APPENDIX D

CASE STUDY SUMMARY

Indirect Land Use and Growth Impacts

CASE STUDY SUMMARY

This case study summary report is part of a larger study sponsored by the Oregon Department of Transportation (ODOT) to help it assess the land use impacts of future highway projects. Major highway improvement projects that ODOT undertakes require environmental analysis[3], which in turn require an assessment of the improvements on land use.[4] The study consists of three research components and a guidebook. The three research components are:

- *Literature Review.* Review of state and national studies to summarize empirical estimates of the relationship between highway and land use change, especially at the urban fringe. (Appendix B)

- *20-Site Analysis.* Analysis of historical aerial photographs and highway maps to show the association between highway improvements and land use changes over 20 years in 20 Oregon cities. (Appendix C)

- *Case Study Analysis.* More detailed analysis of highway projects and land use changes in six Oregon cities.

The case studies evaluate the impacts of major improvements to state highways at the urban fringe [primarily inside, secondarily outside, urban growth boundaries (UGBs)]. Six case studies were completed for this project: five for highway widenings (Albany, Bend, Corvallis, Island City/La Grande, and McMinnville) and one which was partially a widening project and partially construction of a new alignment (Grants Pass). Copies of individual case study reports of the detailed analysis for each case study are available from the ODOT Research Group.

Figure D.1 shows how the elements of this study fit together to address the study objectives.

PURPOSE OF THIS REPORT

There are many questions about the relationship between transportation improvements and land use change that ODOT or other transportation agencies might want answered. It is important to be clear about which ones this study addressed. The purpose of this report is to summarize the results of six case studies that researched whether there is any evidence that ODOT projects completed after 1985 caused land uses to change from what adopted plans at that time envisioned and apparently desired. That question is relatively narrow and ignores a number of broader questions that were outside of the scope of the case study research.

[3] Depending on the scale of the project, ODOT might prepare an Environmental Impact Statement (EIS) or an Environmental Assessment (EA). Larger projects generally require a more detailed EIS

[4] In addition, of course, to other environmental and socioeconomic impacts.

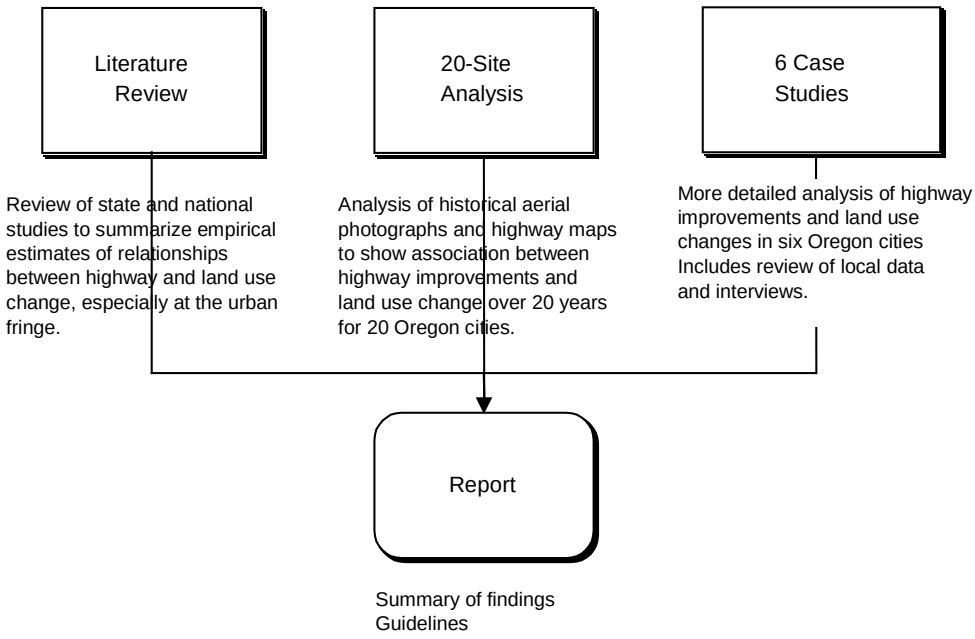

Figure D.1: Structure of the Research

Two general questions that were *not* the focus of the case studies but help establish context:

- Is there any evidence that highway projects in the United States, anywhere at any time, have had impacts on land use? The professional literature clearly answers "yes."

- Is there any evidence that that highway projects in Oregon, anywhere at any time, have had impacts on land use? Observation indicates the answer to this question is also "yes."

The fact that at some time in the past, in some places, for some type and scale of projects, highways have had impacts on land use, does not provide a basis for assessing the extent of the effects of a specific project. Today's transportation projects are usually small improvements to part of a large and ubiquitous network of highways and streets. Fifty (or even 30) years ago one could find new highways (e.g., the interstate system) that vastly increased access to large areas of land. Today, large projects opening up new areas to development are rare. Projects are typically improvements to existing paved highways; improvements that are usually less than a couple of miles long, providing marginal improvements in safety and travel time, and no new access.

The two preceding questions contrast with the ones that follow, which focus on the case study projects which occurred after 1985. The contrast is critical for at least two reasons: (1) most of the urban areas and highways in Oregon were well established by 1985; interstates and state highways had been completed – any single highway project would have had a proportionately smaller effect on travel, congestion, and land use; and (2) local land use plans based on statewide goals were all in place as of 1985; the desired/predicted pattern of growth through the year 2000 (what we see today) may have already been on the comprehensive plan and/or zoning map in 1985. Thus, three more specific questions were posed for the case study analysis; only the first one (in bold) was addressed by the research:

- **Is there any evidence that ODOT projects completed after 1985 caused land uses to change from what adopted plans at that time envisioned?** This question was the focus of the study. The ODOT Environmental Services Section is responsible for the preparation of Environmental Assessments (EAs) and Environmental Impact Statements (EISs), which must include an analysis of land use impacts, and more specifically, indirect land use impacts.[5] The analysis of indirect (secondary) impacts is often framed this way. It is particularly important in Oregon, where state land use law requires state transportation improvements to be identified in local land use plans. If the improvements are likely to facilitate land use change different from what the plan envisions, then either the improvement or the plan must be changed.[6]

  A related question is whether ODOT projects completed after 1985 caused development to occur faster than they would have without the project or faster than planned rates.

- Is there any evidence that prior ODOT highway investments influenced the land use plans that were adopted in the 1970s and 1980s in response to state mandates? While interesting, this question is outside the scope of the case study analysis. When adopting and updating their land use plans, local governments certainly look at where roads are and where they are able and likely to go. In that sense, the prior and expected investments of ODOT influenced the *plan* for future land development. If the plan then influenced development, as Oregon law says it should and most planners believe it does, then the logical inference is that land use in Oregon today would be different if ODOT and local governments had made different highway investments. This conclusion is not much help to planners who need to describe the impacts of improvements to existing highways.

- Is there any evidence that ODOT's recent and new highway improvements allow (and are a necessary condition for at least some of) the development envisioned in local land use plans? While this question is not the focus of the case studies, some data and analysis on this topic is included.

As described above, a *marginal* analysis was conducted to evaluate how land use changes associated with a highway improvement are different from changes that would otherwise occur, given the rest of the transportation network and the public sector expectations and desires for land use development as embodied in their required comprehensive plans.

METHODS

As with most policy research, the intent of this case study is to be able to isolate the impacts (the effects) that are uniquely attributable to a change in public policy. Figure D.2 illustrates the

[5] See Guidebook for more discussion on National Environmental Policy Act (NEPA) and Council on Environmental Quality (CEQ) requirements for environmental analysis.

[6] For example, this question was the one of concern on the Sunrise Corridor EIS (Clackamas County) about 10 years ago: if ODOT were to widen Highway 212 or build a new alignment for it, should it expect growth beyond what plans envisioned; should it expect local governments to change their plans, in particular, to change agriculturally zoned and urban reserve land to more intensive uses? And would anticipated growth occur faster with the improvement than it would otherwise?

concept. The shaded box represents a world that does not exist but one that an analyst must somehow describe. It is a world that *would have* existed but for the introduction of the new policy. As it relates to the case studies, the highway improvement was the policy. The case studies document, to the extent the data allow, what happened after that policy (box on bottom right). Describing what *would have happened* without the improvement (the shaded box) is more speculative. As applied to the case studies, the method does not formally define a hypothetical world and compare it to an actual one. Rather, it relies on expert opinion about the contribution of the project to the changes observed between "Existing Conditions" (at the time the EIS or EA was completed) and the "Actual World" (2000). The methods we used were consistent with a case study approach, which is an *ex post* evaluation of indirect land use effects.

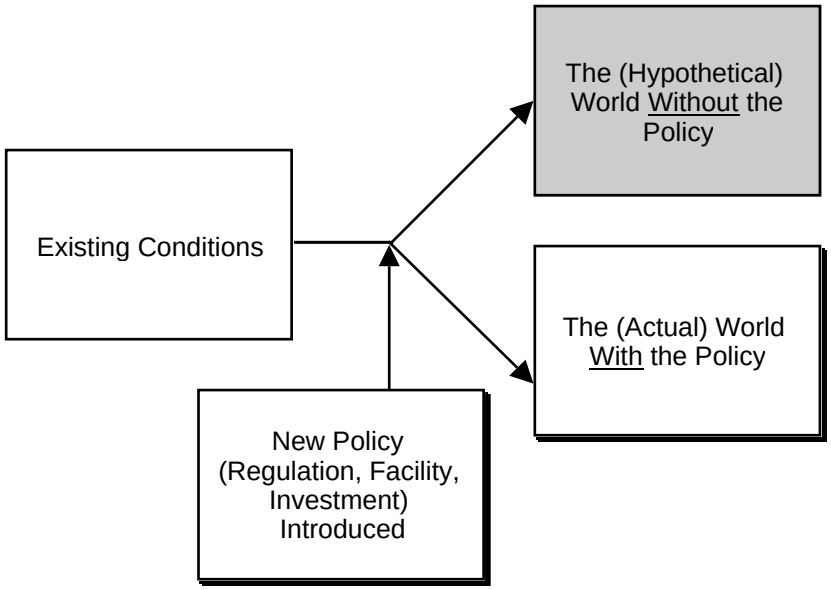

Figure D.2: Case Study Method, in Concept

The Council on Environmental Quality (CEQ) regulations describe requirements of the National Environmental Policy Act (NEPA). The CEQ defines indirect land use effects as follows:

> Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.[7]

The methods used for the case studies were both quantitative and qualitative. Sources for the description of existing conditions before the highway improvement include:

- EISs or EAs for the case study project;

[7] 3; 40 CFR 1508.8

- Local Comprehensive Plans and zoning ordinances;
- Transportation system plans;
- Interviews with city/county staff and other knowledgeable persons; and
- Other planning-related documents.

The case study methods used the following sources to describe changes in land use:

- County property tax assessment data to identify the location, timing and value of residential development;
- Building permit and development data;
- Maps showing city limits, urban growth boundaries (UGBs), and zoning/land use designations at various times; and
- Planning documents that show changes in land use and public policy.

Each case study included a focus group to assist with a qualitative assessment of changes associated with the transportation project. The focus groups generally consisted of city staff, county staff, ODOT staff, and local developers or realtors. The purpose of the focus group session was to get comments on the preliminary conclusions made from review of secondary data sources, and to gain insights into the public policy decisions and market factors that contributed to the observed development patterns. Table D.1 summarizes the projects analyzed in the case studies.

