

Umatilla County

Transportation System Plan

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with ODOT**

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CHAPTER 150: RESOURCE USE PROTECTION

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§ 150.01 TITLE.

This chapter may be cited as the "County Resource Use Protection Ordinance."
(Ord. 93-01, passed 4-7-93)

§ 150.02 PURPOSE AND INTENT.

(A) It is the purpose of this chapter to protect resource-based economically productive activities of the county in order to assure the continued health, safety and prosperity of its residents. Resource uses sometimes offend, annoy, interfere with or otherwise affect others located on or near resource lands. The county has concluded that persons located on or near resource lands must accept the conditions commonly associated with accepted resource uses.

(B) This chapter is intended to limit the availability of remedies based on nuisance or trespass, complaint procedures, rights of action and claims for relief over which the county has jurisdiction, when they otherwise would either have an adverse impact on resource uses which the county seeks to protect, or would impair full use of the resource base within the county. (Ord. 93-01, passed 4-7-93)

§ 150.03 DEFINITIONS.

For the purpose of this chapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

FACILITY. Any real or personal property, including appurtenances thereto and fixtures thereon, associated with a given use.

FARMING PRACTICES. The cultivation, growing, harvesting, processing or selling of plants or animals of any kind, which lawfully may be grown, possessed and sold, including, but not limited to, livestock, sheep, nursery stock, potatoes, cereal grains, green peas, alfalfa, fruit, grapes, melons, canola, and vegetables.

FOREST PRACTICE. This term has the meaning given by O.R.S. 527.620.

GENERALLY ACCEPTED. This term means either a practice or facility which is conducted or used in compliance with applicable federal and state laws; or, if there is no applicable federal or state law, a practice or facility which an average person in the county who is a grower or producer regularly involved in the same type of resource use would reasonably expect to occur or exist in a truly rural setting. The County Board of Commissioner may, as it deems necessary, establish resource user peer review boards consisting of five persons who regularly are involved in the same type of resource use in question, to advise the Commission as to generally accepted practices or facilities with respect to that resource use.

NONRESOURCE USE. Any facility, activity or other use of land which does not constitute a resource use, including, but not limited to, residential use, and also including any aggregate mining use which is not conducted in accordance with a program complying with Goal 5, adopted by the Oregon Land Conservation and Development Commission.

RESOURCE USE. Any current or future generally accepted aggregate mining, farming, ranching or forest practice or facility conducted in compliance with applicable county land use ordinances. **RESOURCE USE** does not include the willful growing or unlawful, infested, infected or diseased plants or animals; or trespass which involves actual physical intrusion onto the property of another by a person or by a person's animals. (Ord. 93-01, passed 4-7-93)

§ 150.04 PROTECTING RESOURCE USES OUTSIDE UGB.

(A) No resource use occurring outside an urban growth boundary (UGB) shall be declared to be a public or private nuisance or trespass, or support any complaint procedure, or give rise to a claim for relief in favor of, or to protect the interests of, non resource uses or any persons or property associated therewith, to the extent that such right, proceeding or claim would arise under an ordinance or the inherent authority of the county.

(B) This section applies regardless of:

(1) The location of the purportedly affected non resource use.

(2) Whether the non resource use purportedly affected existed before or after the occurrence of the resource use.

(3) Whether the resource use or non-resource use has undergone any change or interruption.

(4) Whether the resource use or non-resource use is located inside or outside an area designated as secondary resource lands.
(Ord. 93-01, passed 4-7-93)

§ 150.05 PROTECTING RESOURCE USES WITHIN UGB.

(A) No resource use occurring within an urban growth boundary (UGB) shall be declared to be a public or private nuisance or trespass, or support any complaint procedure, or give rise to a claim for relief in favor of, or to protect the interests of, non resource uses or any persons or property associated therewith, to the extent that such right, proceeding or claim would arise under an ordinance or the inherent authority of the county.

(B) This section applies:

(1) Regardless of the location of the purportedly affected non resource use.

(2) Only if the resource use predated the purportedly affected non resource use.

(3) Only if the resource use has not significantly increased in size or intensity after the effective date of this chapter, or the date on which the applicable urban growth boundary is changed to include the subject resource use within its limits, whichever date is later. However, if the change is mandated by law, this section shall apply.

(C) In any action or claim for relief alleging nuisance or trespass and arising from a practice that is alleged by either party to be a farming or forest practice, the prevailing party shall be entitled to judgment for reasonable attorney fees and costs incurred at trial and on appeal.

(Ord. 93-01, passed 4-7-93)

§ 150.06 CHANGE IN UGB.

To the extent permissible under state law, if an urban growth boundary (UGB) is changed in such a way as to place a resource use either inside or outside such boundary, § 150.04 of this chapter applies with respect to any conflict between a resource use and non resource use.

(Ord. 93-01, passed 4-7-93)

§ 150.07 LAND USE DECISIONS.

The fact that the County's Comprehensive Plan, development ordinances and land use decisions may allow the siting, development or support of land use decisions may not negate the provisions of this chapter intended to protect a resource use.

(Ord. 93-01, passed 4-7-93)

§ 150.08 COMPLAINTS BY NONRESOURCE USERS.

Any persons engaged in a non resource use are deemed on notice that the county will not act on complaints involving a resource use protected under this chapter, wherever located, so long as such resource use complies with applicable provisions of federal and state laws and this chapter.

(Ord. 93-01, passed 4-7-93)

CHAPTER 151: PLANNING

Section

- 151.01 Comprehensive Plan Technical Report adopted by reference
- 151.02 Comprehensive Plan adopted by reference

§ 151.01 COMPREHENSIVE PLAN TECHNICAL REPORT ADOPTED BY REFERENCE.

The 1980 Comprehensive Plan Technical Report of the county is hereby adopted by reference and incorporated herein as fully as if set out at length in this code of ordinances.
(Ord. passed 5- -80; Am. Ord. passed 9- -82; Am. Ord. passed 6- -84; Am. Ord. passed 9- -84)

§ 151.02 COMPREHENSIVE PLAN ADOPTED BY REFERENCE.

The 1983 Comprehensive Plan of the county, with amendments, is hereby adopted by reference and incorporated herein as fully as if set out at length in this code of ordinances.
(Ord. passed 5-9-83; Am. Ord. passed 8-29-83; Am. Ord. 84-6, passed 6-28-84; Am. Ord. passed 9-6-84; Am. Ord. 85-9, passed 6-12-85; Am. Ord. 85-10, passed 11-6-85; Am. Ord. passed 12-2-87)

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- 152.596 Conveyance of non-conforming use
- 152.597 Alterations or repairs of non-conforming use
- 152.598 Non-conforming lots
- 152.599 Setbacks on non-conforming lots of record
- 162.600 Verification of non-conforming use

Conditional Uses

- 152.610 Definition
- 152.611 New or altered conditional uses;
conformance with requirements;
performance bonds
- 152.612 Procedure for taking action on a conditional
use application
- 152.613 Time limit on a conditional use permit
- 152.614 Limit on reapplication
- 152.615 Additional restrictions
- 152.616 Standards for review of conditional uses

Variances

- 152.625 Authorization to grant or deny variances
- 152.626 Minor variances
- 152.627 Circumstances for granting a variance
- 152.628 Procedure for taking action on a variance application
- 152.629 Time limit on a variance
- 152.630 Limit on reapplication

*Land Divisions**Part 1. General Provisions*

- 152.640 Purpose
- 152.641 Reserved
- 152.642 Prohibition of sales of lots or certain interests prior to recordation of plat, pursuant to O.R.S. 92.025
- 152.643 Classification of lands; land division types
- 152.644 Surveying required
- 152.645 Delegation of authority for land divisions
- 152.646 Proposals designated to land division types
- 152.647 Improvement agreements
- 152.648 Creation of streets, easements and private streets and rights-of-way; minimum standards
- 152.649 Dedication of public land
- 152.650 Bicycle and pedestrian circulation
- 152.651 Subdivision of land in certain zones prohibited unless requirements fulfilled
- 152.652 Variances
- 152.653 Previous approvals

Part 2. Type I Land Division

- 152.665 Review and approval procedure
- 152.666 Contents of tentative plan
- 152.667 Specific criteria for approval of subdivisions in multiple use areas
- 152.668 Public hearing and action
- 152.669 Final plat

