prevents any strong conclusions. Primary consideration must be given to the 2001 data given the higher response rate. Nonetheless, the directions of change may be an indicator of the impact of the organization and procedural modifications made within ODOT over the 2001-2003 interval. It is reassuring to

note that the *direction of change* over time was positive with the exception of question 8. Again, issues of potential concern for this study will be discussed further on.

**Table 2.2 Comparison of 2001 and 2003 surveys: Differences<sup>2</sup>**

	<b>Response</b>	<b>2001</b>	<b>2003</b>
<b>PROCESS RELATED QUESTIONS (1-18)</b>			
Q6. The ODOT environmental review process is overly time-consuming.	“usually” or “always”	53%	24%
Q8. The ODOT environmental review process prevents harm to the social and natural environment.	“usually” or “always”	62%	26%
Q13. The ODOT environmental review process entails consultation across ODOT sections and units.	“usually” or “always”	75%	88%
Q14. The responsibility of staff with respect to environmental review is clear.	“usually” or “always”	45%	63%
Q15. ODOT projects are constructed in full compliance with environmental permit conditions.	“usually” or “always”	59%	74%
Q16. The standards and criteria for ODOT environmental review are clear and unambiguous.	“usually” or “always”	19%	44%
Q17. The sequence of steps in the environmental review process is clear.	“usually” or “always”	28%	57%
<b>BEHAVIOR RELATED QUESTIONS (20-32)</b>			
Q22. How confident are you in your understanding of the major concerns of other organizational units of ODOT with environmental review responsibilities?	“moderately” or “very” confident	64%	89%
Q23. How confident are you in your understanding of the goals and objectives of the environmental review process within ODOT?	“moderately” or “very” confident	79%	94%
Q26. How often do you consult with colleagues within ODOT when conducting an environmental review?	“usually” or “always”	72%	88%
Q27. How often do you consult with colleagues outside of ODOT when conducting an environmental review?	“usually” or “always”	23%	34%
Q30. Approval of an environmental review signifies a meeting of the environmental goals.	“usually” or “always”	61%	75%
Number of respondents		64	16

### 2.3.3 Discussion: General support, concerns, external coordination and causes of delays

The primary objective of the survey was to characterize the perceptions and attitudes of ODOT employees relative to the environmental review process. Although conclusive “before and after” comparisons were not achieved due to the low response rate of the second survey, the survey results provide a valuable window onto the review process. Overall, the surveys indicate strong endorsement of ODOT environmental reviews (Q2) and support for the current assignment of review responsibilities (Q4). There is also a fairly high level of self-reported understanding of

<sup>2</sup> Questions are listed here if the responses between the two surveys differed by more than 11%, which constituted a difference of two persons or more in the second survey.

ODOT procedures (Q21), goals and objectives (Q23), the concerns of other ODOT units (Q22), and willingness to consult with ODOT colleagues (Q13, Q25 and Q26).

Despite the apparent high value that ODOT employees place on the environmental review process, they are concerned about a number of areas. The first flag is raised by the response to Q3. Less than 75% (in 2001, slightly less in 2003) responded that ODOT staff regard environmental reviews as a critical component of ODOT business. More than half of the respondents stated that environmental reviews are time-consuming, while little more than one-third (37%) of respondents believe that staff are given sufficient time to conduct the reviews.

The second area of concern involves the clarity of the review process, procedurally and with respect to standards and criteria. Despite a moderately positive response to Q21, which asks about the respondent's confidence in their understanding of ODOT's review process, only 19% (in 2001) indicated that the standards and criteria for ODOT reviews are clear and unambiguous (Q16), only 28% believed the sequence of steps is clear (Q17), and little more than half (56%) of the respondents feel confident in their understanding of the standards and criteria (Q24). Fewer than half (45%) believe the responsibility of staff is clear (Q14). These results suggest that as of fall 2001, when this first survey was administered, significant clarification was needed in the ODOT environmental review process.

Also, the surveys indicate a substantial uncertainty over the substantive effectiveness of ODOT's environmental review. Only about 60% of the respondents believe that ODOT projects prevent harm or create benefits to the social and natural environment (Q8, Q9 and Q10), are constructed in full compliance with environmental permit conditions (Q15), or that approval signifies a meeting of environmental goals (Q30). Only 59% indicated that the ODOT process "usually" or "always" corresponds to the Federal Highway Administration's process (Q7).

Lack of consultation across functions or the problem of "silo mentality" comes to the foreground in the behavioral assessment phase of the evaluation. The surveys revealed that the percentage of respondents who consult with colleagues outside of ODOT is when conducting an environmental review is low (Q27). Table 2.3 displays the agencies that ODOT employees consult for both years. It is noteworthy that the list of agencies has not changed and that the state agencies continue to be frequently mentioned.

**Table 2.3 Top five agencies consulted by ODOT employees**

Agency	Percentage of respondents listing this agency	
	2001	2003
Oregon Department of Fish & Wildlife	53%	37%
Local government	36%	31%
National Oceanic and Atmospheric Administration	22%	19%
US Fish & Wildlife Service	16%	6%
Federal Highway Administration	16%	12%
Department of State Lands	11%	25%

Finally, Table 2.4 shows the frequency of responses attributing the source of review delays to various discrete causes. The respondents were invited to check all boxes that they believed were appropriate. The categories are not mutually exclusive, as for example, “stakeholder influence” might also be considered part of the “political process.” One point that does seem to be indicated by these responses is that “improper NEPA classification” and “improperly completed prospectus” do not appear to cause delays.

**Table 2.4 Causes of project delays**

	<b>2001</b>	<b>2003</b>
Political process	48%	69%
Scope change	44%	50%
Stakeholder influence	45%	63%
Unanticipated site conditions	41%	63%
Ambiguous purpose and need	31%	19%
Lack of money	28%	25%
Construction mistakes	27%	6%
Improperly completed prospectus	19%	19%
Improper NEPA classification	11%	6%

## **2.4 Conclusions**

Based on the findings of the PSU pre-study interviews, one of the major concerns of ODOT staff were the lengthy delays in environmental review both inside and outside of ODOT’s jurisdictions (see Section 1.1 of this report.) One of the objectives of the surveys was to characterize this problem, determine its extent, and detect whether improvements have been perceived over time, specifically with respect to internal operations. The results from these surveys provide two snapshots of the perceptions of ODOT employees and their self-reported behaviors associated with environmental review. While environmental reviews have support among ODOT employees, staff questioned the commitment of ODOT to the review process, a lack of clarity in standards and criteria for review, and doubt over the substantive environmental benefits of the reviews. Importantly, while ODOT staff recognize that consultation with outside agencies occur, the percentage of respondents who seek advise from other agencies is surprisingly low. Finally, while Table 2.1 and Table 2.2 indicate that some improvement in these perceptions may have been achieved between 2001 and 2003, the 2003 survey responses were too few in number to achieve any level of statistical significance. An additional survey at a later point in time is in order.

Summary:

- ODOT employees view environmental reviews as a critical component of ODOT work,
- Environmental reviews are seen as time-consuming, with insufficient time allocated to staff for their completion,



- The environmental review process is viewed as unclear,
- ODOT employees are uncertain that the reviews result in social or environmental benefits,
- Consultation with other agencies during ODOT environmental reviews is low.

## **2.5 Issues with Conducting this Type of Research**

Two factors stand out as particularly relevant to conducting research of time series surveys. First, there is a trade-off between allowing a sufficient passage of time that allows for new practices to take hold and benefits to accrue, and continuity of personnel. This research project team determined that 12 months was too short a time frame for changes in perceptions or behaviors to be detected. However, by the 24<sup>th</sup> month, important changes in personnel had occurred within ODOT with respect to leadership. A gubernatorial election had occurred and with the new governor came a new sets of priorities for state agencies. While environmental protection had been high on the agenda of Governor Kitzhaber, Governor Kulongoski arrived when the state was facing severe economic woes and economic development upstaged environmental protection. More significantly, the ODOT coordinator of the CETAS team changed persons three times from 2001-2003 and another four times from 2003-2005.

The repercussions on the survey for the change in personnel may have manifested in the low response rate of the second survey. The changing agenda of the leadership lowered the general sense of urgency and attentiveness to environmental considerations within ODOT.

A more conspicuous impact of the personnel transitions within ODOT is the second major factor affecting any surveys within an organization. The survey must be presented with strong endorsement by people who matter, in this case, the ODOT leadership. In the first survey, an assistant to the director had disseminated the survey as an e-mail attachment with her own personal cover letter. She made follow-up phone calls. She reminded staff at meetings, in the hallways and at other chance meetings. In the second survey, the PSU team did not receive comparable support. Although there were other factors operating at the time of the second survey which may have contributed to the lower response rate (as noted earlier), this difference in the level of direct support from the leadership is reinforced in the social science literature.

## 3 Phase II: Project Review

### 3.1 Background

Oregon adopted a statewide environmental streamlining initiative in 2001, known as the Collaborative Environmental and Transportation Agreement for Streamlining (CETAS). As noted earlier, the Oregon Department of Transportation (ODOT) contracted with Portland State University (PSU) to evaluate their streamlining efforts. Phase I was designed to anticipate an expedited environmental reviews by measuring the perceptions of attitudes and behaviors among ODOT employees responsible for their conduct. A complement to this effort was an attempt to track the timelines of actual projects undergoing review under the streamlined process. Because CETAS is new, only one design-ready project has gone through the entire CETAS MTPA review process. Therefore, a comprehensive before and after evaluation was not possible. The research to date, presented in this report, focuses on determining the causes of delay in Oregon state highway projects for pre-CETAS projects and assessing whether CETAS can address these sources of project delay. In addition, the research can serve as a baseline for future comparisons with projects that go through the CETAS MTPA process.

#### 3.1.1 Environmental Review Process for Transportation Projects

There are three levels of environmental review under NEPA. Projects that meet certain criteria and are anticipated to have no significant environmental impact are “categorically excluded” from a detailed environmental analysis. Projects that receive categorical exclusions are limited in scope and usually do not add capacity to the highway, such as the installation of traffic signals. The Federal Highway Administration (FHWA) has a list of project types that qualify for such exclusions (General Accounting Office, 2003b).

If a project is not categorically excluded, the agency can prepare an environmental assessment (EA) to determine whether or not significant impacts are likely. If not, a finding of no significant impact (FONSI) is issued, which may include mitigation measures. Typically, projects for which only an EA is prepared do not add new miles to the road system (General Accounting Office, 2003). If the EA does find that significant impacts are likely, an environmental impact statement (EIS) is prepared. Often, agencies skip the EA and prepare an EIS if they feel certain that there will be significant impacts. According to section 1508.9 of the Council on Environmental Quality (CEQ) NEPA regulations, an EA

(a) Means a concise public document for which a Federal agency is responsible that serves to:

1. Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.
2. Aid an agency's compliance with the Act when no environmental impact statement is necessary.
3. Facilitate preparation of a statement when one is necessary.

(b) Shall include brief discussions of the need for the proposal, of alternatives as required by section 102(2)(E), of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted.

The EIS process formally begins when the Federal Highway Administration (FHWA) publishes a Notice of Intent (NOI), inviting the public to participate in the EIS process.<sup>3</sup> The state DOT usually prepares the EIS, first issuing a draft (DEIS). During the process, the state identifies the purpose and need for the project, a range of project alternatives, environmental impacts of the alternatives, and mitigation measures to minimize impacts. The public, including agencies, provide the state with comments on the DEIS. The final EIS (FEIS) addresses these comments, identifies a preferred alternative, and proposes mitigation measures. After FHWA approves the FEIS, the agency issues a Record of Decision (ROD) presenting the basis of selecting the preferred alternative or action (General Accounting Office, 1994).

Very few DOT projects require an EIS or EA. Each year from 1998 to 2004, less than four percent (2.4-3.5%) of the projects for which FHWA was the lead agency required an EIS. About twice as many (4.6-6.8%) of the projects required an EA, leaving 90 percent or more with categorical exclusions (Federal Highway Administration, 2005).

In addition to NEPA review, projects are subject to other environmental reviews and permit processes including the following:

- Section 4(f) of the Department of Transportation Act of 1966 (related to parks, recreation areas, refuges, or historic sites)
- Section 6(f) of the Land and Water Conservation Fund Act of 1965 as amended
- Section 106 of the National Historic Preservation Act
- Section 404 of the Clean Water Act
- Section 7 of the Endangered Species Act
- Clean Air Act (conformity with air quality plans)
- Section 9 of the Rivers and Harbors Act (related to bridges over navigable water)
- FHWA Noise Guidance
- Executive Order on Environmental Justice

These processes sometimes coincide with NEPA, but sometimes occur after NEPA review is completed.