Table D.1: Summary of Case Study Projects

CITY	DATES	TYPE OF PROJECT	DESCRIPTION
Albany	Draft EIS–1983 Final EIS–1985 Project completion– Phase I: 1988 Phase II: 1994	Widening	Widening of OR Highway 99E (Albany–Junction City Highway) from Queen Avenue on the north to OR Highway 34 (at Tangent) to the south. The project improved a 5.5 mile section from two to four lanes, with a continuous left-turn median.
Bend	EA–1987 Project completion–1991	Widening	Widening from two to four lanes of a 2.2 mile stretch of US Highway 97 (The Dalles-California Highway) from milepost 132.6 on the North (about 0.5 miles north of the Smalley Road/US 97 intersection) to the Highway 97/Highway 20 connection at milepost 134.8. The project was called the Bend-Redmond South Unit.
Corvallis	EA–1985 Project completion–1992	Widening	Widening of a 2.2 mile section of OR Highway 99W (Pacific Highway West) from the Mary's River on the north to Kiger Island Drive on the south (this stretch is also known as South Third Street).
Grants Pass	Draft EIS–1978 Final EIS–1979 Project completion–1991	Widening/new alignment for third Rogue River bridge	Construction of a third Rogue River crossing in the Grants Pass area. The project is a 2.1 mile section of highway known as the Grants Pass Parkway.

CITY	DATES	TYPE OF PROJECT	DESCRIPTION
Island City/ La Grande	EA–1986 Revised EA–1987 Project completion–1992	Widening	Widening a 1.42 mile section of OR Highway 82 (Wallowa Lake Highway) from approximately 1/4 mile east of the I-84 interchange (M.P. 1.20) to the Grande Ronde River bridge at the northern city limits of Island City (M.P. 2.62). The project widened an existing two-lane highway to five lanes from the beginning of the project to the intersection with the Cove Highway (Hwy. 237) in Island City, and to a three-lane roadway from that point to the Grande Ronde bridge.
McMinnville	EIS–1985 Project completion–1993	Widening	Widening of OR Highway 18 (Salmon River Highway) from the East McMinnville Interchange on the west to Airport Road on the east (this stretch is also known as Three Mile Lane). The project improved a 2.2 mile section from two to four lanes, with a continuous left-turn median.

Source: Case Study Reports, ECONorthwest, 2000

GENERAL PATTERNS AND TRENDS FROM THE SIX CASE STUDIES

There are only six case studies, so any generalizations have to be made cautiously. But the small sample is remarkably similar on a few key points.

- **All the case studies illustrate that the development that occurred after the highway improvement was generally consistent with the development envisioned in local plans before the improvement.** In other words, the highway improvements, at most, facilitated making the expectations or hopes about future development a reality.

  The one exception to this finding is that the Wal-Mart built in Island City required several infrastructure improvements not identified in local plans, or not included in capital improvement programs. While the site adjacent to Highway 82 was designated for commercial uses, the plan did not anticipate a development of this magnitude. The cities of La Grande and Island City partnered with Union County and ODOT to make needed transportation and infrastructure improvements.

- **All the case studies illustrate that interactive, iterative, and incremental nature of most urban development.** The plan says what kind of development is wanted or acceptable; the highway improvement facilitates that development. But the plan may be what it is in response to past highway improvements, and future plans may change in response to the way that current plan gets implemented. The case studies all paint a picture of incremental and iterative decisions: small changes in land use plans and highway improvements, each responding to previous changes in land use and transportation.

  In all of the case studies, the land use pattern in the study area was established prior to the highway improvements. Moreover, all of the jurisdictions had plans or policies that recognized and supported the case study highway improvements.

- **The case studies support the hypothesis that the scale of land use change will correlate with the scale of the improvement to accessibility.** Where access already existed (as in all of the case studies), widenings did not cause any obvious changes in the type of development.

  None of the highway improvements could be directly correlated with annexations or UGB expansions. Moreover, with two exceptions (in Bend and Island City), no zone or plan designation changes occurred in the study areas.[8]

  In two of the case studies, however, evidence was found that suggest that the improvements may have influenced the rate of development. In Bend and Corvallis we found increased rates of development in the study areas after the improvements were completed. It appears, however, that a strong economy and other site specific factors (availability of infrastructure, visibility) were significant factors in the rate of growth. In other words, we were unable to attribute the increased rates of growth directly or completely to the highway improvements.[9]

Other important findings from the case studies include:

- **Good accessibility is a necessary but not sufficient condition for local development.** Some of the case studies illustrate what is common knowledge among planners and developers: the amount development responds to the availability of other key public facilities (especially water and sewer) and their costs (including how such facilities will be funded and who will pay for them).

  This was particularly important in Albany and Island City. In Albany, the lack of sewer and water capacity south of Oak Creek was a major limiting factor on development. In Island City, the four jurisdictions (LaGrande, Island City, Union County, and ODOT) worked together to develop infrastructure needed to accommodate the Wal-Mart store.

- **In all of the case studies, development of all types was dispersed throughout the communities.** Those development patterns were also envisioned by local comprehensive plans.

  While some of the study areas contained the majority of commercial or industrial land, in all of the case studies all types of development were dispersed among the appropriate zones.

---

[8] One plan designation change from light industrial to commercial occurred within the Bend study area. This land use change was consistent with the development pattern of the area. In Island City, a plan designation change from residential to commercial was made to facilitate development of the Wal-Mart store.

[9] Another issue in assessing indirect impacts is the time period for analysis as it relates to when project construction began and was completed. All of the case study projects were completed between 1988 and 1993. It may be possible that indirect impacts would be more noticeable if evaluated over a longer period of time than was covered by the case studies. For example, growth that is more rapid than anticipated may contribute to pressures to annex adjacent land, expand urban growth boundaries, and/or rezone to more intensive land uses. The time period for when the effects of this become noticeable may be longer than the periods evaluated in the case studies.

- **All of the case study highway improvements were completed in the late 1980s or early 1990s, mostly before Oregon's economic boom in the 1990s.** All of the case study communities had higher growth rates in the 1990s than in the 1980s. Thus, while substantial development occurred after the highway improvements, the growth cannot be solely attributed to the influence of the improvements.

- **As implemented by counties, state policies that restrict development of resource lands have been effective in limiting development associated with highway improvements outside UGBs.** The case studies did not identify any major new developments outside UGBs.

Finally, a few words of advice with respect to the study objective to create information that ODOT could use when assessing the potential indirect impacts of proposed highway improvements on land use. One caution is the potential for confusion caused by saying that a highway project "creates or causes changes in land use." As noted before, development will likely occur in areas now served by ODOT highways whether ODOT improves those highways or not. Plans allow and even desire those changes inside city limits and UGBs; other public policies sometimes provide incentives for that growth. Even without the encouragement, market demand could encourage land use change. So the fact that change occurs, by itself, is not evidence that new ODOT improvements significantly contributed to that change.[10]

Thus, “change in land use” must be about some notion of how future land use will be different from what it would have been without the highway improvement. But as the case studies show, ODOT projects were consistent with local plans for development.

A term commonly found in EISs and EAs is that highway improvements may “create pressure for land use change.” The bigger the improvement, access benefits, and travel-time savings, the greater the pressure. But when does the pressure become an impact? Apparently, when a comprehensive plan is changed to allow different (probably more intensive) development than the plan previously allowed. Still, pressure is hard to measure. The case studies did not find a lot of petitions for changing plan designations or rezoning. While several annexations and UGB expansions were found in the study areas of the case study cities, it was difficult to directly attribute those actions to the highway improvements. The presence or absence of adequate water and sewer infrastructure, however, played a significant role in whether development occurred in the case study areas.

Moreover, the “pressure” is not that important in and of itself: what matters is whether plans or boundaries are actually changed in response to that pressure. The evidence from the case studies (with the exception of Island City, and the possible exception of Bend) is that they were not. Particularly important is that we found no evidence outside of UGBs of land development that was not allowed by existing plans. Finally, there is the question of whether any change that does occur is, by definition, undesirable. Local plans change frequently; planners and citizens making those changes often believe they are making things better. Plan changes to allow more intense

[10] Not addressed in this report is a larger question of whether ODOT improvements made 20 to 50 years ago and more affected land use. They certainly did, but their big effect was a result of the substantial travel time savings that new, paved roads and limited access highways afforded.

development in areas where public investments have provided facilities to accommodate it may make sense. Growth that occurs sooner or more intensively than forecast, however, may make lead to premature obsolescence of highway improvements.

These six case studies support the conclusion that highway widening projects, by themselves, are not likely to cause changes in land use from what they would have been in the absence of those improvements. The highway improvements may contribute to such changes in land use, but it is difficult to determine the extent of their influence. Local governments have ample tools to plan and control land use changes with or without highway improvements. The market will respond to the available accessibility. Given sufficient market demand and reasonable land prices, development will occur if public services like sewer and water, and some minimal level of access (i.e., there is a paved road to a site with a curb cut) are available. Highway widenings are unlikely to change what gets developed, but will likely to facilitate whatever development is already allowed. That is not to say that plan designations or zoning will not change in a corridor where a widening has occurred, but based on the six case studies, highway widenings are neither a necessary or sufficient condition to predict whether such policy changes will occur.

The case studies *did* show that land use changes generally were consistent with zoning and comprehensive plan designations. It could not be determined if the growth occurred slower, faster, or at the same rate as envisioned in plans, because few comprehensive land use plans get to that level of specificity. The evidence could be interpreted to suggest that in Island City and Corvallis (and maybe some of the other jurisdictions), growth occurred faster with the projects than it would have without the projects. For example, OR 82 (Island City) and OR 99W (Corvallis) traffic volume increases (which occurred faster than forecast in the environmental documentation), annexations, and/or UGB expansions *may* suggest changes that were greater or faster than expected.

Accepted economic theory for land use and transportation is clear that travel time changes are an impetus for land uses, i.e., the greater the travel time savings, the greater the accessibility, and the greater the propensity for land use changes. Unfortunately, such an evaluation implies analysis of the larger regional context, further complicating the analysis. The changes in a particular corridor may be relatively minor but the increases in congestion on other routes may be so pronounced that minor travel time improvements or even maintaining travel time may result in large changes in regional accessibility for the particular highway improvement. The environmental documentation of the case study projects was generally insufficient to make such determinations.

The evidence from the case studies shows that small ODOT projects will generally have minimal, if any, effects on land use that can be measured and uniquely attributed to those projects.

Each of the six case studies is reported in a separate document, recording the extensive analysis completed as part of this research. These reports were written to stand alone as well as to support the development of the Guidebook for Evaluating Indirect Land Use and Growth Impacts of Highway Improvements. The key findings for each case study are summarized below. Copies of the full reports for each case study are available from the ODOT Research Group.

SUMMARY FINDINGS FOR EACH CASE STUDY CITY

ALBANY

The Albany case study evaluated the land use impacts of improvements to a section of Oregon Highway 99E (the Albany-Junction City Highway) from Queen Avenue on the north to Oregon Highway 34 (at Tangent) to the south. The project improved an 8.85 km (5.5 mi) section from two to four lanes, with a continuous left-turn median.

The Draft Environmental Impact Statement (DEIS) was completed in 1983, and the Final EIS in 1985. The project was built in two phases. Phase I, completed in 1988, included improvements from Queen Avenue to Linn-Benton Community College (LBCC). Phase II was completed in 1994 and included improvements south of LBCC to the 99E/34 intersection. According to the Draft Environmental Impact Statement, the purpose of the project was to accommodate increases in traffic and provide greater highway safety. The DEIS explains that the need for the project resulted from commercial and residential development, as well as rapid growth of LBCC.

FINDINGS

It is easy to conclude that ODOT's improvement of Highway 99E did not cause substantial land use changes in Albany, because one can observe that little land use change occurred. Since 1988, growth in Albany has been distributed throughout the City; it has not concentrated along Highway 99.