Part 3. Type II Land Division

- 152.680 Review and approval procedure
- 152.681 Pre-filing conference
- 152.682 Contents of tentative plans
- 152.683 Review and processing of tentative plan
- 152.684 Standards for approval
- 152.685 Decision on tentative plan
- 152.686 Final partition plat

Part 4. Type III Land Division

- 152.695 Definition; review and approval procedure
- 152.696 Pre-filing conference
- 152.697 Tentative replat plan
- 152.698 Final replat

Part 5. Type IV Land Division

- 152.710 Review and approval procedure; matrix system
- 152.711 Tolerances for acreage categories established by matrix system

Part 6. Type V Land Division

- 152.720 Review and approval procedure
- 152.721 Pre-filing conference; land division application
- 152.722 Standards for approval
- 152.723 Denial
- 152.724 Procedure upon approval
- 152.725 Correcting amendments to plats

Part 7. Type VI Land Division

- 152.735 Review and approval procedure
- 152.736 Pre-filing conference; land division application
- 152.737 Standards for approval
- 152.738 Denial
- 152.739 Procedure upon approval

Amendments

- 152.750 Authorization to initiate amendments
- 152.751 Compliance with Comprehensive Plan
- 152.752 Compliance with Transportation System Plan
- 152.753 Public hearings on amendments
- 152.754 Conditions to amendments
- 152.755 Record of amendments
- 152.756 Limitation on reapplication

Administration and Enforcement

- 152.765 Administration by Planning Director; authorized agents
- 152.766 Appeals
- 152.767 Form of petitions, applications, and appeals
- 152.768 Filing fees; waiver
- 152.769 Administrative review
- 152.770 Public notices
- 152.771 Public hearing requirements
- 152.772 Operation of a public hearing
- 152.773 Hearings Officer
- 152.774 Approval of other agencies
- 152.775 Providing notice to public agencies
- 152.776 Review authority
- 152.777 Imposition of conditions
- 152.778 Time limits on decision-making

Editor's note: *The following list of ordinances contain amendments to this Development Code and have been incorporated into this chapter: 85-7, 87-1, 87-12, 87-13, 89-02, 90-2, 91-06, 93-03, 94-01, 94-19, 99-06, 99-10, 2000-04, 2000-10, 2002-01; 2002-08*

GENERAL PROVISIONS**§ 152.001 TITLE.**

This chapter shall be known as the "County Land Development Ordinance of 1984."
(Ord. 83-4, passed 5-9-83)

§ 152.002 PURPOSE.

The intent of purpose of this chapter is to promote the public health, safety and general welfare and to carry out the County Comprehensive Plan, the provisions of O.R.S. Chapters 92 and 215 and the Statewide Planning Goals adopted pursuant to O.R.S. Chapter 197. This chapter is to establish use zones and regulations governing the development and use of land within portions of the county; to provide regulations governing non-conforming uses and structures; to establish and provide for the collection of fees; to provide to the administration of this chapter and for the officials whose duty it shall be to enforce the provisions thereof; to provide penalties for the violations of this chapter; to provide for conflicts with other ordinances or regulations; and provide classifications and uniform standards for the division of land and the installation of related improvements in portions of the unincorporated area of the county.
(Ord. 83-4, passed 5-9-83)

§ 152.003 DEFINITIONS.

For the purpose of this chapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

ABUT. Adjoining with a common boundary line or property line.

ACCESS. A way or means of approach to provide pedestrian, bicycle, or motor vehicular entrance or exit to a property

ACCESS CLASSIFICATION. A ranking system for roadways used to determine the appropriate degree of access management. Factors considered include

functional classification, the appropriate local government's adopted plan for the roadway, subdivision of abutting properties, and existing level of access control.

ACCESS CONNECTION. Any driveway, street, turnout or other means of providing for the movement of vehicles to or from the public roadway system.

ACCESS MANAGEMENT. The process of providing and managing access to land development while preserving the regional flow of traffic in terms of safety, capacity, and speed.

ACCESSORY USE or STRUCTURE OR DWELLING. A use, structure, or dwelling which is subordinate to and serves a principal building or principal use and is subordinate in area, extent, or purpose to the principal building or principal use served, and contributes to the comfort, convenience, or necessity of occupants of the principal building or principal use, and is located on the same lot as the principal building or principal use.

ACCESSWAY. A walkway that provides pedestrian and bicycle passage either between streets or from a street to a building or other destination such as a school, park, or transit stop. Accessways generally include a walkway and additional land on either side of the walkway, often in the form of an easement or right-of-way, to provide clearance and separation between the walkway and adjacent uses. Accessways through parking lots are generally physically separated from adjacent vehicle parking or parallel vehicle traffic by curbs or similar devices and include landscaping, trees, and lighting. Where accessways cross driveways, they are generally raised, paved, or marked in a manner that provides convenient access for pedestrians.

ADULT BOOKSTORE or ADULT MOVIE THEATER. A retail establishment selling publications and other materials of a sexual nature, or showing films or using other moving picture medium that present material distinguished or characterized by an emphasis on depicting, describing or relating to specified sexual activities,

CHAPTER 1: INTRODUCTION

The Umatilla County Transportation System Plan (TSP) guides the management of existing transportation facilities and the design and implementation of future facilities in Umatilla County for the next 20 years. This Transportation System Plan constitutes the transportation element of the County’s Comprehensive Plan and satisfies the requirements of the Oregon Transportation Planning Rule (TPR) (OAR 660-12-045) established by the Department of Land Conservation and Development. It identifies transportation projects for implementation under a Umatilla County Capital Improvement Program (CIP) and inclusion in the Oregon Department of Transportation (ODOT) Statewide Transportation Improvement Program (STIP).

TSP VISION AND MISSION STATEMENTS WITH GUIDING PRINCIPLES

Mission Statement: Develop and maintain superior transport systems in Umatilla County throughout the millennium.

Vision Statement: Establish and maintain a functional, efficient and effective system for the coordinated transport of people, goods, services, information and data appropriate for current and future needs.

Guiding Principles: (This set of guiding principles will help Umatilla County achieve the above vision and perform the above mission. The Guiding Principles need to be understood and adhered to by all so that our communities are all marching down the same path.)

SAFETY is paramount and it shall not be compromised during the planning, development, maintenance, or improvement of a transport system.

The ECONOMIC viability of Umatilla County’s industries, enterprises, communities, and citizens shall benefit from cost effective, sustainable, and efficient transport systems.

A transport system’s PLANNING CRITERIA WILL CONSIDER the following areas of influence: Community growth, land use planning, multi-modal, Urban Growth Boundary, environmentally sound, dominant use, service-friendly, rural-urban relationship, integrated, accessible, flexible, innovative, and livable.

A transport system’s FUNCTIONALITY shall be politically feasible, equitable, innovative, and have connectivity between systems and communities where feasible.

The TECHNICAL CHARACTERISTICS of a transport system shall consider the present and future volume of utilization, and shall be technologically state-of-the-art and in everyway revolutionary in both design and development.

PLANNING AREA

The planning area for the Umatilla County TSP is shown in Figure 1-1. It primarily covers the rural or unincorporated areas that lie outside the Urban Growth Boundaries (UGBs) of cities and the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). Each individual city within Umatilla County has or is in the process of developing TSPs and implementing ordinances which include the area within their UGBs.

Existing streets and roads within the county fall under several jurisdictions: Umatilla County, the individual cities, the state of Oregon, the Bureau of Indian Affairs (BIA) representing the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), the US Forest Service and the Bureau of Land Management (BLM).

The CTUIR has adopted a separate TSP for reservation lands. Figure 7-8 in Chapter 7 of this plan identifies the CTUIR as District 5 since the majority of its roads are part of the County Road system and maintained by the County Public Works Department. Although several roadway improvement and bridge replacement projects are identified in District 5, the CTUIR TSP has a more detailed list. The inclusion of District 5 in this document is to recognize that there is an overlap in the two TSPs since the majority of roads on the CTUIR are under County jurisdiction.

Umatilla County is located in northeast Oregon occupying an area of 3,231 square miles. The county has a population of 65,500. Pendleton is the county seat and the largest city in the county, with nearly 25 percent of the population. Other major population centers in the county include the city of Hermiston with a population of around 11,000 (approximately 17% of the county total), the city of Umatilla with a population around 3,300 (approximately 5% of the county total), and the Confederated Tribes of the Umatilla Indian Reservation with around 2,100 tribal members (approximately 3% of the county total). The county is bordered by Washington State to the north, Wallowa and Union counties to the east, Grant County to the south, and Morrow County to the west. Portions of eastern and southern Umatilla County lie within the Umatilla National Forest. The elevation at Pendleton is 1,068 feet above mean sea level and several mountains in the county reach elevations of 5,000 to nearly 7,000 feet above mean sea level. The topography blends heavily forested lands with areas described as "high desert." The area only receives about 12 inches of precipitation a year.