### ***3.1.2 Environmental Streamlining: National Efforts***

In 1998, Congress passed the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21), which included section 1309 mandating the Federal Highway Administration (FHWA) to pursue

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<sup>3</sup> NOIs are not always prepared for EAs.

streamlining compliance procedures, as they relate to the environmental review process under NEPA. Consequently, FHWA required state transportation departments to collaborate with resource agencies and establish formal concurrence points for these agencies to consider. The objectives of section 1309 are as follows:

- Expedited transportation project delivery.
  - Integrated review and permitting processes that identify key decision points and potential conflicts as early as possible.
  - Full and early participation by all relevant agencies that must review a highway construction or transit project or issue a permit, license, and opinion relating to the project.
  - Coordinated time schedules for agencies to act on a project decisions.
  - Dispute resolution procedures to address unresolved project issues.
  - Improved NEPA decisionmaking.
- (<http://environment.fhwa.dot.gov/strmlng/es3history.htm>)

In response to section 1309, FHWA and six federal resource agencies signed the Environmental Streamlining National Memorandum of Understanding (MOU) in July 1999. The MOU sought to reduce project delays and protect and enhance environmental quality, with 13 more specific bullet points on how to do so. To implement TEA-21 and the MOU, FHWA has issued various guidance documents, sponsors newsletters and conferences, acts as a clearinghouse for information, and works directly as a partner agency in many streamlining agreements at the national, regional, and state levels.

To directly address the issue of staff resources, Section 1309(e) of TEA-21 allows states to use federal highway funds to pay for staff at resource agencies to meet the time limits for environmental reviews. FHWA has issued guidance on implementing that section of the law. As of 2003, two-thirds of the states fund such positions. There were nearly 250 funded positions in 2003, a 50% increase over 2001 (Venner Consulting, 2003). This provision helps address the fact that federal funding for transportation projects has risen significantly under ISTEA and TEA-21, but funding at resources agencies has not. However, FHWA expects the staffing problem to worsen in coming years (FHWA, 2004).

In September 2002, President Bush signed Executive Order (EO) 13274, “Environmental Streamlining Stewardship and Transportation Infrastructure Project Review.” This EO created a task force to broadly address environmental review and streamlining issues, as well as oversee specific projects on a priority list determined by the Secretary of Transportation. As of June 2005, there were 15 projects on the list; four other projects had been on the list and transitioned off after completing environmental review (<http://www.fhwa.dot.gov/stewardshipeo/pplist.htm>). The task force is made up of high-level administrators of the major federal agencies involved in NEPA review of transportation projects.

In other efforts to implement Section 1309, the Federal Highway Administration also made environmental stewardship and environmental streamlining one of its “Vital Few Goals.” As such, by September 30, 2007, the FHWA wants all 50 states to use integrated approaches to the planning and environmental review process. Also by that date, FHWA wants EAs and EISs to meet established timeframes for 90% of all projects, to decrease the median time for completing

EISs from 54 to 36 months, and the decrease the median time to complete EAs from 18 to 12 months. FHWA has required all EIS and EA projects starting after the FY 2004 to have negotiated timeframes for the environmental review process (FHWA, 2004).

The provisions in TEA-21 were not the start of efforts to streamline the environmental review process. In 1992, FHWA, EPA, and the Army Corps of Engineers agreed to develop processes to integrate NEPA and section 404 reviews, after at least four years of trying (GAO, 1994). Prior to these efforts, wetlands issues, which are the subject of section 404 reviews, were often raised late in the NEPA process, after the selection of a preferred alternative. This was identified as a common source of project delay, along with highway agencies not adequately addressing concerns of other environmental agencies (GAO, 1994). In their review of earlier efforts, the General Accounting Office (1994) identified several states that were attempting to integrate and therefore, streamline, review processes. They also identified three key barriers that would limit the success of these efforts: (1) agencies did not have a system to measure or evaluate the processes' success; (2) some federal agencies may not have adequate resources to improve their interagency coordination; and (3) the processes did not clarify how to address cumulative environmental impacts, a common point of contention.

In an effort similar to the 404 streamlining process, in 1995 the US Forest Service, Bureau of Land Management, US Fish and Wildlife Service, National Marine Fisheries Service, and EPA agreed to streamline the NEPA and Endangered Species Act (ESA) processes related to various timber and forestry practices. These efforts were reported to reduce review time by 50% (CEQ, 1997).

The Council on Environmental Quality (CEQ), which was established by NEPA, is charged with reviewing and implementing NEPA. In 1997, CEQ published a study evaluating the effectiveness of NEPA after 25 years. Based on input from people involved in the process in a wide range of roles, CEQ concluded that “frequently NEPA takes too long and costs too much” and that “the EIS process is still frequently viewed as merely a compliance requirement rather than as a tool to effect better decision-making” (CEQ, 1997, p. 7). CEQ had long attempted to improve the process, recognizing early on that interagency cooperation and coordination were important. In regulations adopted over 20 years ago, CEQ mandated that “To the fullest extent possible, agencies shall prepare draft environmental impact statements concurrently with and integrated with environmental impact analyses and related surveys and studies required by the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), the National Historic Preservation Act of 1966 (16 U.S.C. 470 et seq.), the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), and other environmental review laws and executive orders” (40 CFR 1502.25).

In 2002, CEQ appointed the NEPA Task Force to look at NEPA implementation. Their report again emphasized the need to improve interagency collaboration. The Task Force noted that successful collaborative processes require a shared vision, trust, and early and open communication. They also found that agencies had not implemented training programs to teach collaborative practices and recommended that “at a minimum, agencies undertaking long term or complex collaborative efforts should ensure that all those participating have sufficient training to understand both the NEPA process and the partner agencies' needs, expectations, and responsibilities” (NEPA Task Force, 2003, p. 32).

The concern over the timeliness of the NEPA process and the lack of solid information was summarized by the Berger Group in their baseline report to FHWA in 2001:

The reality is that over the 30 years since NEPA was implemented, transportation planners and engineers have questioned the effect that the NEPA process has had on the timely delivery and overall cost of transportation projects. Although it is a commonly accepted fact that the NEPA process, especially the preparation and approval of EISs, can often take several years to complete, the time required and the relative costs incurred to complete the entire highway project delivery process has not been well documented or understood. At best, studies of the environmental process have looked at that process directly, but generally not relative to the construction or other phases of the project. Most of the information available concerning the time required to complete a project has come from anecdotal sources, generally focused on single projects. In this regard, it is not evident what portion of the schedule and cost of the entire project delivery process is attributed to NEPA compliance requirements, in comparison to other potential sources of process delay such as funding shortages, compliance with environmental permitting requirements, changes in design, contractor delays, lawsuits and injunctions, etc. Until the impact of NEPA on the transportation project delivery process can be better quantified, it is likely that the popular perception that NEPA comprises a major source of delay and inflationary cost affecting the ability to deliver transportation projects on schedule and within budget will continue to exist. (<http://environment.fhwa.dot.gov/strmlng/baseline/section1.htm>)

There are a few efforts at the national level to monitor the effectiveness of environmental streamlining efforts. The National Cooperative Highway Research Program (NCHRP) is sponsoring project 25-24 to evaluate the effectiveness of ten pilot projects throughout the country. The final report is expected in late 2005. FHWA started an internal Environmental Document Tracking System in 2003 that will track timeframes for projects. This database can be used to track the Vital Few Goal objective related to reducing and meeting timeframes. The FHWA has also identified documentation adjustments to timeframes and associated reasons for delay as an objective (FHWA, 2004).

### *3.1.3 Environmental Streamlining: Oregon*

In response to increasing environmental stresses, the complexity of environmental regulations and planning requirements, and Section 1309 of TEA-21, and in addition to internal organizational changes and the funding of positions at resource agencies, ODOT and partnering resource agencies developed and implemented the Collaborative Environmental and Transportation Agreement on Streamlining (CETAS). This statewide interagency collaborative effort is meant to address specifically the NEPA environmental review process.

The Charter agreement defines the goals and objectives. The goal of CETAS is to “identify and implement collaborative opportunities to help each participating agency realize its mission through sound environmental stewardship, while providing for a safe and efficient transportation system” (CETAS Charter Agreement, 2001). In addition, CETAS aims to make the environmental review process more efficient by maintaining and improving environmental protection while minimizing costs and delays. The goals are to be realized through “earlier and more effective communication, mutual education, and process change” (CETAS Charter Agreement, 2001).

As noted earlier, the interagency collaboration includes one representative and one alternate from each of the following agencies:

- Oregon Department of Transportation
- Federal Highway Administration
- Oregon Division of State Lands
- Oregon Department of Environmental Quality
- Oregon Department of Fish and Wildlife
- Department of Land Conservation and Development
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- U.S. Army Corps of Engineers
- National Marine Fisheries Service
- Oregon State Historic Preservation Office

Through monthly meetings, agency representatives share information, discuss current issues, and collaborate on current state transportation projects.

In December 2001, CETAS agencies signed the Major Transportation Project Agreement (MTPA or The Agreement). The Agreement is a “coordinated environmental review process for the development, design and construction of highway projects” (CETAS Major Transportation Projects Agreement, 2001). The Agreement defines the projects eligible for streamlining and each agency’s responsibilities under the streamlined process (CETAS Major Transportation Projects Agreement, 2001). Major transportation projects refer to those 1) processed with an Environmental Impact Statement (Class 1) or Environmental Assessment (Class 3); 2) likely to impact cultural or natural resources; and 3) that are or may be included in the State Transportation Improvement Plan (STIP). CETAS signatories assume that all Class 1 projects will be reviewed. ODOT presents Class 3 projects to the signatories to determine interest.

The Agreement establishes formal concurrence points and a commenting process for the refinement and project development stages of a highway project. ODOT seeks concurrence and comments from participating agencies regarding the following phases of project development: 1) purpose and need statement; 2) the range of alternatives being considered for analysis in an Environmental Impact Statement or Environmental Assessment; 3) appropriateness of the criteria for selecting a preferred alternative; and 4) the selection of the preferred alternative. Each signatory agency must concur within thirty days of the meeting or submit a notice of non-participation stating that the agency does not need to comment on the project or point of concurrence. A non-participating agency can become a participating agency at any time during the refinement or project development process. However, the agency cannot revisit past concurrence points.

According to the Agreement, ODOT cannot proceed with the project until each participating agency concurs at each of the identified concurrence points. Likewise, FHWA will not sign a Record of Decision (ROD) or a Finding of No Significant Impact (FONSI) until there is concurrence among the participating agencies. In the event of non-concurrence, CETAS identifies an elevation sequence in which decisions are made at a higher level within the agencies. Elevation has four levels. The first is the normal CETAS representative and it continues to higher agency staff until the fourth level where decisions are made by regional/district administrators and directors. Decisions will be elevated until the issue is resolved.

### **3.2 Research Questions**

Phase II of this research project intended to answer two questions:

1. Are the highway projects completed more efficiently? More specifically, are the land use and environmental reviews conducted in a more timely manner and are project costs reduced?
2. Are the environmental results of highway projects improved in frequency and/or magnitude? (Including the percent of environmental impacts avoided, minimized and/or mitigated)

The original intent was to compare projects completed before CETAS to projects that went through the CETAS concurrence process outlined in the MTPA. However, because CETAS is relatively new, only one design-ready project has gone through the entire concurrence process outlined in the MTPA. The CETAS group has dealt with several “pipeline” projects, which enter the concurrence process midstream. Given the absence of appropriate “after” projects, the research questions addressed in this report are as follows:

- How long does the environmental review process take? In particular, how long did it take prior to streamlining efforts?
- What are the causes of project delay? In particular, what were sources of delay prior to streamlining efforts?
- Can Oregon's environmental streamlining process address the causes of project delay?

To help answer these questions, we first looked at research conducted nationally. Those findings are presented next. We then took a detailed look at a sample of ODOT highway projects that were under construction before the CETAS Charter was signed. The methodology and findings from this effort follow. This detailed examination of projects can serve as baseline data for a future evaluation comparing projects that did go through the CETAS process. Finally, because we were unable to compare pre- and post-CETAS projects, we interviewed CETAS participants to help answer the third research question. These results are presented in Section 4.

### **3.3 Existing Research: National**

Given the national focus on environmental streamlining, some research completed recently addresses our research questions at a national level.