The research found several reasons for the development patterns observed:

- Planning and public policy encouraged growth not only in the study area, but in other parts of Albany as well. On that basis alone, one should expect land use changes in the study area even in the absence of an ODOT improvement.
- The improvement to Highway 99 did not create new access: it improved safety, convenience, and travel by alternative modes, and kept congestion from increasing as quickly as it would have otherwise. Its impacts on existing travel times were probably small.
- Economic conditions had a profound impact on the area. Little development occurred on vacant commercial and industrial property during the recession of the early 1980s. Moreover, much of the existing commercial and industrial space became vacant. The reabsorption of that space during the 1990s decreased demand for new construction.
- Land must be available at market prices for development to occur. Focus group participants pointed out several key sites they felt would have developed had the owners made them available.
- The availability and cost of water and sewer infrastructure was a limiting factor for sites south of Oak Creek. Albany policies would require looping of the water system for any major development south of Oak Creek. It is difficult for any one development to absorb the costs of extending services across the Oak Creek flood plain.

BEND

The Bend case study evaluated the land use impacts of improvements to a section of US Highway 97 (the Dalles-California Highway) from milepost 132.6 on the North (about 0.8 km or 0.5 miles north of the Smalley Road/US 97 intersection) to the Highway 97/Highway 20 connection at milepost 134.8. Parts of the improvement were inside, and parts outside, the Bend urban growth boundary at the time of project construction. The project was called the Bend-Redmond South Unit. The project improved a 3.5 km (2.2 mi) section from two to four lanes.

A full Environmental Impact Statement (EIS) was not completed for the Bend-Redmond South Project. ODOT completed an Environmental Assessment (EA) for the project in 1987. Construction was completed in 1991. According to the EA, the purpose of the project was to increase the capacity and level of service of the facility and to improve safety along this stretch of Highway 97. The EA explained that the need for the project resulted from operational problems due to heavy traffic volumes.

FINDINGS

The evidence is mixed that ODOT's improvement of Highway 97 induced land use changes in Bend, and more specifically, in the Highway 97 corridor. Development has certainly occurred in the corridor but (1) it has not accounted for a large amount of growth relative to the rest of Bend, and (2) it has been generally consistent with the types of development plans and policies called for.

While a commercial development pattern had begun to emerge on the east side of Highway 97 prior to completion of the EA, the redesignation of lands slated for light industrial use to highway commercial use was consistent with the commercial land use pattern in the area. City planning staff suggested that the plan designation change was a “housekeeping” matter to get the plan designation consistent with existing uses. Focus group participants suggested that commercial use was the “highest and best” use of the land, and that the initial plan designation should have been commercial. Moreover, a considerable amount of vacant land exists east of the highway. Many factors affect the functionality of land in the corridor, including highway capacity, access, and visibility. But without the improvement level of service would have been lower and congestion greater. Commercial property in the project area may have developed sooner with the highway improvement than it otherwise would have.[11]

The research found several reasons for the development patterns observed:

- Planning and public policy allowed growth not only in the study area, but in other parts of Bend as well.
- The improvement to Highway 97 did not create new access: it improved safety, convenience, and travel by alternative modes (bicycle lanes were part of the project), and kept congestion

[11] Note that this statement does not comment on whether such changes were desirable or not. The improvement may have contributed to change that was suitable for Bend as a growing urban area with an economy strongly influenced by second homes, recreation, and tourism.

from increasing as quickly as it would have otherwise. Reductions in travel times have probably been small for the majority of days, but may have been significant for many periods during the more congested summer months.

- Economic conditions and population growth impacted the rate of development in the corridor. Rapid population growth, coupled with a strong economy made Bend attractive to large discount retailers. Some of those retailers chose to locate in areas designated for commercial use in the project corridor.
- According to focus group participants, few large sites designated for commercial use existed in Bend outside the project area. The only other suitable sites were in the southern portions of Bend along the Highway 97 corridor. Sites in the study area had better access and visibility than many other sites, providing them with a comparative advantage to commercial sites in other areas of Bend.
- In 1998, Bend expanded its city limit to the entire extent of its UGB. The annexation was due to rapid population increases, an expected doubling of population by 2015, and the City's desire to have more oversight over land use decisions in the UGB.
- Field observation and conversations with Deschutes County Planning staff indicate that little development has occurred in the project corridor outside the Bend UGB since 1987. This is consistent with the agricultural zoning that existed in the area in 1987 and still exists.

GRANTS PASS

The Grants Pass case study evaluated the land use impacts of the construction of a third Rogue River crossing in the Grants Pass area. The project is a 3.4 km (2.1 mi) section of highway known as the Grants Pass Parkway. The Parkway provides a southeast bypass of downtown Grants Pass for traffic travelling between Interstate 5 and Highways 199 (Redwood Highway), 99 (Rogue River Highway), and 238 (Jacksonville/Williams Highway).

The Draft Environmental Impact Statement (DEIS) was completed in 1978, and the Final Environmental Impact Statement (FEIS) in 1979. The project construction began in 1989 and was completed in 1991.

FINDINGS

On the one hand, ODOT's construction of the Grants Pass Parkway has not caused substantial land use changes in Grants Pass, in the sense the City has planned for the development patterns that exist in the study area since the possibility of a third bridge was initially identified in 1961. On the other hand, some of the development envisioned by the City's plan may not have occurred at the same rate and may have been a different mix, if the improvement had not been made.

Commercial development along the Redwood Spur in the study area has been strong; a land use trend that had begun before the FEIS was issued. Industrial development in the study area has not been as extensive as expected despite public expenditures in infrastructure and roads specifically aimed at attracting this type of development.

The research found several reasons for the development patterns observed:

- Planning and public policy have consistently supported the development patterns and type of development that occurred in the study area. Moreover, the City adopted land use ordinances and provided economic development incentives for development to follow patterns established prior to issuance of the FEIS in 1979.
- Economic conditions (such as overall decline of manufacturing in the Oregon economy as a percentage of total employment) and the price of industrially-zoned land in the study area compared to that in nearby communities (such as Merlin) may have affected industrial development in the Riverside Industrial Area.
- Increased traffic volumes along the Redwood Spur portion of the Parkway may have enhanced its attractiveness to commercial development. Commercial development, however, is partially responsible for the increased traffic volumes. If the project had not been built, persons living south of the Rogue River may have been less willing to cross the river to shop along the Redwood Spur. Moreover, according to focus group participants, the types of commercial development found along the Redwood Spur may have been duplicated south of the Rogue River without the Parkway. This last point raises the interesting possibility rarely talked about in the debate about the impact of transportation improvements on land use: if growth gravitates to where improvements are made, then highway improvements in one area may have effects on land use in areas that are competing locations for that development.

MCMINNVILLE

The McMinnville case study evaluated the land use impacts of improvements to a section of Oregon Highway 18 (the Salmon River Highway) from the East McMinnville Interchange on the west to Airport Road on the east (this stretch is also known as Three Mile Lane). The project improved a 3.5 km (2.2 mi) section from two to four lanes, with a continuous left-turn median.

The EIS for the project was completed in 1985. Construction was initiated in 1991 and completed in 1993. According to the Draft Environmental Impact Statement, the purpose of the project was to accommodate increases in traffic and provide greater highway safety.

FINDINGS

It is easy to conclude that ODOT's expansion of Three-Mile Lane has not caused substantial land use changes in the study area or McMinnville because one can observe that little land use change occurred. Prior to the highway widening, the study area was located within the City's UGB and contained a mix of residential, commercial, industrial, institutional and agricultural activities and designations. No changes to the city limit or UGB in the study area have occurred since the highway improvement.

Non-residential development in the study area began to pick up in 1994 with the construction of the Tanger Outlet Center. Several business establishments settled in the study area within several

years of Tanger: McDonalds, the Willamette Valley Medical Center, Sun Retirement Assisted Living Home and Vineyard Inn Suites. Although the PUD overlay was designed to deter "strip" development, the Tanger Outlet Center and the McDonalds can be considered to be this style. Meanwhile, with the exception of the hospital[12], relatively little industrial development in the study area has occurred.

The research found several reasons for the development patterns observed:

- Since 1981, planning and public policy have consistently supported the development patterns and type of development that occurred in the study area. The City designated a Planned Unit Development overlay affecting much of the study area. This PUD created conditions that were attractive to a number of businesses that have located along Three Mile Lane since 1994, primarily large lot sizes and flexible zoning provisions. In the case of the Willamette Valley Medical Center, the City modified its zoning laws to allow the hospital in a limited light industrial zone.
- The City of McMinnville does not heavily promote development of any type. Instead, the City developed land use and infrastructure policies for the area decades ago and lets the developers or businesses choose their locations based on these established conditions (rather than offer additional incentives, etc.).
- McMinnville residents and developers are not particularly attracted to Three Mile Lane for residential use. Residents continue to see Three Mile Lane as geographically and culturally separate from the City. The Three Mile Lane area juts out from the southeastern edge of the City and lies on the eastern side of the South Yamhill River, a river with high banks north of Three Mile Lane. The land is flat and still has an agricultural character with the exception of the airport to the east and commercial/institutional development near the western end of Three Mile Lane.
- Water and sewer services existed in the study area. Both services existed prior to the highway improvement.

ISLAND CITY

The Island City case study evaluated the land use impacts of improvements to a 2.3 km (1.42 mi) section of Oregon Highway 82 (the Wallowa Lake Highway) from approximately 0.4 km (¼-mi) east of the I-84 interchange (M.P. 1.20) to the Grande Ronde River bridge at the northern city limits of Island City (M.P. 2.62). The project widened an existing two-lane highway to five lanes from the beginning of the project (near the I-84 interchange) to the intersection with the Cove Highway (Hwy. 237) in downtown Island City, and to a three-lane roadway from that point to the Grande Ronde bridge. An at-grade railroad crossing was maintained and bicycle lanes were included on the shoulders of the roadway over the entire length of the project.

An Environmental Assessment (EA) for the Island City portion of the project was completed in 1986, and a Revised EA was issued in 1987. Project construction was completed in 1992.

[12] The hospital is institutional in nature and is located in a limited light industrial zone.

According to the EA, the purpose of the project was to provide a safer and more efficient highway by widening the existing two-lane facility to four travel lanes with a left turn median. Average daily traffic volume on the existing highway had exceeded design capacity and was approaching 10,000 average daily traffic (ADT) in 1984, with a Level of Service rating "D."