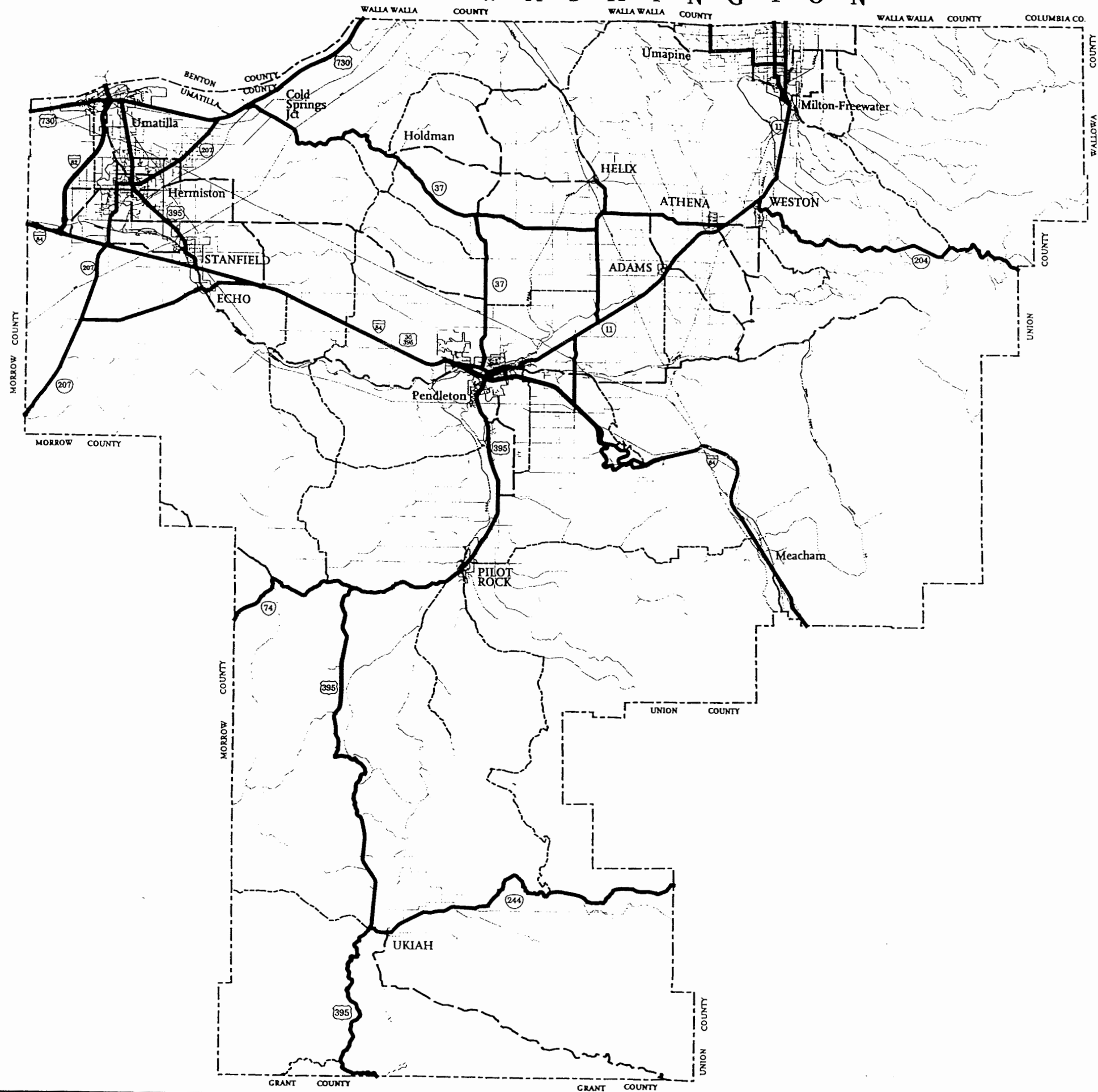
Two interstate highways and 16 state highways which combine to provide nearly 465 highway miles within the county serve Umatilla County. I-84 (Old Oregon Trail Highway) serves as the primary east-west route through the county with additional east-west routes served by: US 730 (Columbia River Highway), US 30 (Pendleton Highway), OR 204 (Weston-Elgin Highway), OR 74 (Heppner Highway), OR 244 (Ukiah-Hilgard Highway), OR 37 (Pendleton-Cold Springs Highway), the Athena-Holdman Highway, and the Sunnyside-Umapine Highway. North-south routes are served by: I-82 (McNary Highway), US 395 (John Day – Burns and Lakeview – Burns Highways), OR 11 (Pendleton – Milton-Freewater Highway), OR 207 (The Hermiston and Lexington-Echo Highways), the Umatilla-Mission Highway, the Havana-Helix Highway, and the Freewater Highway.

Agriculture, food processing, wood products, tourism, manufacturing, and recreation serve as the principal industries within Umatilla County.

PLANNING PROCESS

The Umatilla County Transportation System Plan (TSP) was prepared as part of an overall effort in Umatilla County to prepare TSPs for Umatilla County and eight small municipalities: the cities of Adams, Athena, Echo, Helix, Pilot Rock, Stanfield, Ukiah, and Weston. Each plan was developed through a series of technical analyses combined with systematic input and review by the county, the cities, the management

WASHINGTON



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NORTH

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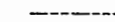



-  INTERSTATE, STATE, OR US HIGHWAY
-  MAJOR COLLECTOR (COUNTY)
-  MINOR COLLECTOR (COUNTY)
-  LOCAL ROAD (COUNTY)
-  URBAN GROWTH BOUNDARY
-  CITY LIMITS

FIGURE 1-1

Umatilla County Vicinity Map

team, the Transportation Advisory Committee (TAC), ODOT, and the public. Although the planning process involved a combined effort, each plan was individualized to each community.

The TAC consisted of staff, elected and appointed officials, residents, and business people from Umatilla County and the eight cities. Key elements of the process include:

- Involving the Umatilla County community (Chapter 1).
- Defining goals and objectives (Chapter 2).
- Reviewing existing plans and transportation conditions (Chapters 3, 4; Appendices A, B, and C).
- Developing population, employment, and travel forecasts (Chapter 5; Appendix D).
- Developing and evaluating potential transportation system improvements (Chapter 6).
- Developing the Transportation System Plan (Chapter 7; Appendix E).
- Evaluating funding options and financial plans (Chapter 8).
- Developing recommended policies and ordinances (Chapter 9).
- Developing a Capital Improvement Plan (Separate Document).

Community Involvement

Community involvement was an integral component in the development of the County's TSP and each of the eight small cities. Since each of the communities needed to address similar transportation and land use issues, a public involvement program involving all the jurisdictions was used. Several different techniques were utilized to involve each local jurisdiction, ODOT, the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) and the general public.

A combined management team and transportation advisory committee (TAC) provided guidance on technical issues and direction regarding policy issues to the consultant team. Staff members from each local jurisdiction and ODOT and a local resident from each community served on the TAC. This group met several times during the course of the project.

The second part of the community involvement effort consisted of community meetings within Umatilla County. The first public meeting was held in June 1998. The general public was invited to learn about the TSP planning process and provide input on transportation issues and concerns. A second public meeting was held in July 1998. The third and final public meeting was held in September 1998. The public was notified of the public meetings through public announcements in the local newspapers and on the local radio station.

Goals and Objectives

Based on input from the county, the management team/TAC, and the community, a set of goals and objectives were defined for the County's TSP. These goals and objectives were used to make decisions about various potential improvement projects. They are described in Chapter 2.

Review and Inventory of Existing Plans, Policies, and Public Facilities

To begin the planning process, all applicable Umatilla County transportation and land use plans and policies were reviewed and an inventory of public facilities was conducted. The purpose of these efforts was to understand the history of transportation planning in Umatilla County, including the road system

improvements planned and implemented in the past, and how the county is currently managing its ongoing development. Existing plans and policies are described in Appendix A of this report.