### 3.3.1 *How long does the environmental review process take?*

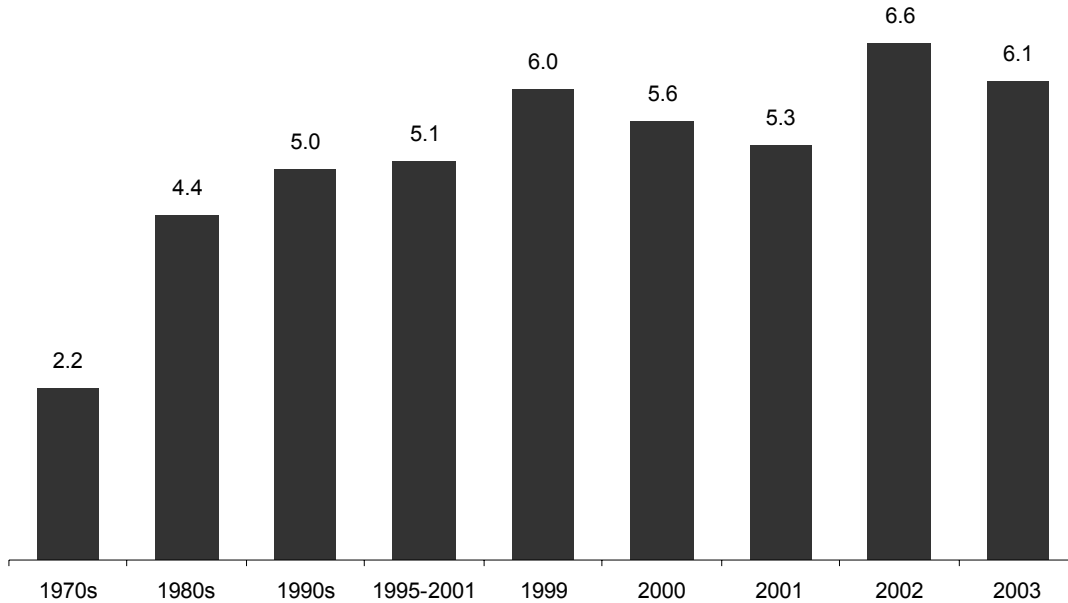
The Louis Berger Group sampled 100 EISs from the 1970s, 1980s, and 1990s, to help FHWA obtain a baseline for measuring performance (Federal Highway Administration & Louis Berger Group, 2001). They estimated the length of time taken to complete the NEPA process based on the information in the EIS. The end date was the date on the final EIS. The start date varied. In Phase II of the project, the Louis Berger Group collected data on 244 projects from 1995 to 2001 and calculated the length of the NEPA process using the Notice of Intent (NOI) as the start date and the Record of Decision (ROD) as the end date. In addition, for the past five years, FHWA has tracked the length of time to complete the NEPA process, also using the NOI and ROD dates (Federal Highway Administration, 2003a). The data from these three sources is shown in Figure 1. In addition, in 1994 the General Accounting Office (GAO) reviewed 76 projects with EISs completed between 1988 and 1993 (General Accounting Office, 1994). The average time from NOI to ROD was about 4.5 years.<sup>4</sup>

The two studies by the Louis Berger Group noted that the time to complete NEPA was not normally distributed, and that a handful of very lengthy projects often skewed the data. In such cases, the median may be a better indication of central tendency. For example, the median time to complete NEPA for the projects from the 1970s through 1990s was 3.0 years, compared to a mean of 3.6 years for all three decades. Figure 3.2 shows the medians from the same three data sources. At the request of the American Association of State Highway and Transportation Officials (AASHTO), in 2003 TransTech Management, Inc. surveyed 31 state departments of transportation about their most recent final EIS document (TransTech Management Inc., 2003). They found a median time taken from NOI to ROD of 3.7 years, ranging from just over two years to almost 12 years. The difference from the FHWA/Berger Group data was not explained, but may be due to the difference in sampling method. The latter looked at all EISs, while the TransTech survey only considered the most recent EIS.

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<sup>4</sup> The GAO report did not calculate a mean or median. The data was provided in a table, with categories for the number of years (0-2, 2-4, 4-6, 6-8, 8-10, 10-12, and over 12) and the number of projects in each category. The author calculated an average using the midpoint of each category and 13 years for the upper category.

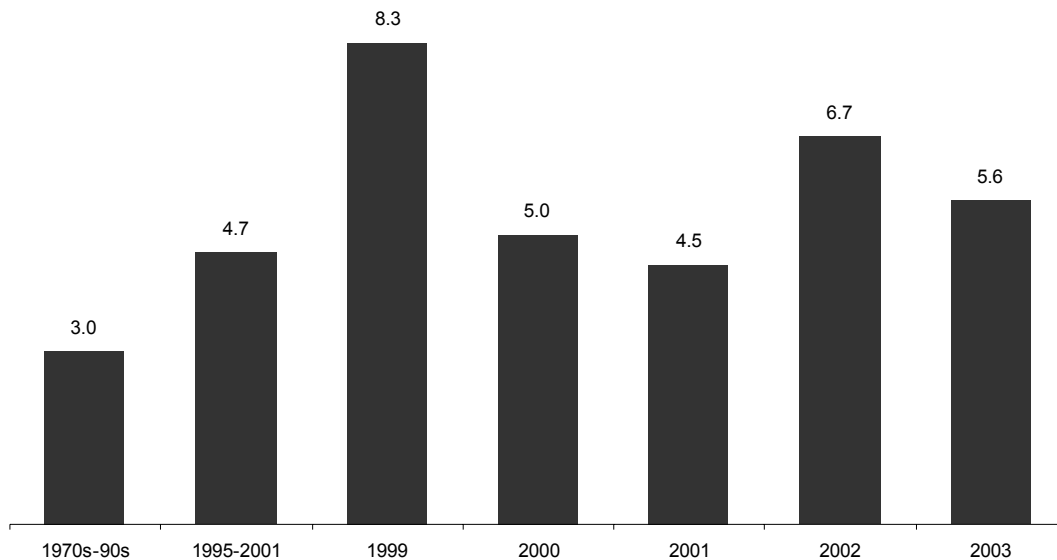
**Figure 3.1: Time to Complete NEPA Process Nationwide (mean, years)**



Sources: (Federal Highway Administration, 2003a, 2003b; Federal Highway Administration & Louis Berger Group, 2001)

Note: The “1995-2001” grouped data is from the Louis Berger Group analysis. The annual data from 1999 to 2003 is from FHWA. Differences in methodology explain the differences in the means.

**Figure 3.2: Time to Complete NEPA Process Nationwide (median, years)**



Sources: (Federal Highway Administration, 2003a, 2003b; Federal Highway Administration & Louis Berger Group, 2001)

Note: The “1995-2001” grouped data is from the Louis Berger Group analysis. The annual data from 1999 to 2003 is from FHWA. Differences in methodology explain the differences in the means.

The data above included only projects for which there was an EIS, not EAs. In 1999, FHWA estimated that it took an average of 1.5 years to complete an EA. A survey by AASHTO in 2000 estimated that EAs for projects that were not delayed took about 14 months (1.2 years), but when projects were delayed the EA took an average of 41 months (3.4 years) (General Accounting Office, 2003b).

The environmental review process is just one phase of the entire project development and construction process. The first Berger Group study found that, for projects in the 1970s-90s, the NEPA process comprised about 27-28% of the entire length of the project (Federal Highway Administration & Louis Berger Group, 2001). They measured the length of the project process as starting at either the beginning of the NEPA process or preliminary engineering (whichever was first) and ending at the end of construction. The FHWA estimates that a typical, major new highway project takes 9-19 years to complete (Siggerud, 2002). The phases are shown in Table 1.

**Table 3.1: Typical Time Necessary to Complete a Federally Financed Major New Highway Construction Project**

<b>Phase</b>	<b>Time to complete (years)</b>
Planning	4-5
Preliminary design & environmental review	1-5
Final design & right-of-way acquisition	2-3
Construction	2-6
Total	9-19

Source: (Siggerud, 2002)

### 3.3.2 *What are the causes of project delay?*

In response to a question from Congress, the Federal Highway Administration (FHWA) in 2000 examined projects for which the environmental impact statement took five years or longer to prepare (Federal Highway Administration, 2000). FHWA surveyed their staff located in each state and identified 89 projects that were active for more than five years. Staff members identified the reason(s) the project took so long, and an FHWA headquarters staff person assigned one reason as the primary reason. These are shown in Table 3.2. The top four reasons are not specific to the environmental review or permit process, though "local controversy" could involve environmental issues. At the request of Congress, the General Accounting Office reviewed the FHWA analysis and identified several limitations in the methodology (Siggerud, 2003). In particular, the survey question about reasons for project delay was open-ended. The responses were often not specific enough to identify the underlying problem. Moreover, the method of choosing the single reason to include in the data presented was somewhat arbitrary and may not be accurate.

In 2002, FHWA repeated the survey for projects that were completed in fiscal year 2002 after five or more years (Federal Highway Administration, 2002). There were 25 projects for which

they were able to gather reasons for delay. The findings differ somewhat from the larger, older sample of projects. "Low priority" is the most common reason for delay, followed by "complex project." Funding was only cited for one project, perhaps reflecting the new levels of funding available through TEA-21. In the 2002 review, FHWA also looked at seven projects for which the NEPA process was completed in three years or less. Six of the seven (86%) were identified as a priority by the state, compared to 36% of those projects that took five or more years to complete NEPA being identified as a priority. This difference reinforces the significance of one cause of project delay – a project not being a priority.

**Table 3.2: Reasons for project delay identified by FHWA on lengthy projects with EISs**

Reasons for Project Delay	% of projects	
	2000 survey	2002 survey
Lack of funding	18%	4%
Local controversy	16%	
Low priority	15%	24%
Complex project	13%	16%
Resource agency review	8%	
Change in scope	8%	12%
Fish & Wildlife Service/Endangered Species Act	7%	
Section 106 of National Historic Preservation Act of 1966	6%	12%
Wetlands	4%	
Lawsuits	3%	4%
Hazardous materials	2%	
Poor consultant work		8%
Two state involvement		4%
Change in document from EA to EIS		4%
Project type		4%
Water supply protection		4%
City documentation		4%
N	89	25

The TransTech analysis found a weak correlation between the cost of the project and the time to complete the EIS, suggesting that project cost is not a major factor in the time necessary to complete the NEPA process (TransTech Management Inc., 2003).

The General Accounting Office conducted interviews with 39 people representing organizations with a role or interest in the environmental review of highway projects, including public and

private organizations (Federal Highway Administration, 2003). These stakeholders had different views on which aspects of the project added undue time, as shown in Table 3.3.

**Table 3.3: Stakeholders' Views on Aspects that Frequently Add Undue Time to Environmental Review**

	<b>Environmental Stakeholders</b>	<b>Transportation Stakeholders</b>
State departments of transportation do not consider impacts early enough	70%	13%
State departments of transportation do not include important stakeholders early enough	64%	19%
State departments of transportation and federal resource agencies lack sufficient staff	50%	69%
The statutory section 4(f) requirement protecting historic properties on public lands is burdensome	30%	56%
Requirements for obtaining wetland permits are time consuming	0%	56%

Source: General Accounting Office, 2003b

### 3.3.3 *Can environmental streamlining address the causes of project delay?*

In their review of EISs that were completed in 2002, FHWA identified seven EISs that were completed in three years or less – a timeline FHWA wants to meet more often (Federal Highway Administration, 2002). For three of these projects, the primary reason for completing the NEPA process so quickly was early agency coordination – a cornerstone of any streamlining effort. The reasons cited for the remaining four projects were court rulings, project milestones, early public involvement, and political pressure. FHWA did not provide much information about these projects. Five of the projects involved a section 404 permit, and, therefore, the Army Corps of Engineers was involved. Beyond this, it is not possible to tell how complex the environmental review process or actual projects were.

In a different analysis (from the one in Table 3.3), the GAO asked a different group of stakeholders about promising approaches to reducing delays (General Accounting Office, 2003a). Their ratings are shown in Table 3.4. Many of the approaches are found in environmental streamlining efforts, including CETAS.

**Table 3.4: Stakeholder Ratings of Most Promising Approaches to Reduce Highway Project Completion Time**

Nature of approach	Approach	% rating approach highly	Included in CETAS*
Improving project management	Establish early partnerships and coordination	90	X
	Revise section 4(f)	70	
	Use geographic information systems	63	X
	Establish time frames for environmental reviews	60	
	Prepare preliminary environmental assessment reports	53	X
	Establish project milestones and performance monitoring systems	52	X
	Employ context sensitive design	50	
	Hold public information meetings early	50	
Delegating review and permitting authority	Use programmatic agreements	68	X
	Unify Clean Water Act section 404 and NEPA reviews	58	**
	Employ wetlands banking	46	X
Improving agency and staffing skills	Use interagency funding agreements	59	X
	Provide training	53	X

Source: General Accounting Office, 2003a and review of CETAS documents.

\* “Included in CETAS” means that it is part of the Six Pillars, the Charter Agreement, the Major Transportation Projects Agreement, or a work plan. *The action may not be implemented yet.*

\*\* Efforts undertaken on this before CETAS

### **3.4 Methodology for Oregon Evaluation**

We identified twelve pre-CETAS projects to review. The projects were selected using the following criteria:

- Class 1 (EIS) or 3 (EA)
- Construction completed or underway at time of data collection
- Most of the environmental review took place in the 1990s, rather than 1980s or earlier
- Project was primarily highway-related, not transit
- Lead agency was ODOT and/or FHWA, not a local government

After applying the criteria above, there were fewer than 20 projects to choose from. We were unable to locate files for one of the projects, which eliminated it from consideration. With input from ODOT staff, we then chose the most recent projects and ones spread throughout the state

geographically and within different ODOT regions. The projects are listed in Table 3.5. For each project, we collected information on milestone dates and costs, project delays and reasons for delays. Our data sources included all environmental project files at the ODOT offices in Salem and other public records and ODOT databases, which consisted of internal memos, official correspondence, and the environmental documents themselves.. Finally, after exhausting these sources, we attempted to interview an ODOT staff person about each project. The interview served three purposes: (1) fill in missing data; (2) confirm our conclusions with respect to causes of project delay; and (3) identify any additional related information. Unfortunately, due to staff turnover at ODOT, we were not able to conduct interviews for three of the projects.