FINDINGS

While the data showed a significant increase in development activity after the completion of the highway project, there is evidence that ODOT's expansion of the Wallowa Lake Highway was not the only factor that affected the type or rate of development in the study area or in the La Grande/Island City urban area. The evidence in this case study suggests that the development pattern observed in the study area today would be substantially the same without the highway project. This conclusion is based on several findings from our research:

- All of the development activity that occurred in the study area is located within the Urban Growth Boundary of La Grande and Island City.
- Before the highway widening, Island Avenue was already developing into a commercial strip, with auto-oriented uses such as a shopping center, fast-food restaurants, and service stations from Adams Avenue east to the area around the I-84 interchange. La Grande's 1983 Comprehensive Plan acknowledged the strip development pattern between downtown La Grande and Island City.
- The existing strip development pattern on Island Avenue was primarily due to the I-84/Island Avenue interchange, high traffic levels on Island Avenue, and adjacent vacant land designated for commercial development. Island Avenue was the most likely location in the La Grande/Island City urban area for continued auto-oriented commercial development because the I-84/Island Avenue interchange is the only full-access interchange in the urban area, Island Avenue had higher traffic counts than other major arterials, and the availability of vacant land designated for commercial development. This mix of conditions did not exist anywhere else in the La Grande/Island City urban area.
- The most significant development in the study area was Wal-Mart. Focus group participants indicated that Wal-Mart's primary reason for locating along Island Avenue was their need for a large parcel, access, and visibility from I-84. No other sites in the La Grande/Island City urban area met these criteria, and all focus group participants speculated that Wal-Mart would have selected the site in the absence of the improvements to Island Avenue.
- The construction of Walton Road, the rezoning of surrounding land for commercial uses, and the extension of water and sewer services to the area allowed the development clustered around Wal-Mart. This development may be located to take advantage of the traffic and visibility generated by Wal-Mart, but there is no evidence that the highway widening was the sole factor, or even a major factor, in these businesses' location decision.
- Land use and public service plans did not explicitly foresee retail development at the scale of Wal-Mart and did not specifically include Walton Road or the extension of water and sewer service to the area. However, the area where Wal-Mart located was within

Island City's UGB. Focus group participants indicated that local jurisdictions recognized the long-term need for new roads to provide access to the area, and for extension of water and sewer service to serve future development in the area. Focus group participants indicated that Wal-Mart's decision to locate in the study area created the need for local jurisdictions to engage in more detailed planning for the surrounding area.

- According to the Environmental Assessment for the case study project, construction was expected to stimulate commercial development in the project area, but this would be a continuation of existing trends. Local land use controls, particularly local comprehensive plans, were cited as the "chief ingredient" in controlling or mitigating the potential for future land use and economic impacts as a result of the highway project.
- The public policies of La Grande and Island City encouraged commercial development in the study area, and both cities worked to facilitate the development of Wal-Mart in the study area. According to focus group participants, little resistance to the development was encountered in either community.
- The widening of Highway 82 was justified by deteriorating level of service and safety conditions on the existing roadway, and the expectation that these conditions would worsen over time with additional development in the study area. While the plans for this project did not explicitly foresee retail development on the scale of Wal-Mart, they did recognize that future development would occur in the study area that would create the need for additional roadway capacity to maintain an adequate level of service and to reduce accident rates.
- Focus group participants agreed that Wal-Mart would have located in its current location even if the highway widening had not occurred. However, without the highway project, Wal-Mart may have needed to make improvements to the highway, such as turn lanes, to mitigate traffic impacts. According to focus group participants, there is no evidence that, in the absence of the highway widening, increased traffic generated by Wal-Mart would have altered the development or prevented the development from locating near Island Avenue.[13]
- Increased traffic in the study area, whether from the highway widening or the development of Wal-Mart, may have spurred renovation and new business location in downtown Island City. However, this activity occurred in structures that were developed before completion of the highway project, so this activity did not alter the pattern of development in the study area.

CORVALLIS

The Corvallis case study evaluated the land use impacts of improvements to a 3.5 km (2.2 mi) section of Oregon Highway 99W (Pacific Highway West)[14] from the Mary's River on the north to Kiger Island Drive on the south (this stretch is also known as South Third Street). Highway 99W is a major north-south highway and connects Corvallis to Eugene to the south and Salem to

[13] Planning for the Wal-Mart development did not need to comply with the Transportation Planning Rule (TPR) because Island City has a population of less than 2,500.

[14] The original roadway was built in 1920.

the north. This section of highway serves as the southern entrance to Corvallis and is the only arterial serving this section of town known as South Corvallis. Highways 34 and 20 are the major east-west routes.

The initial form of the project was proposed in 1974 and consisted of four travel lanes with center left-turn lane between the end of the Third/Fourth Street couplet and what was then the south city limits just past Goodnight Avenue. Funding limitations and research indicating development needs caused the project scope to undergo several changes. After 1981, the project was extended further south to just past Kiger Island Drive to address the recent subdivisions and planned industrial uses inside the city's UGB.

A full Environmental Impact Statement (EIS) was not completed for the Mary's River to Kiger Island Drive Project. The Environmental Assessment (EA) for the South Third Street improvement was completed in 1985. Project construction began in 1990 and was completed in 1992. The EA had described a staged construction for funding purposes, but the actual project construction occurred as a whole.

According to the EA, the purpose of the project was to improve vehicle, pedestrian (particularly school children), and bicycle safety, improve levels of service, and improve the facility's appearance. At the time the EA was written (1985), numerous, small commercial establishments and residential neighborhoods along the highway generated traffic and turn movements, and industrial uses were designated near the south end of the project. Turning and rear-end collisions were the main type of accidents occurring, and the EA expected that as the project area developed, traffic volume would increase 50% by the year 2000.

FINDINGS

ODOT's expansion of South Third Street did not cause substantial land use changes in the study area or Corvallis. Prior to the highway widening, the study area was located within the City's UGB and contained a mix of residential, commercial, industrial, institutional, and agricultural activities and designations. The pre-existing development has been very stable with little business turnover or redevelopment. Residential development in the study area since 1985 has occurred in the areas originally designated to receive housing and has had assessed values consistently lower than the citywide median. Non-residential development in the study area since 1985 consisted of infill and some light industrial operations near the airport on land that has been designated for these uses since 1985. The South Corvallis Area Refinement Plan (1997) made minor adjustments to the land use designations in the study area by creating new classifications to be more restrictive with the type of nonresidential development desired and to allow mixed use development.

Although the study area has not seen substantial changes in land use type or designation since the EA was issued, it has seen a rise in the rate of both residential and nonresidential development, especially since the project was completed in 1992. About 90 dwelling units were built in the study area between 1992 and 1999. Some of the nonresidential development has occurred on industrial land that received utility service extensions in 1997 and some on land that received industrial park subdivision approval in 1998. Favorable economic conditions in 1990s as well as the availability of vacant residential land appear to have played a role in the increased rate of

development. A local law requiring voter approval of annexations may help reduce or minimize the indirect effects as they relate to annexations and expansions of the UGB.

Without the project, it is likely that the study area would have more traffic congestion and higher accident rates, would be slightly less developed, especially with regard to the light industrial operations, and might not have received the same recommendations in the South Corvallis Area Refinement Plan.

Our research found several reasons for the development patterns we observed:

- Since 1984, planning and public policy have consistently supported the development patterns and type of development that occurred in the study area. These patterns were largely fixed by 1984 by the geographic nature of the study area (bound by two rivers and flat) and the pre-existing development that included mixed development in the northern portion of the study area, a rail line to the west, and the airport to the south. Parks, open space areas, and wetlands have restricted development in and transportation access to the study area. The location of the airport over one mile south of the city limits in 1984 and the inclusion of the airport in the Corvallis UGB created a large amount of vacant land within the South Corvallis urban fringe. This land included the majority (74%) of the Corvallis urban area's vacant industrial land. The Willamette River provided a natural eastern boundary for the UGB and thus land to allow extensions of existing residential neighborhoods.

  Compatibility issues between different land uses (such as between industries or the airport and residential) have strongly influenced City land use policies, and thus development in South Corvallis. As the study area developed, compatibility issues became more relevant and were addressed by the South Corvallis Area Refinement Plan (1997). The focus group participants believed that the annexations in the study area were approved by voters because the character, isolation, and geography (flat) of South Corvallis made the annexations less contentious (the voter annexation law may help to reduce or minimize the indirect effects as they relate to annexation and expansion of the UGB). The nature of the study area as a major entrance to the City has contributed to the City paying special attention to planning and public policy in the area.

  The character of South Corvallis matched the City's need for affordable housing, including lower-priced single family homes and apartment units. This type of residential development occurred in the study area.

- Current planning trends emphasize mixed use, multimodal development. Thus, the South Corvallis Area Refinement Plan (1997), funded by agencies supporting this philosophy, emphasized these design elements and led to zoning modifications in the study area.

- The Corvallis area economy went through a cycle with a recession in the early 1980s and growth in the 1990s, thus resulting in an increase in the rate of population growth and all types of development in the 1990s. According to the focus group participants, this economic expansion had a large influence over the rate of development (especially the light industrial) within the study area.

- A few property owners control the pace of large-scale development in South Corvallis. Thus, the rate of development of these properties depends on the property owners' personal interests and finances. The best example of this is the Rivergreen Estates residential developments from 1993 to 1998 by a single property owner.
- Drainage issues and lack of water and sewer lines may have limited industrial development in the study area. The focus group participants stated that the absence of site utilities prior to 1997 greatly inhibited industrial development in the study area. Once this was resolved, development began occurring on these lots.
- The widening of South Third Street and the construction of the Corvallis Bypass were generally seen as a positive by businesses and residents for reasons of accessibility, capacity, safety, and appearance. The project did not create new access. The improvements created a better transportation facility connecting the study area with the Corvallis central business district and Highway 34 which leads to Albany and Interstate 5 eleven miles to the east. Although the improvements addressed the most congested portion of South Third Street, a mile of Highway 99W between Kiger Island Drive and Airport Avenue remains a two-lane road. The focus group participants said that some businesses might not have located in the study area if these transportation improvements had not occurred, but that this effect was minor and one of many factors affecting development.

APPENDIX E

POPULATION AND EMPLOYMENT FORECASTING ISSUES

POPULATION AND EMPLOYMENT FORECASTING ISSUES

In Oregon, all land use and transportation planning is driven by population and employment forecasts. Sources for those forecasts are: (1) official forecasts, consolidated by county and consistent with state population forecasts from the Department of Administrative Services as required by state law;[15] (2) forecasts in a comprehensive plan that may not yet have been updated to comply with requirements for a consolidated forecast; (3) forecasts in the traffic model. Ideally, all these forecasts should be the same.

If the proposed project is a large one that substantially changes access, accessibility, and travel time, then the amount or rate of growth of population and employment should be expected to be different with and without the project.[16] In that case, the project may (or should) have different forecasts of population and employment – at least at the sub-area level – for the no-build and build alternatives. Different amounts of population and employment imply different amounts of built space and land development to accommodate them. If there is only a single forecast, the implication is that the project makes no difference in the amount or rate of growth at whatever level of geography the forecast has been conducted. The alternative forecasts should be at a sub-area level, preferably transportation analysis zones (TAZs).

Of key importance is the determination of whether the project is large enough to warrant different forecasts of population and employment for the no-build and build alternatives. Because no empirical method exists to make this determination, the analyst must rely on professional judgment. As an alternative, the analyst might consider convening an expert panel to assist with this determination.

Such a determination is not common practice, at least in any formal sense. It is not uncommon in the evaluation of highway projects to have a single set of population and employment forecasts (in the aggregate, and perhaps by sub-area) that are applied to all alternatives, including the "no-build" alternative. This single set of forecasts can create a major problem for an analyst trying to estimate indirect land use impacts. Here's why.

The type of indirect land use impact of concern for this study is one which contributes to a change in land use. If the uses that could develop as a result of a transportation project are roughly the same (in type and intensity) as those envisioned by the comprehensive plan, there is typically less concern by local and state planners. The plan is still being implemented; it may be

[15] DAS forecasts are available online at http://www.oea.das.state.or.us/

[16] The weight of professional opinion, and common practice, is that local highway projects do not change the aggregate economic growth of a region (population, employment, income), but they can change the distribution of that growth (e.g., more population growth and development may occur around a highway improvement than would have occurred in the absence of the improvement), or can cause growth and development to occur more quickly then it would have without the improvement.

primarily the rate of implementation that is changing. A plan designation, because of its generality, could allow two, qualitatively different types of development, which could lead to different estimates of indirect land use impacts. Thus, consistency with a comprehensive plan suggests fewer indirect land use impacts, but it is not definitive.