The inventory of existing facilities catalogs the current transportation system. The results of the inventory are described in Chapter 3, while Chapter 4 describes how the system operates. Appendix B summarizes the inventory of the existing state highway system.

Future Transportation System Demands

The Transportation Planning Rule requires the Transportation System Plan to address a 20-year forecasting period. Future traffic volumes for the existing plus committed transportation systems were projected using ODOT's *Level 1 – Trending Analysis* methodology. The overall travel demand forecasting process is described in Chapter 5.

Transportation System Potential Improvements

Once the travel forecasts were developed, it was possible to evaluate a series of potential transportation system improvements. Potential transportation improvements were evaluated based on a qualitative review of safety, environmental, socioeconomic, and land use impacts, as well as estimated cost. These improvements were developed with the help of the management team, and they attempt to address the concerns specified in the goals and objectives (Chapter 2). After evaluating the results of the potential improvements analysis, a series of transportation system improvements were selected. These recommended improvements are described in Chapter 6.

Transportation System Plan

The Transportation System Plan addresses each mode of transportation and provides an overall implementation program. The road system plan was developed from the forecasting and potential improvements evaluation described above. The bicycle and pedestrian plans were developed based on current usage, land use patterns, and the requirements set forth by the Transportation Planning Rule. The public transportation, air, water, rail, and pipeline plans were developed based on discussions with the owners and operators of those facilities. All modal plans were written to be consistent with statewide policies including Planning Goal 12. Chapter 7 details the plan elements for each mode.

Funding Options

Umatilla County will need to work with ODOT and the incorporated jurisdictions to finance new transportation projects over the 20-year planning period. An overview of funding and financing options that might be available to the community are described in Chapter 8.

Recommended Policies and Ordinances

Suggested Comprehensive Plan policies and implementing zoning and subdivision ordinances are included in Chapter 9. These policies and ordinances are intended to support the TSP and satisfy the requirements of the Transportation Planning Rule (TPR).

Capital Improvement Plan

In the interests of the County Board of Commissioners and the numerous communities represented within Umatilla County, the Capital Improvement Plan (CIP) for the county has been developed as a separate document to the TSP. Typically, the CIP is contained within the TSP but the Board of Commissioners has decided to adopt the CIP under a separate resolution, so that the projects outlined in this plan may be updated and prioritized on an annual basis.

RELATED TRANSPORTATION PLANS AND STUDIES

The Umatilla County TSP addresses the regional and rural transportation needs in the county. There are several other plans and studies, some complete and others in-process, which address specific transportation needs in Umatilla County. The needs identified within completed plans and studies were reviewed for relevance to the Umatilla County TSP process and, if applicable, were integrated into the county plan. Other transportation needs identified in on-going studies and plans were also reviewed and, depending on the current status of these plans, were incorporated into this report.

In-Process or Completed Transportation System Plans

David Evans and Associates, Inc. (DEA) has recently (1999) completed a TSP for the city of Milton-Freewater. Kittelson and Associates, Inc. is also preparing a similar plan for the city of Umatilla. DEA also prepared a TSP for the city of Hermiston in May 1997, and a TSP was previously prepared for the city of Pendleton, also by Kittelson and Associates, Inc. The city TSPs address the needs of the community within each Urban Growth Boundary (UGB). They provide road standards, access management standards, and modal plans. In some cases, a project or need may be identified in a city TSP that involves a county facility or perhaps extends beyond the city's UGB. These projects and needs must be addressed in the Umatilla County TSP as well. Examples of such projects include:

- Construction of a new bridge over the Umatilla River either along an extension of Punkin Center Road or Elm Avenue in Hermiston. (Hermiston and Umatilla County TSPs).
- Roadway improvements along Powerline Road between US 730 and I-82. (Umatilla and Umatilla County TSPs).
- Roadway improvements along SW Hailey Avenue in Pendleton, and the need for a road from the Pendleton Airport to the Barnhart Road interchange with I-84. (Pendleton and Umatilla County TSPs).

Other In-process or Completed Plans

The following references were reviewed for relevance to the Umatilla County TSP process and to ensure the Umatilla County TSP was compliant with existing applicable plans.

Umatilla County Comprehensive Plan

The Umatilla County Comprehensive Plan was written in 1983 to meet the statewide requirements for planning. It was last amended in 1987. The plan is broken into three sections: the Introduction; Plan Elements – Findings, Recommended Policies; and the Plan Map. The Plan Elements section is broken into sections dealing with the fourteen goals. This includes a Transportation Element with findings and recommended policies. A more detailed review of this reference is provided in Appendix A.

Umatilla County Development Code

The Umatilla County Development Ordinance was adopted in 1983, and last amended in November of 1991. In 1997 this ordinance was recodified and retitled as Chapter 152 Development Code. The portions of the code most relevant to the Transportation System Plan include sections on off-street parking requirements, driveways, and road standards. Amendments to the development code include road standards for county roads. A more detailed summary of this referenced document is provided in Appendix A.

Development Ordinance for the Confederated Tribes of the Umatilla Indian Reservation

The Land Development Code for the Confederated Tribes of the Umatilla Indian Reservation was adopted in 1983. The Ordinance contains 19 chapters covering each land use zone, supplementary development standards, and administration. The only section that directly applies to the transportation system is the sections on off-street parking. A more detailed summary of this reference is provided in Appendix A.

US 395 Corridor Strategies

The US 395 corridor is covered in two studies: *the US Highway 395 North (Umatilla-Stanfield) Draft Corridor Strategy* prepared in 1997 and the *US Highway 395 South (Pendleton-California Border) Corridor Strategy* prepared in 1996. The *Corridor Strategies* were developed to identify projects for the Oregon State Transportation Improvement Program (STIP). Generally, the *Corridor Strategies* translate the policies of the Oregon Transportation Plan (OTP) into specific actions; describe the functions of each transportation mode, consider trade-offs, and show how they will be managed; identify and prioritize improvements for all modes of travel; indicate where improvements should be made; resolve any conflicts with local land use ordinances and plans; and establish guidelines for how transportation plans will be implemented. A more detailed review of this reference is provided in Appendix A.

The *US 395 Corridor Strategies* contain a corridor overview that includes population and employment forecasts, highway data such as traffic volumes and pavement conditions and descriptions of other modes of travel (air, rail, bicycle, etc.). The overall corridor strategy is to, “accommodate efficient movement of through travel, while maintaining environmental integrity, enhancing travel safety and supporting economic development.” The reports set forth objectives which are intended to embody this overall strategy for the corridor, and to set direction and provide guidance for corridor-wide transportation plans and improvements.

US 395 North Corridor Plan

Corridor planning is a new approach to transportation planning in which ODOT and the communities bordering major transportation corridors work together to create plans for managing and improving transportation modes along entire corridors. The US 395 Corridor Plan prepared by OTAK, Inc. and Kittelson and Associates, Inc., covers a section of US 395 extending from the city of Echo (south of I-84) to US 730 in the city of Umatilla. This plan addresses transportation system improvement projects and an access management plan for the entire US 395 north corridor. The Corridor Plan builds upon the US Highway 395 North (Umatilla-Stanfield) Draft Corridor Strategy prepared in 1997.

OR 11 Corridor Plan

The OR 11 Corridor Plan is currently being prepared by David Evans and Associates, Inc. for the Oregon – Washington Highway (OR 11) which is the major north-south route through eastern Umatilla County. The OR 11 Corridor Plan includes objectives that define the policy direction for all modes in the Corridor, as well as for several functional issues such as connectivity, congestion and environmental and energy impacts. The plan includes a list of projects prioritized by funding. The Corridor Plan projects are derived from the county and local TSPs, the Milton-Freewater to Stateline Land Use and Transportation Plan, the STIP, the Umatilla County Needs Assessment, as well as input from the project management team, technical advisory committees and the public. Projects and strategies focus on managing the highway to minimize congestion

and improve connectivity while ensuring safety.

Milton-Freewater Stateline Highway 11 Corridor Land Use and Transportation Plan

The *Milton-Freewater Stateline Highway 11 Corridor Land Use and Transportation Plan* is a refinement plan for the OR 11 Corridor which focuses on the OR 11 Corridor between Milton-Freewater and Stateline Road. The plan was a cooperative effort of Umatilla County, the city of Milton-Freewater, and the Oregon Department of Transportation. It was developed by planning consultants at David Evans and Associates, Inc., with input from these jurisdictions, the local residents, Walla Walla County, and the Washington Department of Transportation. The plan was prepared in 1997 and evaluated existing and projected conditions within the corridor regarding basic layout and connectivity; conditions of transportation facilities, land use, and population and employment. It analyzed existing deficiencies and proposed strategies for addressing them. The primary deficiencies in the corridor were physical design of facilities, insufficient access control, and inadequate or nonexistent facilities for pedestrians and bicyclists. Recommended actions to improve these corridor conditions include policy and ordinance amendments and transportation system improvements.