**Table 3.5: Highway Projects Reviewed**

<b>Project</b>	<b>Location</b>	<b>Environmental Classification</b>	<b>Project Scope</b>	<b>Project Timeline*</b>	<b>Total Project Cost*</b>
Columbia City – Warren Highway	Columbia County	Class 1	Highway Widening and Re-Alignment	1984-1998	\$38,890,000
Salemtowne – Orchard Heights Road	Marion County	Class 1	Roadway Widening	1984-2002	\$19,623,000
Sunnybrook Interchange	Clackamas County	Class 1	New Interchange	1985-2003	\$30,214,000
Troutdale – I-84: 181 <sup>st</sup> to Sandy River	Multnomah County	Class 1	Freeway Widening	1986-1992	Not available
Haynes Inlet Slough Bridge	Coos County	Class 3	Bridge Replacement	1985-2000	\$8,135,000
Joseph Street Interchange	Marion County	Class 3	Highway Widening and New Interchange	1988-1996	\$24,200,000
Highway 238 – Jackson Street	Jackson County	Class 3	Highway and Interchange Improvement	1988-2002	\$13,687,000
Eddyville – Cline Hill Road	Lincoln County	Class 3	Road Reconstruction and Re-Alignment	1989-2000	\$14,000,000
Dutton Road – Linn Road	Jackson County	Class 3	Highway Widening and Re-Alignment	1990-1998	Not available
Kitson Ridge Road	Lane County	Class 3	Passing Lanes, Raised median	1994-2005	Not available
North Oregon – SW 4 <sup>th</sup> Avenue Ontario Section	Malheur County	Class 3	New Road and Interchange Replacement	1995-2002	\$12,615,000
Kruse Way Road	Washington & Clackamas County	Class 3	Freeway Interchange	1996-1999	\$27,095,000

\*Approximate project timeline and cost estimate

Gaining access to the information necessary to do the assessment was a challenge. Organizational changes and staff turnover within ODOT made this even more difficult. The ODOT staff person designated as the primary contact for the CETAS assessment changed several times during the project, making support for accessing necessary information

inconsistent. The ability of the research team to obtain project files depended on staff knowledge of where the information was stored and how to request the correct archived files. We were not always successful in this endeavor. As a result, one of the projects originally selected for review had to be dropped, as the project files could not be found. A substitute project was chosen.

Project files were in various conditions. Some project files had not gone through the archiving process even though the projects were completed. The archiving process involves cleaning out any unnecessary information. ODOT does not typically throw away any documentation about the project until it is complete. The archiving process also involves organizing the files into file types, such as correspondence, NEPA, and wetlands. A handful of the project files that were reviewed had not gone through the archiving process, increasing the time required to document these files. Some project files were also incomplete, meaning they were missing or never had one or more of the file types.

In the interest of time and to be consistent in evaluating each project, only a select set of file types from each project file was reviewed and documented. The file types selected included correspondence, wetlands, and NEPA. If a particular subject was identified as a significant issue for the project in these files, such as noise impacts, then that file type would also be reviewed to better understand the circumstances. This methodology was developed early on in the assessment adding consistency to the research. For each project, the research assistants spent from 28 to 46 hours to review all the files and summarize the data.

In developing project timelines, it is necessary to have a start date. For this project, we chose the Notice of Intent as the start date. This was chosen because it is a date that is clearly defined and documented. In addition, it marks a formal start to the NEPA process, the focus of the CETAS process. However, it may not be the best measure of when a project actually starts. Projects do not miraculously appear for the first time when the NOI is issued. They are initiated through various planning processes well before this point in time. However, these processes do not follow consistent patterns, making the designation of an earlier start date difficult. Another drawback to using the NOI as a start date is that doing so as part of a performance measure could run counter to some of the objectives of a good environmental review process. There seems to be some consensus that early involvement of the public and stakeholders in the review process can produce a better outcome, whether it be a quicker process, the avoidance of a lawsuit, and/or a better environmental outcome. Starting the official NEPA process early, by issuing a NOI, to involve the public officially in the process early could actually result in a longer time between the NOI and ROD. In reality, the process isn't taking longer; the NOI was just issued earlier than normal. Despite the limitations of using the NOI as the start date, we could not identify a better alternative for this analysis. In addition, we also examine other time frames, such as the time between the draft and final environmental documents.

### **3.5 Findings**

#### **3.5.1 How long does the environmental review process take?**

For the 12 projects reviewed, the average time to complete the NEPA process, from NOI to ROD was 6.1 years and the median was 5.7 years (Table 3.6). Figure 3.3 shows the time for each of project. On average, the four projects requiring EISs took longer – an average of 7.5 versus 5.5 years for EA projects (median 6.6 and 5.4 years, respectively). The mean timeline for EIS



projects is longer than the national averages shown in Figure 3.1. However, the median time for EIS projects (6.6 years) is comparable to the national data in Figure 3.2, which for some years is higher than 6.6 years and for other years it is lower.

The time to complete projects requiring an EA was considerably longer than indicated by the limited national data, an average of 5.5 years versus 1.2 to 3.4 years. There are many potential reasons for this difference. First, we purposely sought major projects for inclusion in this analysis – projects that would be comparable to those that would go through the CETAS MTPA concurrence process. Therefore, these EA projects may have taken longer than all projects with EAs. Second, the methodology for how the national data was obtained does not appear to be as thorough as it was for the EIS project data. Finally, there could be some differences in how Oregon uses and completes the EA process compared to other states.

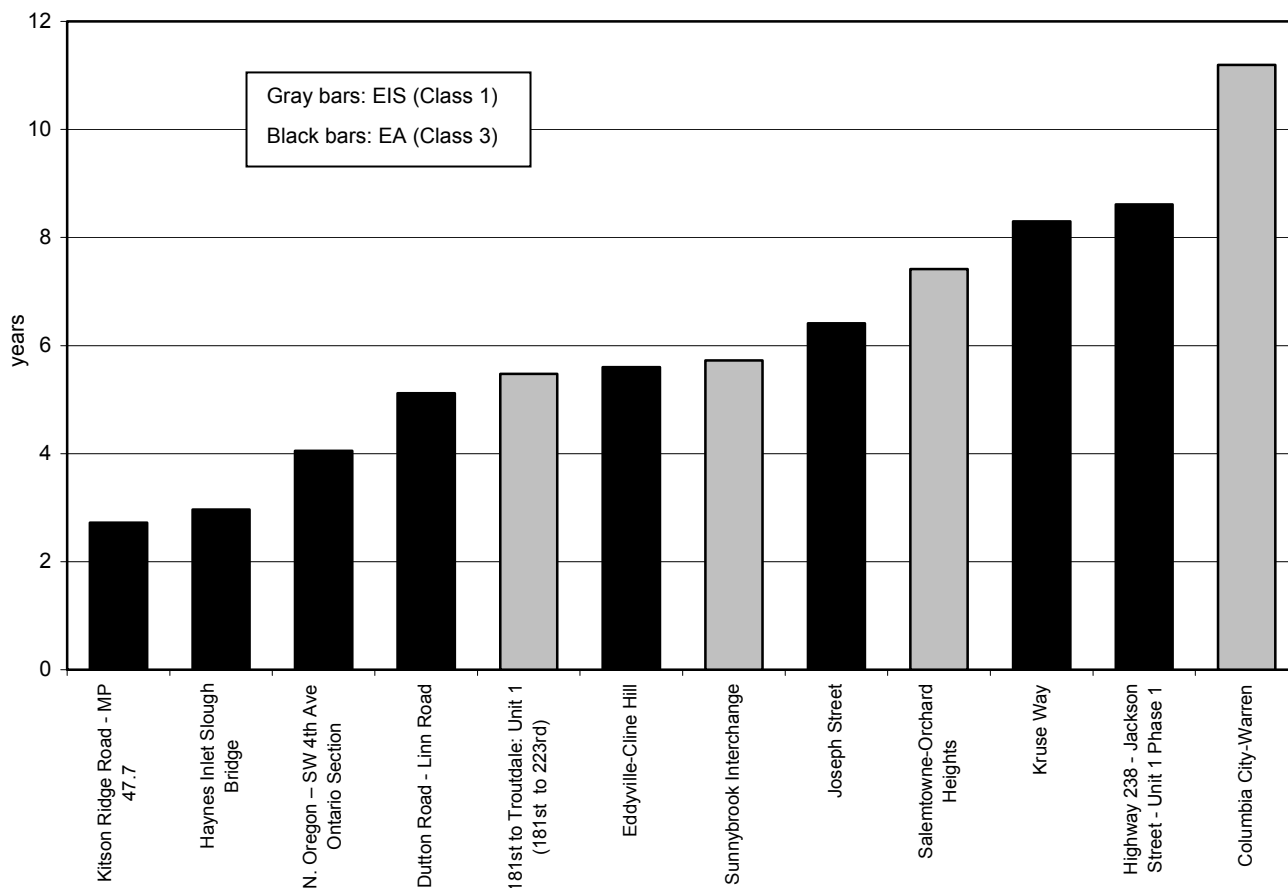
For the Oregon projects reviewed, the NEPA process took about half of the entire project time. This is longer than the 27-28% found nationwide in the first Berger Group study. However, that study sometimes defined the start of the project before the NOI, which would reduce the share of time attributed to the NEPA process. More detailed information on each project is in Appendix 2 (Section 7.2).

**Table 3.6: Time to Complete NEPA Process and Complete Project**

	Mean (years)			Median (years)			Minimum	Maximum	n (all)
	All	EIS	EA	All	EIS	EA			
<b><i>From Notice of Intent to:</i></b>									
Draft Environmental Document	4.0	3.9	4.1	3.8	3.9	3.8	2.1	8.0	12
Final Environmental Document	5.4	5.9	5.1	5.2	5.7	4.8	2.7	8.6	12
<b>Record of Decision</b>	<b>6.1</b>	<b>7.5</b>	<b>5.5</b>	<b>5.7</b>	<b>6.6</b>	<b>5.4</b>	<b>2.7</b>	<b>11.2</b>	<b>12</b>
Bid Let Date	9.0	11.0	7.7	8.9	11.3	7.2	3.6	14.2	13*
Construction Completion	11.8	13.7	10.3	11.6	13.9	10.9	7.4	16.6	12
<b><i>From Draft Environmental Document to:</i></b>									
Final Environmental Document	1.4	2.1	1.0	1.2	2.2	0.8	0.2	2.6	12
Record of Decision	2.1	3.6	1.4	1.8	2.7	0.8	0.2	6.5	12
Bid Let Date	5.1	7.3	3.6	5.3	6.9	2.3	0.4	11.2	13*
Construction Completion	7.7	10.1	6.0	8.6	9.5	4.7	3.5	13.6	12
<b><i>From Record of Decision to:</i></b>									
Bid Let Date	2.9	3.9	2.2	2.2	4.2	1.6	0.1	8.5	13*
Construction Completion	5.4	6.7	4.5	5.1	7.0	4.5	2.5	10.9	12
<b>NOI to ROD as % of total time (NOI-construction completion)</b>	<b>56%</b>	<b>54%</b>	<b>56%</b>	<b>53%</b>	<b>51%</b>	<b>54%</b>	<b>34%</b>	<b>81%</b>	<b>11</b>

\*One project was split into two projects after the ROD, before construction.

**Figure 3.3: NEPA Process Time Line (NOI to ROD)**



### 3.5.2 What are the causes of project delay?

We attempted to answer this question in two ways. First, we searched for potential reasons for delay in the project files, indicated in memos and other documents. These findings were confirmed during the interviews, if possible. Second, we looked at the actual data. In the data analysis, we looked for correlations between project timelines and project attributes, including various facets of the environmental review process.

#### 3.5.2.1 Causes of delay from the project files and interviews

The review of the project files and interviews with ODOT staff revealed a range of sources of project delays, which are shown in Table 3.7. Citizen concerns, including those of adjacent property owners, were identified as a source of delay in eight of the 12 projects. Some of these concerns were not related to environmental impacts. Traffic, safety, and access concerns were often raised. These concerns may lead to the leading cause of delay – changes in the project design. For example, on one project citizen concerns about safety lead to additional review of traffic data and the inclusion of a new traffic signal and raised median in the project. The raised median warranted a reevaluation of the FEIS. Sometimes the design changes are related to

environmental concerns, such as the inclusion of a fish passage. These changes presumably improve the environmental outcomes of the project.

**Table 3.7: Sources of Project Delay Identified in Project Files and Interviews.**

	<b>Total # of projects experiencing this source of delay</b>	<b>% of projects</b>
Design changes	10	83%
Citizen/property owner concerns	8	75%
Communications & staffing problems, including turnover	5	42%
Funding availability	5	42%
Endangered species act listings	4	33%
Land use planning processes	4	33%
Coordination with other transportation projects/plans	3	25%
Changes in environmental regulations	2	17%
Duration of the project	2	17%
Inadequate consultant or contractor work	2	17%
Intergovernmental coordination	2	17%
Wetlands mitigation requirements	2	17%
Agency concern over inadequate analysis	1	8%
Air quality or conformity analysis	1	8%
Dispute over environmental classification	1	8%
Location in National Forest	1	8%
Presence of historical properties	1	8%
Additional value engineering study requested	1	8%

Design changes can result from a number of reasons including citizen input, the need to better meet project goals, required environmental mitigation, changes in highway designations, or budget constraints. These changes may indicate that issues were not adequately addressed in the preliminary alternative selection process or were factors that ODOT could not reasonably anticipate. The stage in the planning process at which these design changes are made can determine whether or not studies, such as noise, traffic, or right of way, need to be re-done. In some cases the entire environmental document needed to be reviewed for legitimacy after a design change. Depending on how drastic the design change is, the public comment period for the project can also be re-initiated, also adding to the project's timeline. Design changes in combination with an endangered species listing can further compound the delay, as formal consultation about the change with the appropriate federal agencies is required with every design change.