If the transportation improvement causes changes in the plan that would not have otherwise occurred, or if the rate of development increases enough to put pressure on public services and finances, the impacts will be of more concern. For example, a new interchange on a limited access highway that passes through what the Oregon planning system terms Resource Land (farm and forest land) may contribute to developers' requests for zone changes around the interchange to allow commercial development. This is clearly the kind of indirect land use impact that federal requirements, state law and many citizens are concerned about.

Now consider population and employment forecasts in the context of the previous example. If there is only one set of forecasts for both the no-build and build alternatives, then the population and employment would be similar around the area of the hypothetical interchange, whether it is built or not. But the concern is how the population and employment distributions would be different if the interchange is built: that difference would be evidence of an indirect land use impact. An analyst trying to evaluate indirect land use impacts may assert that land use development could be substantially different even though there is no difference in area population and employment forecasts.

One solution is to acknowledge that population and employment would (or may) differ if the project is built, and that difference may result in changes in land use. In other words, the solution is to have different population and employment forecasts (at least for sub-areas of the study area, if not for the larger jurisdiction as a whole) for the no-build and build alternatives. Transportation models are capable of handling such differences. The point is simply that in many project evaluations no differences are forecasted, which makes any assessment of land use impacts more subjective. Under any circumstance, the land use analyst should work closely with traffic analyst to ensure they are making the same assumptions about future land uses, employment, population, and so on.

The documentation for most forecasting that has been reviewed for large-scale transportation projects is poor to non-existent on this issue. The forecasts of population and employment are driven primarily by assumptions about the continuation of, or changes in, demographic and economic trends. They usually give some consideration to existing land use, land use plans, and public facility constraints and planned expansions, especially for transportation. It is often difficult to determine the extent to which the base forecasts have already considered indirect or cumulative impacts. If an analyst believes that a build alternative will cause indirect impacts, the analyst should address whether those impacts suggest that population, employment and traffic forecasts for the build alternatives should be different from the forecasts for the no-build alternative.

Moreover, the analyst must be clear about the grain of the analysis: what is the size of the sub-area for which population and growth are being forecast? If it is for a large area (e.g., an entire city), then the analyst has the flexibility to argue that the project may contribute to redistribution of population and employment at a finer grain, and that such a shift would be consistent with a

finding of potential indirect land use impacts (i.e., development patterns could be different if the improvement is built). But if the forecasts of population and employment are at the relatively fine grain of a Transportation Analysis Zone (TAZ) typical of urban transportation models, then it is harder (but not impossible) to argue that redistribution within the TAZ will occur and result in indirect land use impacts.

The advice here is to make sure that any evaluation of indirect land use impacts is clear about what assumptions were made in the forecasting of traffic volumes as related to population and employment, including assumptions about changes in land use plans or development patterns.

Even if there is only a single forecast of population and employment for all alternatives at the sub-area level (e.g., TAZ), there may still be variation of the distribution of population and employment, and the details of land use and design, in each sub-area. For example, ODOT could make improvements to an arterial in different ways: one that would emphasize arterial speeds, and another that would emphasize main street development. From a strict travel-time perspective, the travel demand model might be relatively insensitive to that level of specificity and show little difference between the alternatives. If the model does make forecasts at that level of detail, then the through-traffic alternative might show a decrease in travel time, which (for the reasons presented earlier in this report) could contribute to greater land use change. Conversely, main street development might show an increase in travel time depending on design features incorporated into the "build" alternative.

Many analysts would argue, with ample justification, that the main-street alternative would have an impact on land use at the sub-area level even though (1) the population and employment forecast is identical under both alternatives (because the land uses just get rearranged); and (2) the travel demand model shows either no difference or better performance for the through-traffic alternative. In some instances, performance may even be worse for through traffic (e.g., special transportation areas).

Thus, even though change in transportation system performance is the key way that transportation improvements affect land use, at a small scale both highway design and the ancillary improvements that accompany it (parking, auto access via turn lanes and curb cuts, bike paths, pedestrian access, signage) can contribute to changes in development patterns and the rate of development. A description of indirect land use impacts should include a description of those effects.

Common responses to the issues raised in this appendix are (a) they are too academic, (b) even if they are logically correct, they are not the way federal and state policy requirements have typically been expressed, so they just make the evaluation process more confusing, and (c) they would require more work. If EIS-type analysis is ignorant of, or unclear about, what assumptions about transportation improvements and land use are already embedded in the forecasts of population and employment that are being used to drive estimates of transportation and land use impacts, then its conclusions about indirect land use impacts in the no-build and build alternatives will be hard to interpret.

APPENDIX F

ODOT PROCESS FOR PROJECT EVALUATION

ODOT PROCESS FOR PROJECT EVALUATION

The project development and review process ODOT uses has many steps. The process begins with the Oregon Highway Plan and other statewide transportation planning policies. Goal 12 and the Transportation Planning Rule (OAR 660-012) require incorporated cities over 2,500 to develop local transportation system plans (TSPs). TSPs must include a local road plan for a system of arterials and collectors and a capital improvement component that identifies local project priorities as well as funding sources.

The various plans provide guidance in the identification of potential projects. Once a specific project is identified, ODOT conducts a preliminary assessment of project impacts at the time projects are identified. Regional offices complete a "project prospectus" that provides a preliminary assessment of the project's impacts, as well as a recommended project classification (the specific form is attached: Part 3 – Project Environmental Classification). Following is a typical scenario for a project prospectus:

- Regional Environmental Coordinator (REC) tours project area, usually with a group on a formal scoping trip, and prepares the Part 3 Project Environmental Classification.
- The REC passes the Part 3 Project Environmental Classification on to someone in the Region who packages it together with the other parts of the prospectus. Part 1 is Project Request which includes a justification for the project as well as the existing conditions and proposed solution. Part 2 is Project Details and gives detailed information about the existing and planned roadway.
- The three-part prospectus gets sent to a person in Environmental Services (ES) who then submits it to FHWA for concurrence on the environmental classification of the project (see below).
- FHWA signs Part 3 and sends it back to ES.
- The prospectus is circulated to the lead staff people in ES who use it as a basis for determining whether work is needed in their resource area (land use, biology, archaeology, etc), for developing a budget estimate, and for assigning work.
- ES sends the prospectus, with the assessment of work needed and budget estimate, to the Region.
- The Region gives the prospectus package to the project team leader and REC for use during project development. (If it is a Class 1 or 3 project, the environmental project manager in ES assigned to the project would also get a copy)

The Part 3 Environmental Classification assigns the project to one of three classes of action that prescribe the level of environmental documentation required. A Class 1 Action is one judged likely to have significant environmental impacts. It requires the preparation of a Draft

Environmental Impact Statement (DEIS), a Final Environmental Impact Statement (FEIS), and a Record of Decision (ROD). A Class 2 Action is one judged unlikely to individually or cumulatively have a significant effect on the human environment. It is given a Categorical Exclusion (CE). This action does not normally require additional environmental documentation. A Class 3 Action is one for which the significance of the impact on the environment is not clearly established. All actions that are not Class 1 or 2 default to Class 3 and require the preparation of an Environmental Assessment (EA) and a Revised Environmental Assessment (REA).

The EA determines whether a Finding of No Significant Impact (FONSI) is appropriate or whether the preparation of a DEIS and a FEIS is required. The decision to reclassify the Class 3 Action as a Class 1 Action (which would then require additional analysis) or to prepare a FONSI (which, effectively reclassifies the Class 3 Action as a Class 2 Action, which requires no additional analysis) depends on the impacts identified and the comments received on the EA. Regardless of what the classification of the document is, it does not limit and should not limit the exploration of impacts. It is the requirement of the National Environmental Policy Act (NEPA) that all impacts be identified. Federal Highway Administration (FHWA) makes the final determination as to appropriateness of the classification.

An EIS is written when there is potential for significant impacts as described by the National Environmental Policy Act (NEPA). If there are impacts that are major but not "significant," (as defined by NEPA), then an EA is prepared. In general, in impact is "significant" if it is large and that cannot be mitigated. Projects that require an EIS would include a major realignment of a highway, a new highway on a new location, a facility that allowed access to a large area for development that was not before accessible, or a new facility in a natural area that forever commits those resources to a new use.

This guidebook is primarily intended to assist analysts in projects classified as Class 1 or Class 3 decisions (i.e., projects that require an EIS or an EA). As described above, ODOT makes a determination of how to classify individual projects based on a preliminary evaluation. The Project Prospectus: Part 3 – Preliminary Environmental Evaluation that ODOT uses includes a preliminary assessment of land use impacts (see attached form, pages 1-4). The form, however, is very brief, and focuses on direct land use impacts and consistency with local land use plans (items 3 and 32-46 on the prospectus form).

ODOT staff asked that the final Guidebook include a brief description of how the techniques could be simplified for use in the preliminary evaluation that occurs as part of the ODOT Project Prospectus process. Based on the full analytical process in the Guidebook, an abbreviated version is proposed to aid ODOT staff in conducting a preliminary assessment of indirect land use impacts. That brief process is presented of page 16 of the Guidebook and at the end of this appendix as a proposed form that could become part of the Part 3 Project Prospectus.

The form is intended to indicate whether the project increases the probability of land use change to an extent that warrants a detailed evaluation of indirect land use impacts. In that sense, it can help ODOT staff determine the project's Action Class (1 2, or 3), which determines how much research ODOT will conduct to evaluate its impacts.

Oregon Department of Transportation

PROJECT PROSPECTUS

Part 3--Project Environmental Classification

Key ID # 00000			
Section	**Bridge No.**	**Region**	**County**

1) ESTIMATED RIGHT-OF-WAY IMPACTS (INCLUDING EASEMENTS, NUMBER OF PARCELS, ACREAGE, AND IMPROVEMENTS)

2) ESTIMATED TRAFFIC VOLUME, FLOW PATTERN, AND SAFETY IMPACTS (INCLUDING CONSTRUCTION IMPACTS, DETOURS, ETC.)

3) ESTIMATED LAND USE AND SOCIOECONOMIC IMPACT (INCLUDING CONSISTENCY WITH COMPREHENSIVE PLAN)

4) ESTIMATED WETLANDS, WATERWAYS, AND WATER QUALITY IMPACTS

5) ESTIMATED BIOLOGICAL AND THREATENED & ENDANGERED SPECIES IMPACTS

6) ESTIMATED ARCHEOLOGICAL AND HISTORICAL IMPACTS

7) ESTIMATED PARK AND VISUAL IMPACTS

8) ESTIMATED AIR, NOISE, AND ENERGY IMPACTS

9) ESTIMATED HAZMAT IMPACTS

10) PRELIMINARY IDENTIFICATION OF POTENTIAL AREAS OF CRITICAL CONCERN AND CONTROVERSIAL ISSUES

RECOMMENDED PROJECT CLASSIFICATION

- ☐ CLASS 1 DRAFT & FINAL ENVIRONMENTAL IMPACT STATEMENT
- ☐ CLASS 2 CATEGORICAL EXCLUSION
- ☐ CLASS 3 ENVIRONMENTAL ASSESSMENT & REVISED ENVIRONMENTAL ASSESSMENT
- ☐ RECONNAISSANCE
- ☐ PROGRAMMATIC CATEGORICAL EXCLUSION

PREPARED BY		FHWA OR STATE OFFICIAL APPROVAL	
DATE	TELEPHONE NUMBER	DATE	TELEPHONE NUMBER

REGION ENVIRONMENTAL CHECKLIST
ATTACHMENT TO PART 3, (PROJECT ENVIRONMENTAL CLASSIFICATION)

Project	**Key No.**
Name of Project	00000

Instructions:
This checklist should be completed and attached to the Part 3. It will provide information to assist in appropriately classifying projects. A "Yes" answer indicates areas of concern, a "No" answer indicates no concerns, and UNK indicates that you didn't check into that area. The primary intent of the checklist is to ensure these items have been considered, and where appropriate, researched. When something of potential impact is found, explain in the appropriate section of the Part 3. If you have any questions, please call (503) 986-3477. The receptionist will transfer you to the appropriate resource person for assistance.