Airport Master Plans

The *1986 Hermiston Municipal Airport Master Plan Update* provides a comprehensive analysis of the Hermiston Airport including an inventory of facilities, a discussion of use for a twenty year planning period (ending in 2006), and recommendations for facility improvements. The introduction of the plan also provides a good overview of all the major transportation facilities serving Hermiston and northeast Oregon. This plan was recently updated by Aaron Fagre & Associates.

The primary objective of the *Master Plan Update for Eastern Oregon Regional Airport at Pendleton* was to re-evaluate the recommendations of previous airport planning studies, to determine the long-range requirements for airport development, to identify and assess development alternatives, and to produce an airport development/improvement plan that will yield a safe, efficient, economical, and environmentally acceptable public facility with capacity for future air transport needs of the eastern Oregon area. When approved by the various local, regional, state, and federal agencies, the Airport Master Plan represents the long-term intentions of all agencies regarding the location and extent of airport improvements. This permits long-range programming and budgeting, reduces lengthy review periods for each project, and provides for orderly and timely development. A more detailed summary of this reference is provided in Appendix A.

Traffic Impact Analysis

A Traffic Impact Analysis for the Wal-Mart Distribution Center, located on 220 acres in rural Umatilla County, approximately 1 1/2 miles north of Stanfield, and 2 miles south of Hermiston was prepared in October 1994, and revised in August 1995. The project includes a distribution center with approximately 1.2 million square feet of floor area and paved parking, receiving and shipping areas. Traffic generated is estimated at about 700 trucks per day and about 300 passenger vehicles per day. The purpose of the study was to assess the traffic impact of the proposed development on the nearby road system and to recommend any required mitigation measures. Primary roadways impacted by the development include: Feedville Road, US 395, US 730, I-82, and I-84. A more detailed summary of the report findings is available in Appendix A of this TSP.

Other State Plans

In addition to the ODOT corridor strategy, coordination with the following state plans is required:

- Oregon Transportation Plan (1992)
- Oregon Highway Plan (1999)
- Oregon Bicycle and Pedestrian Plan (1995)
- Oregon Public Transportation Plan (1996)

- Oregon Rail Freight Plan (1994)
- Oregon Rail Passenger Policy and Plan (1992)
- Oregon Traffic Safety Action Plan (1995)
- Oregon Aviation System Plan (in development).

CHAPTER 2: GOALS AND OBJECTIVES

The purpose of the TSP is to provide a guide for Umatilla County to meet its transportation goals and objectives. The following goals and objectives were developed from information contained in the county's comprehensive plan and reflect public concerns expressed during public meetings. An overall goal was drawn from the plan, along with more specific goals and objectives. Throughout the planning process, each element of the plan was evaluated against these parameters.

OVERALL TRANSPORTATION GOAL

To provide and encourage a safe, convenient, and economic transportation system.

Goal 1

Preserve the function, capacity, level of service, and safety of the local streets, county roads, and state highways.

Objectives

- A. Develop access management standards.
- B. Develop alternative, parallel routes.
- C. Promote alternative modes of transportation.
- D. Promote transportation demand management programs.
- E. Promote transportation system management.
- F. Develop procedures to minimize impacts to and protect transportation facilities, corridors, or sites during the development review process.

Goal 2

Ensure that the road system within the county is adequate to meet public needs, including those of the transportation disadvantaged.

Objectives

- A. Develop a countywide transportation plan.
- B. Meet identified maintenance level of service standards on the county and state highway systems.
- C. Evaluate the transportation needs and land use characteristics of the unincorporated communities within the county to ensure adequate mobility for these areas.
- D. Develop and adhere to a 20-year road program for maintenance and improvement of the existing county road system (including bridges).
- E. Review and revise, if necessary, road cross-section standards for local, collector, and arterial roads to enhance safety and mobility.
- F. Work with ODOT to develop access management strategies for Highways US 395, US 730, OR 11, OR 37, OR 74, OR 204, OR 207, OR 244, and Highways 332, 334, 335, and 339.
- G. Evaluate the need for traffic control devices, particularly along the highways.
- H. Evaluate areas where safety is a concern.

- I. Use the development review process to protect future right of way and to ensure roadway improvements are provided in a timely manner and are constructed to county standards.

Goal 3

Improve coordination among the cities of Umatilla County, the Oregon Department of Transportation (ODOT), the US Forest Service (USFS), the Federal Highway Administration (FHWA), and the county.

Objectives

- A. Promote county concerns with USFS regarding road matters, including the construction of permanent roads in conjunction with timber sales.
- B. Cooperate with ODOT in the implementation of the Statewide Transportation Improvement Program (STIP).
- C. Work with cities in establishing right of way needed for new roads identified in the transportation system plans.
- D. Take advantage of federal and state highway funding programs.
- E. Encourage the federal government to improve the existing road system and bridges within the National Recreation Area.
- F. Continue to work with cities planning for the county land within their urban growth boundaries.
- G. Seek notification of special hazardous materials shipment for county review, comment, and possible control.
- H. Work with Umatilla Army Depot on any emergency evacuation plans for possible chemical weapons accidents.

Goal 4

Increase the use of alternative modes of transportation (walking, bicycling, and public transportation) through improved access, safety, and service.

Objectives

- A. Support existing public transit and seek additional opportunities.
- B. Provide sidewalks or shoulders and safe crossings on collectors and arterials.
- C. Amend and implement a county bicycle plan.
- D. Seek Transportation and Growth Management (TGM) and other funding for projects evaluating and improving the environment for alternative modes of transportation.
- E. Continue to encourage large employers to sponsor carpooling programs.

Goal 5

Support efforts to maintain the airport facilities for commercial, small aircraft, and charter services.

Objectives

- A. Encourage the state and local municipalities to improve and maintain airport facilities.

- B. Continue to cooperate with cities to protect airports from incompatible neighboring land uses through the use of airport hazard overlay zones and joint management agreements with the cities.
- C. Cooperate with airport master planning efforts.
- D. Incorporate airport master plans into local comprehensive plans.
- E. Provide good overland access to important air facilities. In particular, consider designating an arterial road classification from the Barnhart Road interchange on I-84, to the industrial park near the Pendleton Airport.

Goal 6

Encourage the continued and improved rail transportation of goods and reinstatement of rail passenger service.

Objectives

- A. Encourage the preservation and reactivation of existing lines and rail company service.
- B. Support efforts to reinstate passenger service by Amtrak through the county.

Goal 7

Encourage continued and improved water transportation of goods.

Objectives

- A. Promote development and expansion of the Port of Umatilla.
- B. Support the Port of Umatilla by maintaining good overland transportation access to the port.

Goal 8

Encourage continued and improved pipeline transportation of goods.

CHAPTER 3: TRANSPORTATION SYSTEM INVENTORY

As part of the planning process, DEA conducted an inventory of the existing transportation system in Umatilla County. This inventory covered the roadway system as well as the pedestrian, bikeway, public transportation, rail, air, water, and pipeline systems.

ROADWAY SYSTEM

The most common understanding of transportation is of roadways carrying cars and trucks. Most transportation dollars are devoted to building, maintaining, or planning roads to carry automobiles and trucks. The mobility provided by the personal automobile has resulted in a great reliance on this form of transportation. Likewise, the ability of trucks to carry freight to nearly any destination has greatly increased their use.

Encouraging the use of cars and trucks must be balanced against costs, livability factors, the ability to accommodate other modes of transportation, and negative impacts on adjacent land uses; however, the basis of transportation in all American cities is the roadway system. This trend is clearly seen in the existing Umatilla County transportation system, which consists almost entirely of roadway facilities for cars and trucks. The road system will most likely continue to be the basis of the transportation system for the 20-year planning period; therefore, the emphasis of this plan is on improving the existing road system for all users.

The existing road system inventory reviewed all interstate, state, and US highways, and the primary county roads that are within the Transportation System Plan planning area. Appendix B contains a complete inventory of all highways in the county. Inventory elements include:

- road classification and jurisdiction;
- road width;
- number of travel lanes;
- presence of on-street parking, sidewalks, or bikeways;
- speed limits; and
- general pavement conditions.