There were several instances of communications and staffing problems, including staff turnover. For example, in one case the environmental and project staff had identified ODOT-owned land for wetlands mitigation. However, another unit within ODOT sold the property and other land had to be found. In another case, staff did not complete tasks on time. Inability of staff to take on

or continue the workload for a project due to turnover and training periods caused some delays. Contracting work out to consultants is often the only way to keep a project on track, requiring financial resources, staff hours, and adequate time to contract with a consultant. In some instances, there was no time to go through this contract period in order to hire a consultant to keep the project on schedule, causing ODOT to abandon the project for a number of years until adequate staffing was available to handle the workload. Staff turnover also makes communication between agencies more difficult, if the contact person for a project at ODOT (or a resource agency) is constantly changing.

Lack of funding or reorganization of funds was cited several times as a reason for project delay. This is sometimes an indication that the project is not a priority for the DOT or local partners. Whole phases of a project would remain incomplete due to lack of funding and other projects were put on hold completely. In one instance, the actual delay in the project's progress, for other reasons, caused it to be reclassified as a lower priority project, resulting in the withdrawal of its funding, causing further delays. At times, federal assistance had to be solicited during the planning stages of the project in order to keep the project on task. However, once FHWA is involved in a project, in which they were previously not involved, the entire environmental review process has to be revisited. This can cause a significant increase in staff time required as well as increased costs, as work already completed may have to be redone.

The length of the project's timeline itself can result in project delays due to the need to re-conduct research and analysis. Original studies can be considered invalid due to the time that had passed between their completion date and the issuance of the final environmental document. It is even federally mandated that when major steps to advance a project have not been taken within three years of the FEIS being approved, a re-evaluation is required. Ironically, delays in project advancement are often linked to a scarcity of staff time available and financial constraints. For more than one project, in an attempt to avoid this type of delay, a pre-evaluation stage was conducted to reduce the number of alternatives evaluated in the NEPA process, typically to a build and no build alternative. However, this practice brought about another form of project delay, increasing citizen and agency concern about this methodology. Many stated that narrowing down the number of alternatives to be reviewed compromises the spirit of the NEPA process, reducing the breadth and width of alternatives reviewed.

Many of these projects had to accommodate potential listings of the Coastal Coho Salmon (listed as threatened in June 1997) and the Steelhead Trout (listed as threatened in June 1998) (U.S. Fish and Wildlife Service, 2003). For some projects, these species were listed during the project's planning stage, requiring ODOT to accommodate this change late in the environmental review process. Early anticipation of these listings caused a number of design changes during the environmental review process, causing delays. However, early anticipation may have avoided later, more lengthy delays for the project that may have resulted if no consideration was given to these species earlier on. The formal consultation with appropriate federal agencies, which is required when a listed species is present in the project area, can also increase the time commitment for a project. When mitigation strategies to protect the species cannot be agreed upon, this consultation process can be quite lengthy. For one project in particular, it was only when ODOT made direct contact with the federal decision makers and organized a meeting to jointly discuss each party's interest in the mitigation measures that a strategy emerged.

Documentation requirements, such as requirements to include detailed drawings in AutoCAD® (Computer Aided Drafting) format for different environmental regulations, can change during the planning stages for a project. Changes in regulations can become a source of delay depending on the ability of ODOT to fulfill these requirements with the available resources and skills of current ODOT staff. If these changes cannot be accommodated, outsourcing of work to consultants with such expertise can lengthen project timelines and increase project costs.

Some project delays related to Oregon's land use planning regulations. In particular, certain types of transportation projects are not allowed outside of urban growth boundaries without an exception from statewide planning goals. In one case, ODOT had to wait for a county to complete a comprehensive plan necessary to get a land use exception for a project. In another case, the local government didn't think an exception would be necessary and it was later determined that one was required.

Insufficient consultant work is sometimes a cause of project delay. Consultants are trusted, once they are contracted, to complete a quality project within a determined time frame. When the work completed is not sufficient, ODOT is left either having to extend the contract timeline or terminate the agreement and complete the work themselves. This breach in a consultant's contract may be a result of miscommunication or a lack of ODOT staff to monitor the progress of their consultants in order to avoid these late term problems. If ODOT is left using a poorly crafted document, due to time constraints, this can often lead to increased agency comments and citizen concern over a document's comprehensiveness, requiring ODOT to ultimately revise the document.

The sources of delay identified through this process is consistent with the findings from the survey reported in Table 2.4. A direct comparison of the percentages is not appropriate because Table 2.4 refers to the percent of people stating that this was a cause, whereas Table 3.7 refers to the percent of projects. Still, there are many consistencies. Political process and stakeholder influence, identified as two top sources of delay by the survey respondents, incorporates issues related to citizen and property owner concerns. Scope changes and unanticipated site conditions, also identified as top problems by the survey respondents, can lead to design changes. Lack of money was identified as a concern by about one-quarter of the respondents, while funding was a problem for about 40% of the projects.

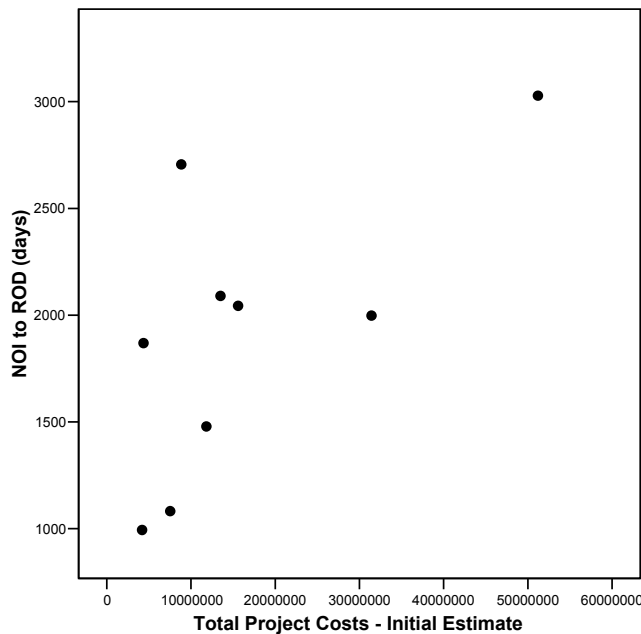
Overall, most if not all of the causes for project delay are rooted in the ability and the opportunity for different parties to freely communicate their concerns and intentions. The delays are not necessarily a result of environmental regulations, such as wetlands mitigation requirements or endangered species protection, but the ability of ODOT to contact and get feedback from the appropriate agencies in a timely manner.

### **3.5.2.2 Data analysis of potential causes of delay**

Our review of the project files produced over 100 different variables describing each project and the NEPA process involved. These variables are separate from the identified sources of delay and are based solely on the documents in the project files. In some cases, the variables are similar. For example, there is a variable for whether or not the project experienced issues regarding funding. If there was any documentation in the file that funding was an issue for the project, the database indicates "yes" (coded as a 1) for that project for that variable. However, the funding issue may or may not have been a source of delay.

We examined the correlation between the project timelines and over 50 different variables that might impact the length of the NEPA review timeline and for which there were enough projects with data. The results are presented in Table 3.8. Some explanation of this table is necessary. First, three different timelines were used: (1) from NOI to ROD; (2) from NOI to draft environmental document (EA or EIS); and (3) draft to final environmental document. The table includes any correlation coefficient that was significant at the 0.20 level or better. In other words, there is a 20% or lower chance that the correlation is due to chance. Normally, a correlation is only considered statistically significant if the probability is less than 0.10 or 0.05. With the small sample size here (12 or fewer projects), it is more difficult to reach this standard. When the correlation coefficient was not significant at the 0.20 level or better, the table cell is shaded gray. This indicates that there is no correlation between the variable and the project timelines. When the correlation coefficient is positive, that means that the variable is associated with a longer project timeline. The higher the coefficient (maximum is 1.0), the stronger the relationship. For example, the correlation between the initial estimate of the total project cost and the time between the NOI and ROD is 0.656, a relatively strong correlation that is significant at the 0.06 level. The data behind this correlation is shown in Figure 3.4 as an example. This means that for projects that were expected to cost more, the environmental review process generally took longer than for projects with lower expected costs. In a correlation analysis, causality is not determined. The projected cost of the project might lead to a lengthy process. More likely, a costly project is also a project that is large in scope, involves complex engineering and construction, and/or includes costly mitigation or right of way acquisition.

**Figure 3.4: Initial Estimate of Total Project Costs and Timeline (NOI-ROD)**



**Table 3.8: Correlation of Project Timeline to Variables**

Variable		Correlation with time line (# days)		
		NOI to ROD	NOI to Draft	Draft to Final
<b>Costs</b>	<b># projects with data</b>	<b>Pearson Correlation Coefficient (significance, if &lt;0.20)</b>		
Total project cost: Initial estimate	9	<b>0.656 (0.06)</b>		<b>0.686 (0.04)</b>
Total project cost: Actual	7	0.514 (0.16)		<b>0.582 (0.10)</b>
Difference in total project cost (actual – initial projection)	7			
<b>Environmental Review Attributes</b>	<b># projects requiring or experiencing item</b>			
Class 1 project (EIS) (vs. Class 3)	4	0.398 (0.20)		<b>0.588 (0.04)</b>
Wetlands analysis required	12	Required of all projects		
Hazardous materials analysis required	8		0.503 (0.12)	
Floodplain analysis required	8			
Archeology survey required	11	Required of all projects with data		
Section 4(f) requirement required	7		0.420 (0.17)	
Noise study analysis required	11	Required of all projects with data		
Air quality analysis required	5			
Endangered species analysis required	9			
Biological assessment required	6	<b>-0.579 (0.08)</b>	-0.468 (0.17)	
Removal/Fill permit required	9			
Agency Concern: Number of comment letters from state/federal agencies in the file	8 projects with data			<b>0.937 (0.00)</b>
Number of design changes mentioned in project file	10	<b>0.744 (0.01)</b>		
Number of environmental classification changes mentioned in project file	3			
Change in environmental regulations during project	4		-0.449 (0.14)	0.422 (0.17)
Staff turnover	4			-0.476 (0.14)

Note: Correlations that are significant at 0.10 or better are in boldface.

**Table 3.8: Correlation of Project Timeline to Variables (continued)**

Variable		Correlation with time line (# days)		
		NOI to ROD	NOI to Draft	Draft to Final
<b>Concerns/Issues raised during review*</b>	<b># projects where concern was raised</b>			
Wetlands mitigation	12	Appeared in all projects		
Endangered species	6	-0.429 (0.16)		
Comprehensive plan or state planning goal exception required	5	<b>-0.539</b> <b>(0.09)</b>		<b>-0.555</b> <b>(0.08)</b>
Funding issues	6	<b>-0.534</b> <b>(0.09)</b>		<b>-0.699</b> <b>(0.02)</b>
Political hold-ups	4			
Need to acquire additional right of way	11			
Communication problems between departments	5			
Interdepartmental inconsistencies	2			
Need to re-do studies due to project duration	6	<b>0.546</b> <b>(0.07)</b>	<b>0.684</b> <b>(0.01)</b>	
Poor consulting work	3			
<b>Project Attributes</b>	<b># projects with this feature</b>			
New road	2			
Re-alignment	6			
Widening	9	0.511 (0.11)		<b>0.516</b> <b>(0.10)</b>
Bridges	3			
Highway interchange	6			
Raised median	5		<b>0.555</b> <b>(0.08)</b>	
Left turn refuge	3			
Passing lane	1	-0.433 (0.19)		

\*Note that the existence of an issue for a project does not indicate that there was a significant environmental impact associated with this issue.