AIR

1 ☐ YES ☐ NO ☐ UNK Is project in an air quality non-attainment area: ☐ CO; ☐ ozone; ☐ PM10
2 ☐ YES ☐ NO ☐ UNK Is project missing from: ☐ STIP; ☐ OTP; ☐ TIP? _____
3 ☐ YES ☐ NO ☐ UNK Does the project involve adding lanes, signalization, channelization, and/or alignment changes? _____

ARCHAEOLOGY

4 ☐ YES ☐ NO ☐ UNK Are archaeologically sensitive areas potentially affected (confluence of rivers, headlands, coves, overlooks, etc.)? _____
5 ☐ YES ☐ NO ☐ UNK Does local city/county Comprehensive Plan indicate potential Goal 5 resources? _____
6 ☐ YES ☐ NO ☐ UNK Does contact with local USFS or BLM archaeologist indicate any problems? _____
7 Extent and cause of previous ground disturbance (minor, major)? _____

BIOLOGY

8 Please provide: USGS Quad Name _____ Township_____ Range_____ Section_____
9 ☐ YES ☐ NO ☐ UNK Does contact with local ODFW (District Fish/Game/Habitat/Non-game biologists) indicate any problems? _____
10 ☐ YES ☐ NO ☐ UNK Any local knowledge of T&E or sensitive (candidate) species in area? _____
11 ☐ YES ☐ NO ☐ UNK Does contact with local BLM or USFS biologists indicate any problems? _____
12 What are the results from a Natural Heritage Data Base check? _____
13 Confirmed ODFW in-water preferred work periods for project area? (List if applicable) _____
14 List any streams impacted by project _____

ENERGY

15 ☐ YES ☐ NO ☐ UNK Does project affect traffic patterns, volumes, or involve speed zone changes? _____

GEOLOGY

16 ☐ YES ☐ NO ☐ UNK Discussions with Region Geologist indicate any major concerns?_____
17 ☐ YES ☐ NO ☐ UNK Drilling/exploration anticipated? _____

HAZARDOUS MATERIALS

18 ☐ YES ☐ NO ☐ UNK Does contact with local DEQ office indicate any concerns? _____
19 ☐ YES ☐ NO ☐ UNK Does contact with State Fire Marshal's office indicate any concerns? _____
20 ☐ YES ☐ NO ☐ UNK Does contact with local fire department indicate any concerns? _____
21 ☐ YES ☐ NO ☐ UNK Does contact with PUC indicate any highway spills/incidents? _____
22 ☐ YES ☐ NO ☐ UNK R/W acquisition impacts gas stations/repair shops/industrial sites/landfills? _____
23 ☐ YES ☐ NO ☐ UNK Ground disturbance anticipated (excavation/drilling etc.) near known hazmat sites? _____
24 Checked DEQ lists: UST ☐ Release incident ☐ RCRA ☐ Solid Waste ☐ TSD ☐ Leaking UST ☐ Confirmed release ☐ Other ☐
25 (List any occurrence on the above lists) _____

HISTORIC

26 ☐ YES ☐ NO ☐ UNK Does city/county comp plan list any impacted buildings/items as Goal 5 resources? _____
27 ☐ YES ☐ NO ☐ UNK Any impacted sites on nominated/listed as eligible for National Register? _____
28 ☐ YES ☐ NO ☐ UNK Does contact with city/county Historical Society indicate potential resources? _____
29 ☐ YES ☐ NO ☐ UNK Any impacted buildings thought to be 50 years or older? _____
30 ☐ YES ☐ NO ☐ UNK Any apparent/unique/suspect structures of possible historical interest? _____
31 ☐ YES ☐ NO ☐ UNK Historic district/trails/bridges? _____

LAND USE/PLANNING

32 ☐ YES ☐ NO ☐ UNK Project not identified in local transportation system plan? _____
33 ☐ YES ☐ NO ☐ UNK Does contact with local jurisdiction planning department indicate any concerns? _____
34 ☐ YES ☐ NO ☐ UNK Is project outside of UGB? _____
35 ☐ YES ☐ NO ☐ UNK Does project cross or touch UGB? _____
36 ☐ YES ☐ NO ☐ UNK Does Coastal Zone Management Act apply?_____
37 ☐ YES ☐ NO ☐ UNK Is it zoned forest or EFU? _____
38 ☐ YES ☐ NO ☐ UNK Are there other protected resources (i.e., estuary, wetlands, greenways, etc.)? If yes, list _____
39 ☐ YES ☐ NO ☐ UNK Does contact with local NRCS indicate "High Value" farmland concerns? _____
40 ☐ YES ☐ NO ☐ UNK Farmland Conversion Impact Rating applicable? _____
41 List Comprehensive Plan designations being impacted:_____
42 List zoning designations being impacted _____
43 Region Planner's opinion that the project conforms with (If not, why not?):
44 o Transportation Planning Rule _____
45 o Statewide Planning Goals _____
46 o Comprehensive Plan (county/city or both)_____

Project	Key No.
Name of Project	00000

NOISE

47 ☐ YES ☐ NO ☐ UNK Any shift in horizontal or vertical alignment? Amount of shift: Horizontal _____ m (ft.); Vertical _____m (ft.)
48 ☐ YES ☐ NO ☐ UNK Does project increase the number of travel lanes? Existing number of lanes _____ Proposed number of lanes _____
49 ☐ YES ☐ NO ☐ UNK Any known noise problems/complaints? _____
50 Approximate number of buildings/activity areas within 61 meters (200-feet) of proposed R/W line: Commercial_____ Industrial_____ Public_____
51 Residences_____ Schools _____ Churches _____ Parks _____

SECTION 4(f) POTENTIAL

52 ☐ YES ☐ NO ☐ UNK Parks, wildlife refuges, historic properties, public recreational areas, etc. impacted? (explain)_____

SECTION 6(f) POTENTIAL

53 ☐ YES ☐ NO ☐ UNK Land & Water Conservation Funds used to acquire parks, etc.? _____

SOCIOECONOMICS

54 ☐ YES ☐ NO ☐ UNK Do building displacements appear key to economy/neighborhood? _____
55 Number of building displacements: _____
56 General use of adjacent land: Residential ☐ Commercial ☐ Farmland/Range ☐ Public ☐ Other ☐ (explain)_____
57 Estimate of number of people living adjacent to project: 0-30 ☐ ; 31-100 ☐; 100+ ☐
58 Estimate of number of people working adjacent to project: 0-30 ☐ ; 31-100 ☐; 100+ ☐
59 ☐ YES ☐ NO ☐ UNK Divide or disrupt an established community, or affect neighborhood character or stability? _____
60 ☐ YES ☐ NO ☐ UNK Affect minority, elderly, handicapped, low income, transit-dependent, or other specific interest group? _____

VISUAL

61 ☐ YES ☐ NO ☐ UNK Designated Scenic Highway? _____
62 ☐ YES ☐ NO ☐ UNK Oregon Forest Practices Act restrictions apply?_____
63 ☐ YES ☐ NO ☐ UNK Major cut/fills? _____
64 ☐ YES ☐ NO ☐ UNK Bridges or large retaining walls anticipated? _____
65 ☐ YES ☐ NO ☐ UNK Any rivers on the Oregon Scenic Waterway listing? _____
66 ☐ YES ☐ NO ☐ UNK Any rivers on the Federal Wild and Scenic River Listing? _____

WATER WAYS/WATER QUALITY

67 ☐ YES ☐ NO ☐ UNK Does city/county comp plan list any water resources as Goal 5 resources?_____
68 ☐ YES ☐ NO ☐ UNK Within FEMA 100-year flood plain?_____
69 ☐ YES ☐ NO ☐ UNK Within FEMA regulated floodway? _____
70 ☐ YES ☐ NO ☐ UNK Water quality limited stream impacted? _____
71 ☐ YES ☐ NO ☐ UNK Any active wells impacted? _____
72 ☐ YES ☐ NO ☐ UNK ADT of 10,000 or greater? _____
73 ☐ YES ☐ NO ☐ UNK Navigable waterways? _____
74 ☐ YES ☐ NO ☐ UNK Is stream on ODFW Rivers Information System database? _____
75 ☐ YES ☐ NO ☐ UNK Any irrigation districts impacted? _____
76 If streams affected what is the fisheries stream classification? _____

WETLANDS

77 ☐ YES ☐ NO ☐ UNK National wetlands inventory maps indicate any potential concerns? _____
78 ☐ YES ☐ NO ☐ UNK Soil conservation maps indicate hydric soils in project area?_____
79 ☐ YES ☐ NO ☐ UNK Local Comprehensive Plan show any wetlands as protected resources? _____
80 ☐ YES ☐ NO ☐ UNK Riparian or wetland vegetation evident from visual inspection? _____

****

PERMITS

81 ☐ YES ☐ NO US Corps of Engineers Section 404
82 ☐ YES ☐ NO DSL Removal and Fill
83 ☐ YES ☐ NO DEQ Indirect Source (Air)
84 ☐ YES ☐ NO PUC (railroad)
85 ☐ YES ☐ NO DOGAMI
86 ☐ YES ☐ NO Coast Guard
87 ☐ YES ☐ NO Local Jurisdiction National Pollutant Discharge Elimination System (NPDES)
88 ☐ YES ☐ NO Other _____

CLEARANCES

89 ☐ YES ☐ NO State and/or federal Endangered Species Act
90 ☐ YES ☐ NO State Historic Preservation Office (Historic)
91 ☐ YES ☐ NO State Historic Preservation Office (Archaeological)
92 ☐ YES ☐ NO FHWA Noise
93 ☐ YES ☐ NO Air Conformity
94 ☐ YES ☐ NO DEQ Commercial/Industrial Noise Regulation
95 ☐ YES ☐ NO Hazmat Clearance
96 ☐ YES ☐ NO ODOT Erosion Control Plan

Prepared by	Phone Number	Date

REGION ENVIRONMENTAL CHECKLIST GUIDELINES

INTRODUCTION

This guideline supplements the Part 3 Checklist to help the preparer consider potential project impacts and provides resource agency phone numbers. The guideline is organized to correlate with the number sequencing on the Part 3 Checklist.

CLASSIFICATION

There are three classes of action which prescribe the level of environmental documentation required. A Class 1 Action will have significant environmental impacts and requires the preparation of a Draft Environmental Impact Statement (DEIS), a Final Environmental Impact Statement (FEIS), and a Record of Decision (ROD). The Class 2 Action does not individually or cumulatively have a significant effect on the human environment and constitutes a Categorical Exclusion (CE). This action does not normally require additional environmental documentation. A Class 3 Action is required when the significance of the impact on the environment is not clearly established. All actions that are not Class 1 or 2 are Class 3 and require the preparation of an Environmental Assessment (EA) and a Revised Environmental Assessment (REA).

The EA determines whether a Finding of No Significant Impact (FONSI) is appropriate or whether the preparation of a DEIS and a FEIS is required. The decision to proceed with a Class 1 Action or the preparation of a FONSI is dependent on the impacts identified and the comments received on the EA. Regardless of what the classification of the document is, it does not limit and should not limit the exploration of impacts. It is the requirement of the National Environmental Policy Act (NEPA) that all impacts be identified. Federal Highway Administration (FHWA) makes the final determination as to appropriateness of the classification.