Detailed information on county roads is presented in Chapter 4.

ROADWAY CLASSIFICATION

The roads in the unincorporated or rural areas of Umatilla County fall under five jurisdictions: State, county, US Forest Service (USFS), Bureau of Land Management (BLM) and Bureau of Indian Affairs (BIA). The state highways generally function as major or principal arterials through the county. At the time this TSP was drafted, county roads were divided into four basic classification levels based on whether they are located in urban areas, suburban areas or rural areas: arterials, collectors, minor streets, or local roads. These, previous County Road Design Standards are described in Figure 7-1 in Chapter 7. The future road functional classifications and road design standards recommended by this TSP are described in Figure 7-2. The USFS and BLM roads are broken down into different "maintenance levels" based on their function, physical condition, and use. BIA roads are located on the Confederated Tribes of the Umatilla Indian Reservation and generally function as local roads. The functional classification of these roads will be addressed in an upcoming transportation plan for the reservation.

State Highways, USFS Roads, BLM Roads, BIA Roads

In terms of the roadway system, the primary focus of this plan is on county owned roadways. Consequently, inventory information pertaining to the state highways is located in Appendix B, and information on UFSF and BLM roads has been placed in Appendix C. An inventory of BIA roads in the county will be covered in the CTUIR transportation plan for the reservation.

County Roads

Although the state highways form the backbone of the county's roadway system, county roads are an important part of the circulation system.

Description

Umatilla County has 439 roads under its jurisdiction covering more than 1,620 miles. These roadways are an integral part of the transportation system. In addition to providing alternate or more direct routes than the state highways, they also serve rural areas, connecting them with each other, state highways, and cities.

The Umatilla County Roadway Department maintains detailed maps of all roads in the county under its jurisdiction. These maps were last updated in 2001 and include details such as roadway jurisdiction, county road numbers and whether county roads are paved, gravel-based, dirt or primitive.

Maintenance

The Umatilla County Road Department completes a visual survey of the county road system each spring. The roads determined to be deficient are then repaired by chip sealing in August. Over the past five years, the county has chip sealed an average of 74 miles of roadway per year. The county is currently working on a program to make their maintenance process more efficient.

Bridges

Umatilla County has 260 bridges which are included in the state bridge inspection inventory. Currently, 17 county-owned bridges are identified as structurally deficient, including:

- Bridge #59C069 on Birch Creek Road over the Umatilla River
- Bridge #59C119 on South Juniper Canyon over South Fork Juniper Canyon
- Bridge #59C145 on South Fork Cold Springs Road over South Fork Cold Springs
- Bridge #59C164 on Van Sycle over Van Sycle Canyon
- Bridge #59C203 on South Edwards Road over Stage Gulch Ditch
- Bridge #59C025 on Stage Gulch Road over US Feed Canal
- Bridge #59C209 on Bartley Road over US Feed Canal
- Bridge #59C212 on Cooper Road over US Feed Canal
- Bridge #59C213 on Loop Road over Stanfield Drainage Ditch
- Bridge #59C325 on Emert Road over Hunt Ditch
- Bridge #59C358 on County Road 979 over Wild Horse Creek
- Bridge #59C401 on Wild Horse Road over Wild Horse Creek
- Bridge #59C421 on Sams Road over Dry Creek
- Bridge #59C529 on County Road 708 over Pine Creek
- Bridge #59C535 on Pit Road over Pine Creek

- Bridge #59C542 on Schrimpf Road over Pine Creek
- Bridge #59C562 on Gerking Road over Gerking Flat

Twenty more are identified as functionally obsolete, including:

- Bridge #59C001 on SW Quinney Avenue over McKay Creek
- Bridge #59C065 on Yellow Jacket Road over West Birch Creek
- Bridge #59C093 on Nolin Bridge over the Umatilla River
- Bridge #59C099 on Cunningham Road over the Umatilla River
- Bridge #59C111 on County Road 983 over the Umatilla River
- Bridge #59C198 on Townsend Road over "A" Line Canal
- Bridge #59C227 on SE 10th Street over "A" Line Canal
- Bridge #59C231 on North Ott Road over "A" Line Canal
- Bridge #59C356 on Wild Horse Road over Wild Horse Creek
- Bridge #59C422 on Steen Road over Dry Creek
- Bridge #59C440 on MF Cemetery Road over the Walla Walla River
- Bridge #59C455 on Nursery (eastside) over Walla Walla River
- Bridge #59C483 on Birch Creek Road over Walla Walla River
- Bridge #59C568 on County Road 825 over Wild Horse Creek
- Bridge #59C703 on Thiesen Road over Furnish Ditch
- Bridge #59C705 on Rieth Road over US Feed Canal
- Bridge #59C706 on Rieth Road over Furnish Ditch
- Bridge #59C708 on Rieth Road over Furnish Ditch
- Bridge #59C721 on Rieth Road over Furnish Ditch
- Bridge #59C752 on Rieth Road over Furnish Ditch

There are 22 county bridges, which have sufficiency ratings less than 55 which were not identified as either being structurally deficient or functionally obsolete. These include:

- Bridge #59C018 on County Road 1061 over Dry Gully
- Bridge #59C081 on County Road 1411 over Bear Creek
- Bridge #59C117 on County Road 983 over North Fork Cold Spring
- Bridge #59C206 on County Road 1183 over Furnish Ditch
- Bridge #59C222 on County Road 1201 over Furnish Ditch
- Bridge #59C226 on County Road 1219 over Ma Well Ditch
- Bridge #59C229 on County Road 1217 over IRR Canal
- Bridge #59C240 on County Road 1197 over IRR Ditch
- Bridge #59C241 on County Road 1251 over IRR Canal
- Bridge #59C264 on County Road 1250 over North Canal
- Bridge #59C280 on County Road 1196 over Ma Well Ditch

- Bridge #59C284 on Lloyd Road over Ma Well Ditch
- Bridge #59C286 on County Road 1191 over "A" Line Canal
- Bridge #59C287 on County Road 1187 over Ma Well Ditch
- Bridge #59C312 on County Road 1231 over Westland A Canal
- Bridge #59C407 on County Road 641 over Hay Creek
- Bridge #59C457 on County Road 550 over Dry Gully
- Bridge #59C572 on County Road 844 over Greasewood Creek
- Bridge #59C581 on County Road 814 over Sand Hollow
- Bridge #59C628 on County Road 953 over Greasewood Creek
- Bridge #59C726 on IRR River Road over Meacham Creek
- Bridge #59C727 on IRR River Road over the Umatilla River

Four of the bridges rated as structurally deficient have been identified under the ODOT 2000-2003 STIP Update. County Bridge #59C212, #59C358 and #59C535 are scheduled for replacement in fiscal year 2001 at approximate costs of \$182,000, \$425,000, and \$549,000, respectively. County Bridge #59C542 is scheduled for replacement in fiscal year 2002 at an estimated cost of \$340,000.

One bridge rated as functionally obsolete (#59C001) has been identified for replacement in the 2001-2003 STIP Update in fiscal year 2001, at an estimated cost of \$655,000.

PEDESTRIAN SYSTEM

The most basic transportation option is walking. Walking is the most popular form of exercise in the United States and can be performed by people of all ages and all income levels. However, it is not often considered as a means of travel. This is mainly because pedestrian facilities are generally an afterthought, which are not planned as an essential component of the transportation system.

The majority of pedestrian traffic in the county is found within the cities. Most of the cities contain a downtown grid layout with some sidewalks. There is little, if any, demand for pedestrian facilities between the cities. Attempts to encourage people to walk the sometimes long distances between these destinations would likely be ineffective.

The only pedestrian facilities that exist outside of the cities are the many hiking trails found in recreation areas. These trails are concentrated in the Meacham and Tollgate areas in eastern Umatilla County.

BIKEWAY SYSTEM

Like pedestrians, bicyclists are often overlooked when considering transportation facilities. However, cycling is a very efficient mode of travel. Bicycles take up little space on the road or parked, do not contribute to air or noise pollution, and offer relatively higher speeds than walking.

Bicycling should be encouraged for short trips in order to reduce some of the negative aspects of urban growth and automobile use. Noise, air pollution, and traffic congestion could be mitigated if more short trips were taken by bicycle or on foot. Typically, a short trip that would be taken by bicycle is around two miles; on foot, the distance commonly walked is around 1/2 mile.