**Table 3.8: Correlation of Project Timeline to Variables (continued)**

Variable		Correlation with time line (# days)		
		NOI to ROD	NOI to Draft	Draft to Final
<b>Scope of Project</b>	<b># projects with data</b>			
Original anticipated length of project (miles)	12			
Final length of project	10	<b>0.586 (0.08)</b>		
Change in length of project (final – anticipated)				<b>0.583 (0.08)</b>
Number of lanes added	11			
Bikeway added	12	<b>0.615 (0.03)</b>	0.455 (0.14)	
Number of structures added	10		-0.444 (0.20)	<b>0.572 (0.08)</b>
Number of acres used post-construction	11			
Acres of wetlands affected	8		<b>0.716 (0.05)</b>	
Acres of wetlands mitigated	7		<b>0.665 (0.10)</b>	<b>-0.675 (0.10)</b>
Number of residential relocations	11			
Number of business relocations	11	<b>0.840 (0.00)</b>	0.496 (0.12)	
Number of historic sites listed and eligible for protection	12		0.469 (0.12)	
Number of archeologically significant sites eligible for protection	12			
Project was within urban growth boundary	11			0.435 (0.18)
Number of city and county jurisdictions involved in project	12			
Number of state and federal agencies mentioned in project files	12			<b>0.504 (0.09)</b>
Number of consultants	11			

Overall, very few of the variables were correlated with longer (or shorter) timelines. This may be due to the small sample size (12) and limitations in the methodology. Some variables may not have been identified. It may also indicate that project timelines are very difficult to explain and are dependent upon a wide range of factors that vary tremendously. To help highlight the most statistically significant correlations, Table 3.9 only includes those variables where the correlations were significant at the 0.10-level or better. The variables are in order of the absolute value of the magnitude of the correlation with the overall timeline, from NOI to ROD. Therefore, the strongest correlations are at the top of the list. In the case of overall timeline, from NOI to ROD, six variables were correlated with longer timelines:

- number of business relocations;
- number of design changes;
- initial estimate of the total project cost;
- having a bikeway added as part of the project;
- the final length (in miles) of the project; and
- Re-doing studies (e.g. noise, air quality, etc.) that became out-of-date due to the length (in time) of the project.

These variables all relate to the size, scope, and complexity of the project and not directly to the environmental review process. The number of design changes can be related to environmental issues; design changes are sometimes made to reduce environmental impacts identified during the review process. Design changes can also be the result in changes in priorities, responses to land owner concerns, and other issues.

Contrary to expectations, three variables were correlated with shorter overall timelines:

- whether a Biological Assessment was required;
- whether a change to a local comprehensive plan or an exception to a statewide planning goal was required; and
- whether funding was an issue for the project, such as questions whether enough funding was available.

The unexpected finding regarding projects where funding was identified as an issue (though not necessarily a source of delay) was confirmed by looking at the average timelines for projects with funding issues (1840 days, NOI to ROD) versus without funding issues (2791 days). The difference between the means was statistically significant.

**Table 3.9: Significant Correlations of Project Timeline to Variables**

Variable	NOI to ROD	NOI to Draft	Draft to Final
Number of Business Relocations	0.840		
Number of design changes mentioned in project file	0.744		
Total project cost: Initial estimate	0.656		0.686
Bikeway added	0.615		
Final length of project	0.586		
Biological Assessment required	-0.579		
Need to Re-do Studies due to Project Duration	0.546	0.684	
Comprehensive Plan or State Planning Goal Exception Required	-0.539		-0.555
Funding Issues	-0.534		-0.699
Acres of Wetlands Affected		0.716	
Acres of Wetlands Mitigated		0.665	-0.675
Raised Median		0.555	
Agency Concern: Number of comment letters from state/federal agencies in the file			0.937
Class 1 project (EIS)			0.588
Change in length of project (final – anticipated)			0.583
Total project cost: Actual			0.582
Number of structures added			0.572
Widening			0.516
Number of state and federal agencies mentioned in project files			0.504

The potential influence of environmental issues on time frames shows up more in the second and third columns in Table 3.9. For example, a larger number of acres of wetlands affected and mitigated was associated with a longer timeframe between the NOI and the draft EIS or EA. The strongest correlation was between the number of comment letters from state and federal agencies and the time between the draft and final documents. This makes sense; responding to comment letters is one of the primary purposes of the final document. Other variables associated with longer timeframes between the draft and final relate to the size and scope of the project, particularly if the project changed in length.

Many of the variables in Table 3.8 and Table 3.9 are “dummy” variables, i.e. the choices are yes (coded as 1) or no (coded as 0). This includes many of the variables related to the environmental review process. In such cases, correlation coefficients may not be the best statistical test of differences. To examine these variables further, we compared the average number of days between various time points (NOI, Draft environmental document, Final environmental

document, bid let date, and construction complete) for projects with and without a particular environmental review requirement or issue. The results are shown in Table 3.10. The findings confirm the correlation analysis. Projects for which biological assessments (BA) were required completed the environmental review process (NOI to ROD) quicker than those without BAs. Similarly, environmental reviews for projects that required changes in a comprehensive plan or issues relating to state planning goal exceptions were also completed in a shorter time, on average. These findings may seem counterintuitive to the motivations behind environmental streamlining – a belief that environmental review delays projects. However, the findings may indicate that when thorough analysis and coordination is conducted, the process may actually be shortened. A good analysis early in the process may reduce delays that result from concerns raised later about inadequate analysis. There may be other reasons for the differences, unrelated to the process, that stem from the small sample size.

**Table 3.10: Differences in Average Timelines for Environmental Review Variables**

Environmental Review Requirement or Issue	NOI to ROD (days)			Significant differences in other timelines (with vs. without mean)
	Significant? p<0.10	With	Without	
Class 1 project (EIS vs. EA)	NO	2720 n=8	1998 n=4	Draft to Final 760 vs. 382 days Final to construction complete 2938 vs. 1780 days
Hazardous Materials Analysis required	NO	2483 n=8	1709 n=3	Final to construction complete 2074 vs. 3352 days ROD to construction complete 1749 vs. 3039 days <i>Final to bid let day and ROD to bid let date also significantly different.</i>
Floodplain Analysis required	NO	2228 n=8	2011 n=2	NONE
Section 4(f) Requirement required	NO	2405 n=7	2005 n=5	Final to bid let date 855 vs. 1879 days ROD to bid let date 567 vs. 1637
Air Quality Analysis required	NO	2348 n=5	2209 n=6	NONE
Endangered Species Analysis required	NO	2087 n=9	2691 n=3	NONE
Endangered species raised as a possible concern	NO	1870 n=6	2606 n=6	NONE
Biological Assessment required	<b>YES p=0.08</b>	<b>1930 n=6</b>	<b>2983 n=4</b>	NONE
Comprehensive Plan or State Planning Goal Exception Required	<b>YES p=0.09</b>	<b>1749 n=5</b>	<b>2708 n=6</b>	Draft to Final 331 vs. 680 Final to construction complete 1656 vs. 2778

To further examine the question of sources of delay, we took the data on the sources of delay found in the files and interviews (Table 3.7) and compared the timelines to see if there were significant differences. These findings (Table 3.11) confirm the data analysis above. The environmental review process (NOI to ROD) for projects for which design changes were identified as a source of delay did take longer to complete – about 1,200 days or over three years longer. As discussed above, some, but not all, design changes may be the result of environmental concerns and mitigation requirements. Of the remaining sources of delay identified, the only significant differences were found for funding availability, Endangered Species Act listing, and land use planning processes. However, the average timeline for projects that experienced these delays was actually shorter than for projects without these identified delays. Again, this points to both the small sample size and the wide range of factors that impact project timelines. Also, the definition of “delay” is important. The review of projects with these identified sources of delay might have taken longer than if the issue had not come up for that project. But, short of going back in time and changing circumstances, we can’t know for sure. We can only compare to other projects without those sources of delay. In this case, the comparison does not support a finding that these issues caused significant delay. However, we should again emphasize the variation between projects.

**Table 3.11: Differences in Timeline by Sources of Delay**

Source of delay identified in files or interviews	NOI to ROD (days)		
	Significant? p<0.10	With	Without
Design changes	<b>YES</b> <b>p=0.08</b>	<b>2439</b> <b>n=10</b>	<b>1237</b> <b>n=2</b>
Citizen/property owner concerns	NO	2169 n=8	2377 n=4
Communications & staffing problems, including turnover	NO	2348 n=5	2160 n=7
Funding availability	<b>YES</b> <b>p=0.06</b>	<b>1675</b> <b>n=5</b>	<b>2641</b> <b>n=7</b>
Endangered species act listings	<b>YES</b> <b>p=0.06</b>	<b>1553</b> <b>n=4</b>	<b>2581</b> <b>n=8</b>
Land use planning processes	<b>YES</b> <b>p=0.06</b>	<b>1553</b> <b>n=4</b>	<b>2581</b> <b>n=8</b>
Coordination with other transportation projects/plans	NO	1726 n=3	2409 n=9
Changes in environmental regulations	NO	2559 n=2	2174 n=10
Duration of the project	NO	2398 n=2	2206 n=10
Inadequate consultant or contractor work	NO	3087 n=2	2068 n=10
Intergovernmental coordination	NO	2044 n=2	2277 n=10
Wetlands mitigation	NO	1540 n=2	2377 n=10

### *3.5.3 Can Oregon's environmental streamlining process address the causes of project delay?*

Various aspects of the CETAS process can address some of the causes of delay identified in the project files and interviews. The structure of CETAS and the process for decisionmaking attempts to facilitate early and free communication. This, along with the specified concurrence points, can impact several of the sources of delay identified in Table 3.7, including communication problems, coordination with other projects and plans, intergovernmental coordination, agency concerns over inadequate analyses, and disputes over environmental classification. Involving more parties earlier in the process, as CETAS does, could reduce the number of design changes. Some of the sources of delay are related to specific aspects of the environmental review process. To the extent that CETAS improves these processes through better communication and other improvements, these potential sources of delay can also be reduced. ODOT's funding of staff positions at resource agencies can also help in this regard.

Aside from communication, the Six Pillars outlined in the CETAS Vision also address the causes of delay associated with various environmental regulations requirements. The natural and cultural resource mapping being conducted by CETAS agencies (Pillar 3) will facilitate shared knowledge of the natural and cultural resources throughout the state, reducing the time required for gathering data during the NEPA process. The habitat mitigation plans and banking system also underway as part of the CETAS agreement (Pillar 2) will provide CETAS agencies with information on habitat and wetland banking.

CETAS agencies were involved in formulating the design/build contracting method used for OTIA 3 and the Environmental Baseline Report process. Both improved the contractor's ability to acquire permits without delaying projects. Environmental Baseline Reports can help avoid delays by identifying issues earlier in the process. This would address a key source of delay identified by the survey respondents in Table 2.4 – unanticipated site conditions. ODOT and CETAS are supporting the expansion of these efforts, as indicated in their annual progress reports and work plans.

CETAS is less likely to address other identified sources of delay, such as lack of funding and citizen/property owner concerns. In addition, one source of delay not specifically identified, but perhaps underlying other stated sources of delay, is that a project may not be a high priority for either ODOT, FHWA, and/or local agencies. If a project is not a high priority, staff will not get reviews done as quickly, funding sources may lapse, staff turnover may occur, etc. CETAS is unlikely to change the priority of a project, nor should it.

CETAS agencies have yet to determine how to incorporate local government participation at the CETAS meetings since it is difficult to find one or two individuals that can represent the numerous cities and diverse interests throughout the state. Limited communication with the contractors, subcontractors, local government, and project advisory committees may result in delays associated with citizen concerns and design changes. It is still unclear under the CETAS process how citizen concerns will be addressed if there is little representation within CETAS. A more concerted effort to coordinate with local governments may decrease the probability for delay due to citizen concern.

The NEPA process itself builds in and encourages input from the wider public about their concerns or support for a project. However, when there are larger numbers of comments to be addressed from this process, more staff time is required to address these concerns adequately so that, to the extent possible, they can be accommodated in any final decisions. Transportation projects can be very disruptive to an existing community. Instead of suggesting that citizen concern is unavoidable as a source of project delay, it is possible to reframe this into a question: Can staff time be more efficiently used by engaging in more public outreach in a project's initial stages to reduce public opposition at a later stage? It is, of course, unreasonable to expect that all potential concerns can be addressed before the issuance of the draft environmental document but a focus on such a pro-active approach may be warranted. ODOT staff did acknowledge that in some projects, where citizen concern is a major issue, holding frequent briefings for city officials, civic groups, and other interested parties was helpful in keeping the process moving forward.

One limitation is that the CETAS process focuses on the NEPA process, which is only part of the larger environmental review and permitting process that a project undergoes. Coordinating and integrating NEPA with some of these other processes could reduce project timelines further (General Accounting Office, 1994).

The CETAS process is also unlikely to address some of the potential sources of lengthy timeframes identified in the data analysis. In particular, there were four variables that were associated with longer timeframes that related to the scope of the project: (1) the number of business relocations; (2) the initial estimate of the total project cost; (3) having a bikeway added as part of the project; and (4) the final length (in miles) of the project. Larger and more complex projects are likely to involve more impacts and more significant issues – environmental and other. There may be no way for CETAS to reduce the time associated with relocating businesses. Some aspects of the planning process will inevitably take time, sometimes longer than some participants would like.

To the extent that CETAS can improve the overall review process through better communication and concurrence, it may reduce the two other variables related to longer overall timeframes: (1) the number of design changes; and (2) the need to re-do studies (e.g. noise, air quality, etc.) due to the length (in time) of the project. CETAS can address the most significant predictor of longer timeframes between the draft and final documents: the number of comment letters from state and federal agencies. Assuming that CETAS succeeds in getting agencies involved earlier in the process, and that the CETAS partner agencies concur at the points outlined in the MTPA, there should be fewer comments letter at the draft document stage. And, the concerns in the letters that are submitted should not be as problematic to respond to.