An EIS is written when there is potential for significant impacts in a National Environmental Policy Act (NEPA) context. If there are impacts, that are major, but may not fall under the understanding of SIGNIFICANT, then an EA is prepared. You can think about SIGNIFICANT as basically being a large impact which can not be mitigated for. Projects that require an EIS would be a major realignment of a highway, a new highway on a new location, a facility that allowed access to a large area for development that was not before accessible, a new facility in a natural area that forever commits those resources to a new use, etc.

Contact your local Oregon Department of Transportation (ODOT) Region Environmentalist for more information on the project development and/or environmental process, Salem (northwest area) (503) 986-2652, Portland (503) 731-8240, Roseburg (southwest Oregon) (503) 957-3519, Bend (503) 388-6386, or LaGrande (503) 963-4972.

AIR

The Department of Environmental Quality (DEQ) has designated areas of Oregon as in non-attainment of the National Ambient Air Quality Standards for the criteria pollutants carbon monoxide, ozone, and particulate matter (PM-10). Areas designated as in non-attainment of the standard for any criteria pollutant are required by the Clean Air Act to implement a plan which demonstrates how the area will achieve attainment and maintain the standard.

1. Non-attainment areas for carbon monoxide (CO) are Klamath Falls, Grants Pass, Salem, Medford, and Portland-Vancouver. Eugene-Springfield was designated as in non-attainment for CO, but has been redesignated to attainment with a maintenance plan. Ozone non-attainment areas are Portland-Vancouver and Salem. PM-10 is fine particulate of less than 10 microns in diameter. Non-attainment areas for PM-10 are Eugene-Springfield, Medford-Ashland, Grants Pass, LaGrande, Oakridge, Lakeview, and Klamath Falls. Contact the Department of Environmental Quality (DEQ), Air Quality Division (503) 229-5581 for more information.

2. The Statewide Transportation Improvement Program (STIP) is a yearly schedule of projects on various highways. The STIP contains construction estimates, scheduling by the year of implementation, and is a required document by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). Contact ODOT Public Affairs (503) 986-3434 for a copy.

The Oregon Transportation Plan (OTP) is a planning document that summarizes transportation goals, priorities of the ODOT Transportation Commission, and estimates future transportation trends. Contact ODOT Planning Section (503) 986-4254 for a copy.

A Transportation Improvement Plan (TIP) must be developed for each metropolitan area by the Metropolitan Planning Organization (MPO). The four MPO's in Oregon are the Portland region, Salem area, Eugene area, and the Medford area. The TIP must include all projects funded by Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) or with Federal Transit Act funds (FTA). Contact your local MPO for a copy.

3. Applicable to all projects including safety, bridge, etc.

ARCHAEOLOGY

4. Archaeological resources are locations of prehistoric and historic human activity that contain artifacts or distinct features. Paleontological resources (dinosaur bones) are also covered in this field. These sites are covered by both State and Federal Laws. Certain areas within the state have a greater potential for having archaeological resources than others. These areas include the Coast, Columbia River Gorge, major river basins, and other areas where the accessibility to fish and water is high, such as perennial streams and lakes.

5. City/County Comprehensive Plans are available from your local Planner; refer to the Land Use Section of this Guide for further explanation. Goal 5 resources are open spaces, scenic and historic areas, and natural resources.

6. Contact the U.S. Forest Service (USFS), Pacific Northwest Regional Office (503) 326-3644 to identify your local District office, if the project is on USFS lands. Contact the Bureau of Land Management (BLM), Salem office (503) 375-5646 to identify your local District office, if the project is on BLM lands.

7. Significant archaeological resources exist in undisturbed ground. Minor ground disturbance is defined as caused by farming, lawns, dirt tracks, and the like. Examples of major ground disturbance would be extensive cut and fill, presence of structures, parking lots, etc. Contact ODOT Cultural Resources (503) 986-3508, or Parks and Recreation Department (503) 378-6508 Ext. 232 for more information.

BIOLOGY

Federally funded transportation projects require ODOT to comply with several federal environmental regulations in regard to biological resources, most importantly the National Environmental Policy Act (NEPA), the Fish and Wildlife Coordination Act, and Section 7 of the Endangered Species Act (ESA). When projects are not federally funded, Section 7 (i.e. preparation of a biological assessment) responsibilities may be replaced by Sections 9 and 10 of the federal Endangered Species Act. State regulations including the Oregon Endangered Species Act would apply in either case. If there is a threatened species, an endangered species, designated critical habitat, or if a species has been proposed for either status, and has been located in or near the project area, then impacts will need to be formally assessed.

8. Contact the Department of Geology and Mineral Industries (DOGAMI), Nature of the Northwest (503) 872-2750 for a U.S. Geological Survey (USGS) Quad Map Index.

9/10. Contact the Oregon Department of Fish and Wildlife (ODFW) (503) 229-5403 to identify your local District office for natural resource problems. Typical concerns are rare species, critical habitat, in-water work provisions (timing), fish/game passage issues, etc. ODFW have different biologists by district for fish issues versus wildlife issues. You may have to coordinate with both biologists depending upon the project. Federally or State Listed Threatened and Endangered (T&E) (animal and plant) species may also be referenced in the Natural Resource Section of the local Comprehensive Plan.

11. Contact the Bureau of Land Management (BLM), Resources (503) 952-6068 to identify your local District office, if the project is on BLM land. Contact U.S. Forest Service (USFS), Pacific Northwest Regional Office, Natural Resources (503) 326-2954 to identify your local District office, if the project is on USFS lands.

12. To check the Natural Heritage Data Base contact the Oregon Natural Heritage Program (503) 229-5078. Have available the Range, Township, and Section information of the project area. There is a fee to use the Natural Heritage Data Base.

13/14. Fish passage is required on any stream, regardless of size or whether perennial or intermittent, that is used by anadromous or resident fish during any period of the year. Bridge or structure construction usually involves in-water work periods. Request in-water work periods (range of dates for construction to occur) from Oregon Department of Fish and Wildlife (ODFW), Habitat Conservation (503) 229-6967 Ext. 463, if project area is in a river/stream.

ENERGY

15. Energy will be used in the construction of the build alternatives and for the operation of vehicles on a proposed project. For projects that significantly affect operational energy consumption, an energy analysis is required according to Oregon Transportation Planning Rule, National Environmental Protection Act (NEPA), and/or the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). Contact ODOT Environmental (503) 986-3489 for more information.

GEOLOGY

16/17. All highway projects have their ultimate foundations in natural earth materials. Slope stability and subgrade are assessed by geologic and geotechnical work. Contact your local ODOT Region Geologist for a preliminary determination on the need for drilling/exploration, Salem (northwest area) (503) 986-2644, Portland (503) 731-8302, Roseburg (southwest Oregon) (503) 957-3595, Bend (503) 388-6251, or LaGrande (503) 963-3177. Typical concerns are soft soil conditions, embankment drainage (seepage), land slides, and earthquake hazards.

Aggregate resources are required for highway subgrade and structural materials. The Oregon Department of Geology and Mineral Industries (DOGAMI) (503) 731-4100 has information on rock and gravel mining resources, and is in charge of issuing mining permits.

HAZARDOUS MATERIALS

18. Hazardous materials and the problems associated with them are an important concern in the location of transportation facilities. Contaminated sites should be avoided if at all possible. Site investigations and cleanups have significant impacts on budgets and project schedules. Typical concerns are the history of hazardous spills in the area, known and potential hazardous material sites, etc. When hazardous sites are encountered, some level of action is required. Construction activities that generate hazardous materials, such as waste water or lead paint from rehabilitation bridge projects require hazardous materials handling and disposal. Contact the Department of Environmental Quality (DEQ), Headquarters office (503) 229-5733 to identify your local Region office.

19. Contact the State Fire Marshal, Community Right-to-Know Program (503) 373-1540 Ext. 262 to obtain data base information on companies that store hazardous materials, quantities, etc.

20/21. Contact the Public Utility Commission (PUC), Transportation Safety (503) 378-5916 for historical data on highway spills.

22. Known sites or "red flags" indicating possible sites (such as historically the site was an industrial facility or gas station) should be listed. To determine the right of way (r/w) needs for the proposed project, contact the designer. R/w acquisition refers to property to be acquired to construct the proposed project.

24/25. Underground Storage Tank (UST),Resource Conservation Recovery Act (RCRA), Transportation Storage Disposal Facility (TSD), Confirmed release is for a site on DEQ's UST Clean Up List.

HISTORIC

26. Section 106 of the National Historic Preservation Act applies to projects that are likely to affect properties which are listed, nominated, or determined to be eligible for the National Register. Historic resources, such as famous and well-preserved pioneer houses, train depots, and picturesque covered bridges are usually National Register eligible. If the National Register does not indicate the presence of any historical resources, it just may not have been identified yet-- which is frequently the case. Contact your local Planner for a copy of the city/county Comprehensive Plan.

27. Contact the State Historic Preservation Office (SHPO) (503) 378-6508 Ext. 228 for general guidance. To request a National Register and Statewide Inventory Data Base search contact ODOT Cultural Resources (503) 986-3514.

28-30. To obtain a listing of city/county Historical Societies contact Oregon Historical Society (503) 222-1741.

31. Proposals to retrofit, upgrade, or replace a bridge listed in or eligible for the National Register are subject to the requirements of Section 106 and a Section 4(f).

LAND USE/PLANNING

32. The Land Conservation and Development Commission (LCDC) has developed 19 goals, which constitute the framework for a statewide program of land use planning. Oregon law requires every city and county to have a Comprehensive Plan, which is acknowledged by the LCDC. Acknowledged plans are consistent with the statewide planning goals. In addition, each jurisdiction is to prepare a Transportation System Plan (TSP) which when acknowledged will be considered consistent with the Comprehensive Plan and Statewide Planning Goals. Metropolitan Planning Organizations (MPO's) are preparing the TSP for Portland region, Salem area, Eugene area, and the Medford area. Contact your local MPO for a copy.

33. City/County Comprehensive Plans are available from your local Planner. Typical concerns are points of conflict with the Comprehensive Plan or Zoning Ordinance.

34/35. Urban Growth Boundary (UGB) delineates the rural lands from the urban lands. Some transportation improvements are not allowed on rural lands. Urban fringe is the area 2-5 miles outside the UGB. Some projects are not allowed in the urban fringe. Contact the local planner for identification of the UGB.

36-38. Contact your local Planner, or Department of Land Conservation and Development (DLCD) (503) 373-0096 for information on the Coastal Zone Management Act, forest zoning, Exclusive Farm Use (EFU), and to identify other protected resources.

39/40. Contact U.S. Agricultural Department, Natural Resources Conservation Service (NRCS), (formerly Soil Conservation Service (SCS)) (503) 414-3200 to identify your local Field office for information on High Value Farmland and Farmland Conversion applicability.

41/42. City/County Comprehensive Plans are available from your local Planner.

43-46. Contact your local ODOT Region Planner, Salem (northwest area) (503) 986-2653, Portland (503) 731-8200, Roseburg (southwest Oregon) 957-3521, Bend (503) 388-6342, or LaGrande (503) 963-4972.

44. Transportation Planning Rule (TPR) (OAR 660-12-000).

45. Statewide Planning Goals are listed in your Comprehensive Plan; contact the local Planner, or the Department of Land Conservation and Development (DLCD) (503) 378-2332 for a copy.