The only designated bikeways within Umatilla County are located within the cities of Pendleton, Hermiston, Pilot Rock, Stanfield, and Echo. Pendleton has a fairly extensive bike system in its downtown. Bicycle

lanes are provided on many of the arterials including US 395 south of the I-84 interchange. Hermiston has 1.3 miles of roads with striped bike lanes and two multi-use paths. Pilot Rock has a multi-use path on the east side of US 395 between Alder Street and 4th Street and bike lanes on Cedar Street between Delwood Street and the last mill near the city limits. Stanfield has an asphalt path and sidewalk on the west side of Main Street between Rosalyn Drive and Harding Avenue. Echo has a short multi-use asphalt path connecting Thielsen Street and Buckley Street. In addition, Milton-Freewater is currently pursuing a grant to study the feasibility of creating a multi-use path connecting Milton-Freewater to Walla Walla, Washington, along the Highway 11 corridor.

Umatilla County currently has no sanctioned bikeways. On low volume roadways, bicyclists, and autos can both safely and easily use the roadway. On higher volume roadways, particularly the arterial streets, safety for bicyclists is an important issue.

While the cities do see some recreational users, the majority of them are found on state and county roads. Bicycle traffic does exist between the cities and an improvement in facilities would help to support and increase this use. Back roads near Helix, Adams, and Athena are often used for recreational bicycle use, and there have been bicycle races near Helix.

PUBLIC TRANSPORTATION

The only intercity bus service in Umatilla County is provided by Greyhound Bus Lines which provides service along Highway I-84, US 395, and Oregon 11 within Umatilla County. Greyhound has terminals located in Hermiston and Pendleton which connect these cities to each other and major population centers outside of the county. The Hermiston terminal has two departures heading southeast (with stops in Pendleton, La Grande, Boise, and Salt Lake City); three buses running west to Portland; and two buses heading north on US 395 to Pasco and Spokane daily. The Pendleton terminal has three departures southeast (with stops in La Grande, Boise, and Salt Lake City); three departures west to Portland; and two departures north to Seattle via Walla Walla, Pasco, and Spokane daily. The line to Seattle could serve Milton-Freewater as it runs through the city along Oregon Highway 11.

Pendleton, Hermiston, Pilot Rock, and the Confederated Tribes of the Umatilla Indian Reservation have dial-a-ride type transit service available for the transportation disadvantaged. Dial-a-ride service is defined as door-to-door service initiated by a user's request for transportation service from their origins to specific locations on an immediate or advance reservation basis. These services are provided by Elite Taxi Service in Pendleton, the Confederated Tribes of the Umatilla Indian Reservation on the Umatilla Indian Reservation, the Hermiston Senior Center in Hermiston, and the Pilot Rock Lions Club in Pilot Rock.

Other transportation services in the county include taxi-subsidy and charter services. A taxi-subsidy program involves a user subsidy under which vouchers are sold or given to eligible riders who are able to call and receive service from a participating taxi operator. The vouchers are provided in lieu of fare and are then submitted to the funding agency for redemption. Pendleton has a taxi-subsidy service provided by Elite Taxis, Inc. Charter services are provided in Pendleton and Milton-Freewater by Mid Columbia Bus Company and in Hermiston by School Bus Services, Inc.

ODOT records show that 143,950 total transit trips occurred within Umatilla County in the 96-97 fiscal year. Of these, 80,877 (56 %) were trips taken by elderly and disabled passengers. The state provides funding for transportation assistance for elderly and disabled passengers. The state allocated \$84,126 in Special Transportation Funds (STF) to the county in 96-97. The total cost of providing services was \$209,216 that year. The average cost per ride was \$1.45, compared to \$1.75 for the last six fiscal years.

The only fixed-route service in the county is within the city of Milton-Freewater and between Milton-Freewater and Walla Walla. Valley Transit formerly provided this service with relatively high ridership, but

discontinued operations due to a lack of funding. After extensive work on the part of the city of Milton-Freewater, funding and a suitable transit provider were located to reinstate the service. Consequently, as of December 1998, Gnat Enterprises has provided fixed-route bus service four days a week within the city and between Milton-Freewater and Walla Walla via OR 11.

The following table provides a summary of the transportation service providers operating within Umatilla County.

**TABLE 3-1
TRANSIT PROVIDERS IN UMATILLA COUNTY**

Service Provider	Service Area	Service Type	Estimated Ridership (96-97)	Major Revenue Sources
Betah Enterprises	Echo, Stanfield, Umatilla, Hermiston	Client Transportation	NA	16 (B)(2)
Bethphage Mission West, Inc.	Pendleton	Fixed Route, Client Transportation	No service in 1996-97. 5,431 trips in 1995-96.	16(B)(2) , STF
Confederated Tribes of Umatilla	Umatilla Tribe Reservation	Dial-a-ride, Volunteer Driver Program, Client Transportation	392 total trips.	STF
Foster Grandparents/SR Companions	Umatilla County	Dial-a-ride, Volunteer Driver Program	8,465 total trips.	STF
Greyhound Bus	Stops in Hermiston and Pendleton to Boise, Salt Lake, Portland, Seattle	Intercity Bus	NA	Fares, Package Service
Hermiston Senior Center	Hermiston Area	Demand Response, Dial-a-ride, Fixed Route, Meal Site Transport	3,482 total trips.	16(B)(2), STF
Horizon Project	Milton-Freewater /Walla Walla	Client Transportation	82,995 total trips.	STF
City of Milton-Freewater	Milton-Freewater /Walla Walla	Taxi-Ticket, Fixed Route/Intercity*	6,064 total trips. (*Valley Transit stopped serving Milton-Freewater in 1997.)	S18, STF, Fares
Pendleton Senior Center, CAPECO	Pendleton	Dial-a-ride	No trips in 96-97. 2,998 trips in 95-96.	STF
City of Pendleton (Elite Taxis)	Pendleton	Taxi-ticket	18,008 total trips.	S18, STF
Pilot Rock Lions Club	Corp. City Limits out to 5 miles	Dial-a-ride	NA	STF
RSVP of Eastern Oregon	Umatilla County	Dial-a-ride	35 total trips.	STF
Umatilla County Mental Health Program	Umatilla County	Dial-a-ride, Taxi-ticket	No trips in 1996-97.	STF

RAIL SERVICE

Passenger Rail

Until recently, the Amtrak Pioneer line provided passenger service to and from Hermiston and Pendleton four days a week. The line from Portland continued on to other eastern Oregon cities such as La Grande and

Baker City as well as cities further east outside of Oregon, such as Boise, Ogden, Denver, and Chicago. Amtrak is currently experiencing a funding crisis. As a result, passenger service between Portland and Denver, including service to cities within Umatilla County, was discontinued in May 1997. Passenger rail is an important form of transportation. With highway funding limited and an extensive rail infrastructure already in place in the county, the reinstatement of Amtrak service should be supported.

Freight Rail

A majority of the freight rail lines in Umatilla County are owned and operated by Union Pacific Railroad (UPRR), a Class I line-haul freight railroad. Active UPRR rail lines pass through several cities in the county including Hermiston, Umatilla, Stanfield, Echo, Pendleton, and Pilot Rock.

The Hinkle Yard south of Hermiston is a major maintenance and repair facility. At present, the Hinkle Yard handles 794 rail cars a day. This includes fueling, switching, and assembly activities. With the recent merger of the Southern Pacific and Union Pacific Railroads, rail traffic is expected to increase by 43 percent at the Hinkle Yard. In addition, the rail yard was recently precertified to receive Enterprise Zone benefits in order to attract a maintenance facility. The facility is expected to add up to 200 new jobs to the Hinkle Yard in the near future. From the Hinkle Railyard area, the Spokane main line carries 10 trains per day through Hermiston, with most trains being 70 cars or less. The Port of Umatilla is served by the Umatilla branch line and sends one train per day of 10 cars or less through Hermiston.

Around 21 to 26 trains per day (roughly one per hour) pass through the west side of Stanfield and through the heart of Echo. Stanfield has not expressed any crucial concerns over rail activity within the city, but the city of Echo has several concerns that should be addressed. Issues range from the unsightliness of the landscaping along the mainline ROW, the storage of rail cars along spur lines, safety for pedestrians when crossing the main line, and response time for emergency vehicles that need to cross the rail line.