### **3.6 Phase II Conclusions and Future Research**

#### **3.6.1 Timeliness of the environmental review process**

Key findings include the following:

- For the 12 projects reviewed, the average time to complete the NEPA process, from NOI to ROD was 6.1 years and the median was 5.7 years.

- Projects requiring EISs took longer (mean 7.5 years) than those with EAs (5.5 years). The mean timeline for EIS projects is longer than national averages, though the median time is comparable. These timelines are significantly longer than FHWA year 2007 objective of 36 months.
- The time to complete projects requiring an EA was considerably longer than indicated by the limited national data. The difference is likely due, in part, to our selection of larger, more significant projects. The difference may also indicate that ODOT has used the EA process differently than other states nationwide.
- For the Oregon projects reviewed, the NEPA process took about half of the entire project time. This is longer than the 27-28% found nationwide in one study. Some of this difference may be due to differences in defining the start of a project. In addition, there may be differences in construction, contracting, and funding processes.
- The primary sources of delay identified by our examination of the project files and interviews were design changes and concerns raised by citizens and property owners. These sources can be related to environmental concerns, but are not solely environmental issues. The data analysis confirmed these findings. The environmental review for projects with more design changes and more business relocations took longer to complete.
- Factors relating solely to environmental issues (e.g. endangered species listings, wetlands mitigation, etc.) were identified as a source of delay in one-third or fewer of the projects examined, based on either the files or interviews. Moreover, the data analysis did not show that any of the environmental process variables were related to longer review periods. In fact, some of the environmental process variables were associated with shorter review periods.

### 3.6.2 *Future research*

We encountered various challenges in conducting this research, many of which are described in the methodology section (3.4). Many issues involved the inconsistency of the contents of the files examined. Better documentation and organization would improve this type of research. In particular, in one project file we found a post-environmental study critique prepared by one of the project managers. This document was extremely useful in understanding the project. Similar self-evaluations could be a valuable part of all future projects.

In addition, we had intended to look at costs and staff time spent on project review. For the projects that we examined, direct cost information was reported inconsistently. Staff time was rarely recorded. ODOT has recently implemented information management systems that have and will rectify this problem. However, it will never be possible to make comparisons of pre- and post-CETAS projects in terms of staff time. With some additional time-consuming digging through files, it might be possible to obtain better direct cost information, including consultant time.

One issue in doing this research is defining the start of a project. For comparison purposes, we had to choose a clear date – the Notice of Intent. Even with this clear definition, there were difficulties. Some projects with EAs do not have a NOI. In such cases, we used a comparable starting point. Perhaps more important is the question of when does a project actually begin?



Early involvement and early integration of environmental concerns into the planning process is largely viewed as one of the most important improvements an agency can make in the process. In which case, early involvement might move official start dates earlier, thus lengthening the time from an NOI to ROD. Comparing such project timelines to projects completed in an era when the process was initiated later (and thus ran into more problems) is not fair. That is one reason we looked at various parts of the review timeline, e.g. from draft to final document, as well as the overall timeline. For example, starting the process earlier might lengthen the time between the NOI and a draft EIS. But, if the early involvement was successful, the time between the draft and final EIS might be shortened because there are fewer negative comments to address.

Another research issue that arose was the definition of “delay.” Some of the ODOT staff we interviewed objected to the use of this term. Without clear time frames established ahead of time, it is very difficult to determine whether delay is occurring. What one person might consider a “delay” another considers a normal part of the process. Moreover, it was difficult to attribute any perceived delays to a particular cause. Often, there are numerous things going on which may impact a project’s schedule. The differences in our findings – between what was in the project files and interviews compared to the data analysis – points to the difficulty in attributing longer timelines to any particular factor.

As highlighted in the findings, the small sample size of projects also limits the conclusions we can draw. This is particularly difficult given that the projects vary in terms of size, scope, location, type, and cost. Ideally, we would have, for example, ten bridge projects, ten lane additions, ten interchanges, etc. for both before and after CETAS. But, there simply aren’t that many highway projects being planned and constructed in the time periods we are examining.

## **4 Phase II: CETAS Interviews**

The PSU research team interviewed nine agency representatives in the CETAS process during the summer of 2004. The list of interviews is provided in the references. Our objectives were to gauge the level of satisfaction among the CETAS participants with the approach, to identify types of benefits from the process, and to record the concerns about and recommendations for the future of CETAS.

Overall, the participants expressed strong support for the work that had been achieved through CETAS. However, the responses ranged from indifference to cautious optimism about the future.

### **4.1 *Expectations for the process***

Perspectives on the accomplishments of CETAS differed in accordance with the varied expectations held by participants. For some agencies, CETAS was a direct response to frustrations around the handling of environmental permitting in the past. CETAS was viewed as a way to bring agencies with environmental regulatory authority and responsibility to the same table at the same time and without feeling bound to speak only within the boundaries of their agency's specific regulatory mission. For others, participation was seen as a potential channel for raising new issues, such as land use, and integrating them into major transportation decisions.

Those coming into the process with expectations for earlier consultation and improved coordination among agencies consistently indicated that this concern had been met. Rather than at the 95 percent design completed stage, environmental agencies are presented with ODOT project proposals that are closer to the 5 percent completed stage. This early consultation is seen as allowing for far greater accommodation of resource agency concerns. Participants mentioned their appreciation of the regularity and predictability that the CETAS forum provides. They felt that fewer projects are left in limbo as a result of the CETAS structure. Moreover, the fact that all environmental regulatory agencies are at the same table at the same time enables a discussion of trade-offs, for which no venue existed in the past

Participants consistently emphasized that the meetings are important not only for their substantive review of specific proposals, but also as a mechanism for developing closer relationships among the agencies' staff, deepening understanding of other agencies' processes and mission, and promoting team work. Participants repeatedly mentioned the shared lunches (as the same Chinese restaurant month after month) as a significant element of their relationship building.

More cautious statements were made by participants who expected the CETAS group would eventually include discussion of non-NEPA issues. Such participants were not critical of what CETAS had achieved, but are impatient for what more CETAS might accomplish. Another more reserved response came from participants whose primary concerns in transportation project development are not environmental, such as land use or historic preservation.

Below is a summary of benefits from the CETAS process:

- “Common sense” discussions, unconstrained by formal lines of agency missions and authority
- Early consultation with resource agencies

- Predictability in review process
- Discussion of “trade offs” with multiple perspectives present
- Opportunities to strengthen social relationships
- Understanding other agencies missions and constraints
- Potential for more comprehensive discussion, to include land use issues
- A clear process for elevating issues where agency staff cannot reach agreement.

#### **4.2 Broader changes**

The CETAS process was viewed by many participants as having generated a number of benefits that reached beyond the review of major transportation projects. ODOT’s initiation of the process itself was seen as a significant step toward elevating the importance of environmental issues within the agency. Agency representatives also expressed belief that their own connections with staff in other agencies other than ODOT had improved. These interpersonal linkages allowed staff with relevant expertise to speak to the concerns of other agencies. For example, CETAS members with technical expertise relevant to a concern of NOAA’s could provide input, eliminating the need for Portland’s NOAA staff to contact the Seattle office for advice.

In general, participants noted that trust among the participants had increased. Several commented that the widely accepted as successful OTIA 3 bridge delivery process that included batch biological assessments built upon CETAS social relationships. In effect, the CETAS process “set the table” for the success of the OTIA 3 process.

Below is a summary of indirect and additional benefits from the CETAS process:

- Elevation of environmental issues within ODOT
- Strengthening of staff relationships among all participating agencies
- Cost savings through sharing expertise
- Increased level of trust among staff from different agencies
- Foundation for non-CETAS ODOT work

#### **4.3 Past challenges and prospects for the future**

The ongoing and future success of CETAS is uncertain. The interviews surfaced a number of concerns by ODOT and non-ODOT participants alike. These concerns are both specific to the CETAS process and to ODOT’s internal matters.

Despite generally positive assessments of the CETAS process from participants and their own declarations of support for it, there was a definite tone of cautiousness and even skepticism among participants during summer 2004. Non-ODOT participants expressed uncertainty with respect to ODOT’s commitment to the process, which was evidenced specifically by the lapse in ODOT leadership, irregular communications, slowness in filling the ODOT-CETAS coordinator

position, and the lack of seeking involvement from other CETAS members in the hiring of the coordinator. The lack of continuity in ODOT personnel involved with CETAS and the potential for personnel changes at all agencies led some participants to underscore the need to institutionalize the CETAS process, by creating a “playbook,” outlining expected procedures and documenting agreements. It was suggested that rotating chairs of meetings would also serve to ensure the engagement of all members and continuity in the face of inevitable personnel changes, and to avoid the tendency for ODOT to grow rigid.

Some participants suggested that the CETAS process was simply approaching a new stage of development and that it was imperative that the group take actions to avoid growing “stale.” Part of this “maturation” process might include revisiting the six pillars of the CETAS document, examining the participant list to reaffirm that the right people from the right agencies are involved, and perhaps even finding room at the table to include representation from local municipalities. A more optimistic view, perhaps, was that the CETAS group simply needed to review more projects together, to continue to “learn by doing” and to get beyond legal authority and divisions to attain a process driven by “common sense.” Other ways in which the CETAS process may be reinvigorated and sustained is by inviting CETAS members to rotate the responsibility of chairing the meetings, to contribute to the monthly agendas, and to take leadership in problem-solving around ODOT proposals. These latter steps may create a deeper sense of ownership among participants and help to create a new momentum for the process.

Both non-ODOT and ODOT staff expressed the need for ODOT to re-examine its internal operations. Non-ODOT participants suggested that ODOT needs to demonstrate responsiveness. The appointment of a CETAS coordinator represented a dedicated position within ODOT for the first time and can be interpreted as a step forward. ODOT staff, on their part, noted that the CETAS process had not yet been “rolled out” to ODOT employees. Up until summer 2004, ODOT project managers were coached on a case-by-case basis on how to work with the CETAS process. It may be time for ODOT to take a more intentional step to sensitize ODOT planning staff to consider environmental issues up front in the project design process.

ODOT staff are also presented with imminent challenges and opportunities for the CETAS process. ODOT staff also are aware of the precarious commitment of non-natural resource agencies to the CETAS process, understanding that the preoccupation with environmental issues may not seem like the best use of such staff’s time. At the same time, the lack of involvement by local municipalities, either as representatives of the local perspective or as direct stakeholders in specific projects has been cited by a number of participants as a potential shortcoming. Engaging local interests in CETAS discussions may be a way of rounding out the discussion and bringing land use questions closer to the forefront of ODOT project design.

The final point that was raised was the need to act strategically politically. Support from all the agency heads was viewed by participants as highly integral to the continued life and effectiveness of CETAS. Annual meetings with agency leaders was noted as a critical element.

Summary of past and future challenges for CETAS:

- Need for ongoing and consistent expression of ODOT’s commitment to CETAS
- Need to increase sense of ownership among participating agencies

- Importance of ensuring continuity through institutionalization and documentation of agreements
- Need to increase education and exposure of ODOT staff to CETAS
- Desire for periodic review of CETAS mission
- Importance of periodic reaffirmation of leadership (in ODOT and all participating agencies)

## 5 Conclusions and Recommendations

### 5.1 Conclusions

Changing organizational cultures to facilitate the integration of a broader array of issues is a challenge that can be expected to take time. The introduction of environmental concerns into transportation project design and implementation requires not only the consideration of new issues, but also bringing together a diverse set of agencies and actors with their own missions and styles of communication.

Highway projects that require an EIS or EA are generally complex. Therefore, the environmental review process is influenced by many factors, some of which are related to environmental concerns and many others are not, though they may arise during the environmental review (e.g. business relocation). Efforts to streamline the process may not alter overall timelines significantly simply because deadlines are set. Instead, the most significant improvements to the process are likely to come from better communication and information, along with earlier involvement. If a streamlining effort can succeed in these areas, the formal review process may be shorter. Perhaps more importantly, the process could result in better projects and better environmental outcomes.

This report documents an effort to assess the benefits of ODOT's streamlining efforts and to highlight the most promising avenues for continued progress toward the goal of producing better projects with better environmental outcomes in a timely manner. At minimum, this document presents a baseline against which future efforts may be measured, in terms of ODOT employee perceptions of the environmental review process, empirical data on NEPA project timelines, and external agencies' perceptions and satisfaction with the ODOT environmental review process. Such baseline information is rarely obtained and even more rarely utilized in time series evaluations of this type.

The findings from the three-pronged approach utilized in this study show striking consistencies. Causes of delays in environmental reviews were suggested in the survey results and confirmed in the review of pre-CETAS projects. Interviews with CETAS participants suggest various ways in which the CETAS approach can ward off many potential delays. Moreover, there existed at the time of our interviews in summer 2004, a substantial amount of goodwill among the CETAS participants. Such goodwill can be fragile, however, and must be continually nurtured. Whether it can survive the ups and downs of personnel turnover and agency leadership is yet to be seen.

### 5.2 Recommendations

Toward continuing progress to achieve ODOT's environmental streamlining goals, we offer the following recommendations.

- **Continue funding dedicated staff at resource agencies to work on ODOT projects.** Although this was not an explicit part of our evaluation, we heard considerable support for this practice during our interviews.
- **Within ODOT, expand the education of employees about the CETAS process.** The benefits of the CETAS process based on CETAS participant interviews are impressive.