NOISE

47/48. For highway projects, the existing noise level at representative sites along the project is measured. Then based on projected traffic, anticipated changes to topography, buildings, and other characteristics of the project, the Federal Highway Administration (FHWA) Noise Prediction Model is used to predict noise levels along the project. Contact the designer for the proposed project alignment (design specifications).

49. Contact the local city/county Traffic Engineer for information on known noise issues.

50/51. The right of way (r/w) line is the existing and proposed r/w lines for the project. An industrial building/activity is distinguished from a commercial building/activity by its function as a manufacturer.

SECTION 4(f) POTENTIAL

52. Section 4(f) of the Department of Transportation Act of 1966 refers to any effect on a historic property, historic bridge, park, wildlife and waterfowl refuge, or public recreation area, if the project includes federal funds. Contact your local ODOT Region Environmentalist for general guidance.

SECTION 6(f) POTENTIAL

53. Section 6(f) refers to the rules and regulations of the Land and Water Conservation Fund (L&WCF) Act and associated property acquired or developed for public outdoor recreation with those funds. To determine if Land & Water Conservation Funds are involved contact Parks and Recreation Department (503) 378-6378 Ext. 241.

SOCIOECONOMICS

54-60. Socioeconomics refers to the social and economic impacts of a proposed project. Contact your local Planner for information on neighborhoods, community cohesion, demographic data, census, and economic reports.

VISUAL

61. This area of interest was formerly referred to as scenic or aesthetics resources. Visual Resource Management (VRM) is the management of the visual resource elements of an area or project for a specific purpose, such as capturing significant views or building upon a particular thematic concept (like Sisters, Or.). Visual resources are the actual elements of an area or project, including the viewshed, landmarks, aesthetic quality and continuity between the project and the context (elements such as Haystack Rock or Mt. Hood in the viewshed of Portland, for example). Particularly sensitive areas are tour routes, historic or scenic highway sections, state entrance, national forest, or along a scenic river. A Listing of Scenic Highways is available from the ODOT Scenic Byways Program (503) 986-4261.

62. For information on the Oregon Forest Practices Act contact the Oregon Forestry Department (503) 945-7470.

63/64. Contact the designer to determine if major cut/fills, bridges, or large retaining walls are proposed for the project.

65/66. For an Oregon Scenic Waterways Listing and a Federal Wild and Scenic River Listing contact the Parks and Recreation Department (503) 378-6305.

WATERWAYS/WATER QUALITY

The major types of water resources are streams and rivers, lakes and ponds, wetlands, and groundwater. Navigable waters include the Columbia River, the Willamette River, coastal rivers in areas subject to tidal influence, and any river presently used for commerce. Any filling in the river, removing of soil and gravel from the river or changing the river bank in any way, regardless of the amount of material involved, requires further analysis. Mitigation measures will be addressed for a project where there is a potential for hazmat spills into waterways. Impacts from construction activities, such as erosion of exposed soils, waste water from rehabilitation bridge projects, and other effects on streams are evaluated.

67. Contact your local Planner for a copy of the city/county Comprehensive Plan.

68/69. For Federal Emergency Management Agency (FEMA) 100-year floodplain and regulated floodway information contact the Department of Land Conservation and Development (DLCD) (503) 378-2332, or FEMA 206-481-8800.

70. For a listing of water quality limited streams contact the Department of Environmental Quality (DEQ), Water Quality 1-800-452-4011 or 229-6121.

71. Contact the local County Watermaster for records on wells.

72. Roadway runoff can be assumed to have no impact on surface waters if the roadway area is both less than 1% of the drainage basin, and the Average Daily Traffic (ADT) is less than 10,000 or all runoff flows through 90 m (200 ft) of vegetated swale. To obtain a copy of the Traffic Volume Tables contact ODOT Systems Monitoring (503) 986-4147. The table shows monthly ADT at permanent recorders for the reporting year, 10 years of historical data at permanent counting stations, and a vehicle classification breakdown.

73. For a Navigable Waterway listing contact the U.S. Corps of Engineers, Regulatory Division (503) 326-6995.

74. Contact the Oregon Department Fish and Wildlife (ODFW), Habitat Conservation Division (503) 229-6967 Ext. 521 to access the Rivers Information System Data Base.

75. Obtain information on irrigation districts from your local County Watermaster.

76. For a fisheries stream classification contact Oregon Department of Fish and Wildlife (ODFW), Habitat Conservation (503) 229-6967 Ext. 463.

WETLANDS

Wetlands generally include wet meadows, swamps, marshes, bogs, vernal pools and similar areas. Wetlands filter water, trap sediments, provide flood and erosion protection, provide diverse wildlife and fisheries habitats, and naturally replenish surface waters. Wetlands form a transition between aquatic and terrestrial systems. Wetlands are characterized by their unique combination of cyclical inundation, hydric soils, and vegetation adapted to growth in these areas.

77. National Wetland Inventory maps display wetland areas identified by the U.S. Fish and Wildlife Service by wetland type and are referenced similar to USGS maps. Contact the Oregon Division of State Lands (DSL) (503) 378-3805 Ext. 233 for more information.

78. Soil conservation maps data are listed on County Soil Surveys. Request a hydric soils list from U.S. Agricultural Department, Natural Resources Conservation Service (NRCS) (503) 414-3270.

79. For a listing of protected resources refer to the Goal 5 Resources Section of the Comprehensive Plan.

80. Riparian vegetation occurs along water sources (stream edge). Many species of riparian vegetation are indicative of the existence of wetland conditions at that site. Establishing riparian vegetation as mitigation is frequently used for bank stabilization on bridge construction projects.

PERMITS/CLEARANCES

There are a number of permits and/or clearances required from various agencies prior to construction of a project.

81. Contact U.S. Corps of Engineers (503) 326-6995 for a Section 404 Permit determination.

82. For a DSL Removal and Fill Permit contact Division of State Lands (DSL), Western Region (Westside Cascades) (503) 378-3805, or Eastern Region (Eastside Cascades) (503) 388-6112.

83. For an Indirect Source (Air) Permit contact Department of Environmental Quality (DEQ) (503) 229-6086. For Lane County projects contact the Lane Region Air Pollution Authority (LRAPA) (503) 726-2514 also.

84. Contact the Public Utility Commission (PUC) (503) 378-6217 for railroad permit issues.

85. Department of Geology and Mineral Industries (DOGAMI) (503) 967-2039.

86. Coast Guard (206) 220-7282.

87. For a Local Jurisdiction National Pollutant Discharge Elimination System (NPDES) Permit determination contact your local Public Works Director, or Department of Environmental Quality (DEQ) (503) 229-5437.

88. For information on other permits contact ODOT Permits (503) 986-3783.

89. Contact Oregon Department of Agriculture (ODA) (503) 986-4716 for state threatened or endangered plants. For federally proposed or listed threatened or endangered plants, animals or resident fish contact U.S. Fish and Wildlife (503) 231-6179. For federally proposed or listed threatened or endangered anadromous fish or marine mammals, contact National Marine Fisheries Service (503) 230-3388. Most state listed fish and wildlife species are also federally listed so complying with the federal regulations for these species will suffice for compliance with the state regulations.

90. State Historic Preservation Office (SHPO), Historic (503) 378-6508 Ext. 228.

91. State Historic Preservation Office (SHPO), Archaeological (503) 378-6508 Ext. 232.

92. Contact ODOT Acoustical (503) 986-3488, or FHWA (503) 399-5749 for Noise Clearance.

93. For State Air Conformity contact DEQ (503) 229-6086 and the local MPO. For Federal Air Conformity contact ODOT Air Quality (503) 986-3485, or FHWA (503) 399-5749.

94. Contact Department of Environmental Quality (DEQ) (503) 229-6086 for Commercial/ Industrial Noise Regulation.

95. Contact Department of Environmental Quality (DEQ (503) 229-5733 for a Hazmat Clearance determination.

96. For an ODOT Erosion Control Plan determination contact ODOT Geotechnical (503) 986-5782, or ODOT National Pollutant Discharge Elimination System (NPDES) (503) 731-8309.

CJS

PROPOSED PROSPECTUS ADDENDUM

Part 3--Project Environmental Classification
Indirect Land Use Supplement

Form is for Illustration Only: This is NOT an official ODOT Form

		Key ID # 00000	
Section	**Bridge No.**	**Region**	**County**

Instructions:

This form is intended to assist in a preliminary analysis of indirect land use impacts for proposed projects. The form supplements information on the Part 3--Project Environmental Classification form, specifically items 3, and 33-46.

The steps that follow are designed for cursory analysis, but more detail could easily be added to the answers to the questions posed. An analysts can answer the questions based only on personal knowledge and judgment, or based on research. Sources of information include:

- Field visit/evaluation of proposed study area.
  - Existing land use in the corridor.
  - Amount of vacant land by plan designation within 1/2 mile of the project.
  - Capacity of vacant land in the study area in terms of population and employment.
- Project description (Part 1 of the Prospectus) and preliminary traffic analysis.
- Local plans and policies: land use, water and sewer, transportation. Do the policies support the project? Are services available for development in the project area?
- Interviews with local government staff, realtors, developers and others with knowledge of the study area. Ask how they think the improvement will affect land use in the area.

The following questions allow a preliminary evaluation of indirect impacts based on a number of variables that increase the possibility of land use changes in the project vicinity. The responses are on a scale of 1 to 5 with 1 being less or smaller affects, and 5 being larger affects. More specific guidance can be found in the *Draft Guidebook for Evaluating Indirect Land Use Impacts*.

ESTIMATED INDIRECT LAND USE IMPACTS

1) How big is the transportation improvement? [Review project description (Part 1 of the Prospectus)preliminary traffic analysis. Pay close attention to travel time savings and changes in access. Larger travel time savings, new transportation corridors, and significant amounts of vacant land within 1/2 to one mile of the project suggest a larger potential for indirect impacts. Aggregate change in travel time is the best indicator (travel time savings times number of vehicles). The bigger it is, both absolutely and relative to existing transportation capacity in the study area, the more likely it is to have indirect land use impacts.]

   a) Aggregate change in travel time (absolute and relative)

   Little change ____ Considerable change

   1 2 3 4 5

   b) Estimated project cost

   Lower ____ Higher

   1 2 3 4 5

   c) Length

   Shorter, more localized ____ Longer

   1 2 3 4 5

   d) Number of vehicles/trips affected

   Lower ____ Higher

   1 2 3 4 5

   e) Capacity of project relative to existing capacity in the study area. A project in a developed downtown may have a small relative impact; a project at the urban fringe may have a large one.

   Small percentage ____ Large percentage

   1 2 3 4 5

2) Review local plans and policies: land use, water and sewer, transportation.

a) Do the policies support the project?

Policies do not support project				Policies completely support project
1	2	3	4	5

b) Are services (i.e., water, sewer, electricity, telecommunications) available for development in the project area?

No services are available				All services available
1	2	3	4	5

c) Strength of market demand for development around the project

Weak				Strong
1	2	3	4	5

d) Opinions of local government staff, realtors, developers and others with knowledge of the study area regarding how the improvement will affect land use in the area.

Little impact				Considerable impact
1	2	3	4	5

3) Given the responses to items 1 and 2, how big are the potential indirect land use impacts? The potential magnitude will depend on the size, type, configuration, and location of the transportation improvement, on market forces, and on public policy (land use plans and public facility capacity).

Little impact				Considerable impact
1	2	3	4	5

For a more detailed evaluation of indirect impacts, see the Guidebook, particularly Table 3.2 on page 35.

The answer to item 3, by itself, is not definitive regarding whether a project should be classified as an Action of Type Class 1, 2, or 3. That determination depends on combining the analysis of many different categories of impacts (See the previous Worksheet for Part 3).