However, some level of confusion appears to remain among ODOT employees regarding the environmental review process. As ODOT employees become more familiar with the CETAS process, their understanding of procedures within ODOT and in the NEPA-related agencies can be expected to improve. The level of consultation of ODOT staff with external agency contacts was low in 2001 and 2003, and could also be expected to increase.

- **Continue to support and invest in the CETAS process.** The benefits, obtained and potential, of the CETAS process are impressive, as noted in Section 4. The CETAS process can potentially address a number of causes of confusion and project delay noted from the surveys and review of pre-CETAS projects. Early consultation was highly valued by the CETAS participants and is an obvious method to avoid delays due to design changes that could have been anticipated.
- **Maintain consistency and regularity of communication and personnel.** Again, ODOT commitment of ODOT to the CETAS process is critical. Regularity of communication is an essential sign of commitment and critical for building trust. Although personnel changes may be unavoidable, the ODOT leadership should pay particular attention to its relationships with CETAS participants during such transitions.
- **Consider broader involvement in CETAS, specifically including representation from local governments.** The “political process” was the top cause for delay cited in the survey; involvement of stakeholders such as neighboring landowners and environmental organizations was identified in the review of pre-CETAS projects. One way to avoid such disruptions is to include representation of such views early on by inclusion in the CETAS meetings, for example, either by appointing a “local municipality representative” as a regular member, or by inviting local representation on appropriate cases.
- **Maintain and expand sense of ownership of CETAS process among participating agencies.** There was interest among participating agencies for continued involvement and a desire and willingness to share responsibilities. This might entail collaboration in agenda setting as well as sharing responsibilities for facilitating meetings.
- **Conduct trainings in collaborative decision making for CETAS participants and, if possible, other ODOT employees expected to be involved in the NEPA process.** Efficient and effective group processes require an investment. Group facilitation and participation in collaborative decision making are skills that require training. In accordance with a CEQ task force and other experts in the collaborative processes, ODOT should consider conducting joint trainings in interest-based negotiations and collaborative decision making (NEPA Task Force, 2003, p. 32; Susskind et al.). We also note that joint training in collaborative decision making was included in CETAS annual reports/work plans, which indicates a desire on the part of CETAS participants for such an activity.
- **Conduct a follow-up questionnaire of ODOT employees (with support from CETAS coordinator) to gauge agency morale and culture with respect to environmental reviews in order to address potential problem areas.**

- **Conduct a similar analysis of ODOT projects that have partially and fully undergone the CETAS process to document the effectiveness of these streamlining efforts.**



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Bob Cortright, DLCD, Salem, OR, August 31, 2004.

James Hamrick, Oregon State Historic Preservation Office, Salem, OR, August 31, 2004.

Judy Linton, Army Corps of Engineers, Portland, OR, August 23, 2004.

Mike Long, Oregon Department of Transportation, Salem, OR, August 31, 2004.

John Marshall, Portland, OR, August 23, 2004.

Tom Melville, Oregon Department of Environmental Quality, Portland, OR, August 24, 2004.

Nancy Munn, NOAA Fisheries, Portland, OR, August 9, 2004.

Yvonne Vallette, EPA, Portland, OR, August 10, 2004.

## 7 Appendices

## 7.1 Appendix 1: Results of Two Surveys

1. The ODOT environmental review process involves many regulations.

Survey	Agree	Disagree
2001	100%	0%
2003	93%	6%

2. I believe ODOT environmental reviews are a critical component of ODOT business.

Survey	Agree	Disagree
2001	100%	0%
2003	100%	0%

3. ODOT environmental reviews are regarded by other ODOT staff as a critical component of ODOT business.

Survey	Never	Sometimes	No Opinion	Usually	Always
2001	0%	25%	3%	58%	14%
2003	0%	37%	0%	38%	25%

4. ODOT staff persons responsible for conducting environmental reviews are the appropriate professionals to do so.

Survey	Never	Sometimes	No Opinion	Usually	Always
2001	0%	14%	3%	67%	16%
2003	0%	6%	6%	56%	25%

5. ODOT staff persons responsible for conducting environmental reviews are given sufficient time to do so.

Survey	Never	Sometimes	No Opinion	Usually	Always
2001	0%	44%	19%	34%	3%
2003	0%	38%	25%	31%	6%

6. The ODOT environmental review process is overly time-consuming.

Survey	Never	Sometimes	No Opinion	Usually	Always
2001	2%	31%	13%	38%	17%
2003	0%	56%	19%	12%	12%

7. The ODOT environmental review process corresponds to the Federal Highway Administration's process.

Survey	Never	Sometimes	No Opinion	Usually	Always
2001	0%	5%	36%	45%	14%
2003	0%	6%	31%	31%	31%

8. The ODOT environmental review process prevents harm to the social and natural environment.

Survey	Never	Sometimes	No Opinion	Usually	Always
2001	0%	25%	11%	56%	6%
2003	0%	53%	20%	13%	13%

9. The ODOT environmental review process creates social environmental benefits.

Survey	Never	Sometimes	No Opinion	Usually	Always
2001	0%	36%	30%	31%	2%
2003	0%	31%	25%	31%	12%

10. The ODOT environmental review process creates natural environmental benefits.

Survey	Never	Sometimes	No Opinion	Usually	Always
2001	3%	27%	11%	55%	3%
2003	0%	6%	38%	44%	12%

11. The ODOT environmental review process entails consultation with external agencies and organizations.

Survey	Never	Sometimes	No Opinion	Usually	Always
2001	0%	2%	3%	56%	39%
2003	0%	0%	6%	44%	44%

12. The external agencies and organizations most often consulted during environmental reviews are (please list the five most frequent).

13. The ODOT environmental review process entails consultation across ODOT sections and units.

Survey	Never	Sometimes	No Opinion	Usually	Always
2001	0%	19%	6%	58%	17%
2003	6%	0%	6%	44%	44%

14. The responsibility of staff with respect to environmental review is clear.

Survey	Never	Sometimes	No Opinion	Usually	Always
2001	0%	44%	11%	45%	0%
2003	0%	25%	12%	44%	19%

15. ODOT projects are constructed in full compliance with environmental permit conditions.

Survey	Never	Sometimes	No Opinion	Usually	Always
2001	0%	25%	16%	50%	9%
2003	0%	12%	12%	62%	12%

16. The standards and criteria for ODOT environmental review are clear and unambiguous.

Survey	Never	Sometimes	No Opinion	Usually	Always
2001	9%	59%	13%	19%	0%
2003	0%	38%	19%	44%	0%

17. The sequence of steps in the environmental review process is clear.

Survey	Never	Sometimes	No Opinion	Usually	Always
2001	9%	53%	9%	28%	0%
2003	0%	31%	12%	38%	19%

18. Differing judgments in the review process are satisfactorily reconciled.

Survey	Never	Sometimes	No Opinion	Usually	Always
2001	2%	47%	14%	36%	2%
2003	0%	50%	6%	44%	0%

19. Do you have an advisory or a decision-making role in the ODOT environmental review process?
20. The unique aspects of my job with respect to environmental reviews are: (open-ended responses)
21. How confident are you in your understanding of the environmental review process within ODOT?

Survey	Unsure	Moderately Unsure	Moderately Confident	Very Confident
2001	3%	22%	59%	16%
2003	0%	31%	44%	25%

22. How confident are you in your understanding of the major concerns of other organizational units of ODOT with environmental review responsibilities?

Survey	Unsure	Moderately Unsure	Moderately Confident	Very Confident
2001	6%	28%	58%	8%
2003	0%	31%	44%	25%

23. How confident are you in your understanding of the goals and objectives of the environmental review process within ODOT?

Survey	Unsure	Moderately Unsure	Moderately Confident	Very Confident
2001	3%	19%	63%	16%
2003	0%	6%	56%	38%

24. How confident are you in your understanding of the standards and criteria of the environmental review process within ODOT?

Survey	Unsure	Moderately Unsure	Moderately Confident	Very Confident
2001	13%	33%	47%	8%
2003	0%	43%	38%	19%

25. When you have questions about the environmental review process, do you feel comfortable seeking assistance?

Survey	Never	Sometimes	No opinion	Usually	Always
2001	0%	6%	5%	47%	42%
2003	0%	6%	0%	19%	75%

26. How often do you consult with colleagues within ODOT when conducting an environmental review?

Survey	Never	Sometimes	No opinion	Usually	Always
2001	0%	13%	17%	39%	33%
2003	6%	6%	0%	20%	68%

27. How often do you consult with colleagues outside ODOT when conducting an environmental review?

Survey	Never	Sometimes	No opinion	Usually	Always
2001	11%	42%	22%	20%	3%
2003	13%	53%	0%	27%	7%

28. With whom do you consult (name of organization)? (Please list top five most frequently consulted.)

Agency	Percentage of respondents listing this agency	
	2001	2003
ODFW	53%	37%
Local Government	36%	31%
NOAA	22%	19%
USFWS	16%	6%
FHWA	16%	12%
DSL	11%	25%

29. How often do your assessments during an environmental review process conflict with the assessments of another ODOT staff person?

Survey	Never	Sometimes	No opinion	Usually	Always
2001	3%	70%	18%	9%	0%
2003	6%	69%	19%	6%	0%



30. What is the most common basis for arriving at resolution of conflict? (Please check all that apply.)

Survey	One person was right, another wrong	Technical reasons	Political reasons	Miscommunication; no real conflict existed	Conflict was not resolved
2001	33%*	53%	33%	39%	13%
2003	6%	50%	44%	44%	0%

\*Note that row totals exceed 100%; Respondents were invited to check more than one answer, therefore percentages represent proportion of respondents who checked reason as *one* of the most common bases.

31. Approval of an environmental review signifies a meeting of the environmental goals:

Survey	Never	Sometimes	No opinion	Usually	Always
2001	0%	19%	19%	55%	6%
2003	0%	6%	19%	56%	19%

32. How would you categorize the problems or delays?

Survey	Scope Changed	Ambiguous Purpose and Need	Unanticipated Site Conditions	Construction Mistakes
2001	44%	31%	41%	27%
2003	50%	19%	63%	6%

Survey	Political Process	Lack of Money	Stakeholder Influence	Improperly Completed NEPA	Improper NEPA Classification
2001	48%	28%	45%	19%	11%
2003	69%	25%	63%	19%	6%

### About the Respondents

33. Identify the project stage in which you are involved.

Survey	Planning	Project Development	Construction
2001	52%	86%	47%
2003	19%	94%	44%

34. Do you have an advisory or a decision making role in the ODOT environmental review process?

Survey	Advisory	Decisionmaking
2001	61%	30%
2003	94%	16%

## 7.2 Appendix 2: More Detailed Project Data

	Salemtowne- Orchard Heights	Columbia City- Warren	Sunnybrook Interchange	181st to Troutdale: Unit 1 (181st to 223rd)	181st to Troutdale: Unit 2 (223rd to Troutdale)	Kruse Way	Eddyville-Cline Hill	Joseph Street	N. Oregon – SW 4th Ave Ontario Section	Haynes Inlet Slough Bridge	Highway 258 - Jackson Street - Unit 1 Phase 1	Dutton Road - Linn Road	Kitson Ridge Road - MP 47.7
Environmental Classification	EIS	EIS	EIS	EIS		EA	EA	EA	EA	EA	EA	EA	EA
From Notice of Intent to:													
Draft Environmental Document	4.9	4.7	3.1	2.8		4.1	2.5	6.2	3.6	2.1	8.0	4.1	2.1
Final Environmental Document	7.3	6.1	5.2	5.2		6.7	4.5	6.4	4.1	3.0	8.6	5.1	2.7
Record of Decision	7.4	11.2	5.7	5.5		8.3	5.6	6.4	4.1	3.0	8.6	5.1	2.7
Bid Let Date	12.3	11.3	14.2	7.3	9.7	13.1	7.8	6.6	6.3	3.6	9.5	5.9	8.9
Construction Completion	14.4	13.9	16.6	11.1	12.8	15.6	11.3	10.9	7.4	7.6	11.8	7.6	on- going
From Draft Environmental Document to:													
Final Environmental Document	2.3	1.4	2.1	2.5		2.6	1.9	0.2	0.5	0.9	0.6	1.0	0.7
Record of Decision	2.5	6.5	2.7	2.7		4.2	3.1	0.2	0.5	0.9	0.6	1.0	0.7
Bid Let Date	7.4	6.6	11.2	4.5	6.9	9.0	5.3	0.4	2.7	1.6	1.5	1.8	6.8
Construction Completion	9.5	9.2	13.6	8.3	10.0	11.6	8.8	4.7	3.8	5.5	3.9	3.5	on- going
From Record of Decision to:													
Bid Let Date	4.9	0.1	8.5	1.8	4.2	4.8	2.2	0.2	2.3	0.7	0.9	0.8	6.2
Construction Completion	7.0	2.7	10.9	5.6	7.3	7.3	5.7	4.5	3.4	4.6	3.2	2.5	on- going
NOI-ORD as % of NOI-CC	52%	81%	34%	50%		53%	49%	59%	54%	39%	73%	67%	