Thirty-five trains per day pass through Pendleton on the UPRR main line. These trains vary in size with the longest being up to 90 cars in length. Tracks in the western portion of Pendleton are maintained by the Hinkle Yard in Hermiston. Tracks in the Eastern part of Pendleton are maintained by the office in La Grande. In addition, a freight line runs between Pendleton to Pilot Rock two to three times per week.

There is rail service between Milton-Freewater and Weston on the Blue Mountain Railroad consisting of one freight train per day (maximum) or some local switching. Train service connects to the UPRR at Wallula Junction, Washington via Walla Walla.

There is no rail service in Adams, Athena, Helix, or Ukiah, although some of these cities have inactive or abandoned facilities near or within them.

AIR SERVICE

There are many airport facilities that serve Umatilla County: Eastern Oregon Regional Airport in Pendleton, Hermiston Municipal Airport in Hermiston, Buttercreek Airport and Walla Walla Airport in Walla Walla, Washington.

Eastern Oregon Regional Airport in Pendleton is a tower controlled airport which had 40,600 annual operations in 1993 with 9,681 total enplanements (persons boarding and deboarding) and 68 based aircraft. It is the only primary service airport in Northeast Oregon and serves the counties of Baker, Grant, Umatilla, Morrow and Union. The existing facility consists of a 6,301-foot primary runway and two crosswind runways. Passenger service includes 15 scheduled flights per day by Horizon Airlines, with flights to Portland and Seattle. The airfield is also home to 60 locally owned fixed-wing aircraft, four rotor, and eight CH-47 Chinook helicopters with the Oregon Army Air Guard.

The city of Pendleton has established zoning regulations to protect airspace around the airport by designating an Airport Hazard Subdistrict (AHS). The area of influence will not impact future highway developments along US 30 or I-84 to the south. The county has also established an Airport Hazard Overlay (AH-8) zone around the Pendleton Airport to protect airspace.

The city of Hermiston owns and operates a municipal airport. No regularly scheduled commercial flights are available at the present time, but there is charter service available. The Hermiston Municipal Airport is located 1.5 miles from downtown Hermiston and had 12,380 annual operations in 1995 with about 40 based aircraft. The airport is at an elevation of 641 feet above mean sea level and has one runway which is 4,500 feet long and positioned in a northeast-southwest direction. The airport is often used by businesses such as Simplot, Gilroy foods, Les Schwab Tires, UPS, and other large organizations such as PGE, Bonneville Power, and the Army Corps of Engineers. There is an agricultural spray operation based at the airport, and local residents also use the airport for recreational purposes. The county has established an Airport Hazard Overlay (AH-H) zone around the Hermiston Airport to protect airspace.

Other airports in the county include: Barrett Field northwest of Athena, the Pea Growers' Field south of Athena, Curtis Airfield northwest of Pendleton, Oregon Sky Ranch near Milton-Freewater, and Kings Airport near Milton-Freewater. These airports are small, private, uncontrolled airstrips mainly used for crop dusting and other agricultural operations.

Although it is not in the county, Walla Walla Airport provides commercial service less than ten miles from the county border. Walla Walla Airport is owned and operated by the Port of Walla Walla in the state of Washington. Located three miles from downtown Walla Walla, it is a tower controlled airport with 25,000 annual enplanements. Passenger service includes ten scheduled flights per day to Seattle (five daily flights provided by Horizon Airlines). The airport is at an elevation of 1,205 feet above mean sea level and has three runways varying in length from 6,450 feet to nearly 7,200 feet.

One other airport which was not included in either of the categories above, is the Buttercreek Airstrip. This airport is located south of Hermiston just off of State Highway 207 on the east side and is approximately 8 miles south of Interstate 84. This airport is considered a public use airport with a paved runway and at least three enplanements. However, this airport does not provide instrument landings. Landing is by sight only. Buttercreek Airstrip is utilized by crop dusters and other agricultural operations and has a hanger and repair facility. As part of this TSP implementation, Umatilla County is developing an Airport Zone and Airport Safety Overlay Zone to meet the requirements of ORS 836.

PIPELINE SERVICE

Although not often considered transportation facilities, pipelines carry liquids and gases very efficiently. The use of pipelines can greatly reduce the number of trucks and rail cars carrying fluids such as natural gas, oil, and gasoline. Natural gas is supplied to the county via three different lines which all connect to the state of Washington. One line runs northwest to southeast across the county. This line crosses US 395 north of Hermiston, OR 11 northeast of Pendleton, and I-84 within the Confederated Tribes of the Umatilla Indian Reservation and south of Meacham. A second gas line runs southwest to northeast in the northwestern portion of the county. This line crosses US 395 just north of Stanfield. The third line runs roughly north-south on the east side of Milton-Freewater crossing under OR 11 just south of Milton-Freewater and just northwest of Athena. The third line connects with the first gas line east of Mission.

Cascade Natural Gas uses these lines to provide natural gas to consumers in nine cities in Umatilla County. These include Athena, Hermiston, Milton-Freewater, Mission, Pendleton, Pilot Rock, Stanfield, Umatilla, and Weston.

An oil pipeline, the Salt Lake Pipeline, runs northwest to southeast through Umatilla County. This line runs just south of Helix, crosses OR 11 southwest of Adams, crosses I-84 in the Umatilla Indian Reservation, runs east of the community of Meacham, and crosses I-84 once more just north of the Union county line. There is also a four-inch diesel line to the Hinkle Yard, five miles south of Hermiston, provided by the Kaneb Corporation. The pipeline originates in the city of Umatilla to the north and proceeds along the east side of East 10th Street in Hermiston. The pipeline is running at about 75 percent capacity.

WATER TRANSPORTATION

The only port in Umatilla County is the Port of Umatilla located on the Columbia River in Umatilla, Oregon. This port provides container shipping down the Columbia through the Port of Portland to Pacific Rim locations. The majority of the freight shipped is potato products (over 70 percent) and corn products (around 25 percent). Some meat and flour is also shipped from the port. Overland access to the Port of Umatilla from the county is via US 395, US 730, and then I-82 in Washington.

CHAPTER 4: CURRENT TRANSPORTATION CONDITIONS

As part of the planning process, the current operating conditions for the transportation system were evaluated. This evaluation focused primarily on street system operating conditions since the automobile is by far the dominant mode of transportation in Umatilla County. Census data were examined to determine travel mode distributions. Traffic counts and intersection analyses were used to determine how well traffic is currently flowing on county roads.

TRAFFIC VOLUMES

A large base of traffic volume counts exists for the state highway system in Umatilla County. Extensive 24-hour counts were performed by ODOT in 1996 and in 1999 on the state highways throughout the county. This information is documented in Appendix B.

County Roads

Traffic volumes on the primary county roads (those in the Federal Aid System) were collected by ODOT until 1991 and are summarized in Appendix C. Between 1991 and 1998, various traffic counts were performed along various sections of these roads. This information is also displayed in the Appendix alongside the 1991 ODOT counts.

As shown in Appendix C, daily traffic volumes along most rural county roads are under 1,000 vehicles per day (vpd). However, there are dozens of county roads that have daily traffic volumes exceeding 1,000 vpd. These roads are typically located within the urban area of a city. Some of them serve only local uses. Others serve rural needs such as providing connections to higher functioning facilities such as a state highway or interstate freeway, accessing large businesses in rural areas, and accessing rural communities and farms. Since this plan focuses mainly on the rural portions of the county, it is these types of roads that are considered to be of higher importance to Umatilla County. Table 4-1 displays some examples of these types of roads. In addition to showing where the Average Daily Traffic exceeds 1,000 vpd along particular roadway segments, the primary and possible secondary functions of each road are listed. The roads shown in this table and others that have similar functions and relatively high traffic volumes, act as the backbone of the rural county road system. The criteria listed in Table 4-1 should be used to help define the needs for rural roadway improvements in the future.

USFS and BLM Roads

Traffic volume information along US Forest Service roads and Bureau of Land Management roads is presented in Appendix C.

BIA Roads

Roads under the jurisdiction of the Bureau of Indian Affairs will be addressed in the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) Transportation Plan.

**TABLE 4-1
IMPORTANT COUNTY ROADS**

Roadway	Higher Traffic Volume Section	Year Counted	ADT	Importance of Road
Hermiston Area				
Westland/Highland Rd (County Rd 1215)	I-84 to Bridge Rd	1997	3,275-6,315	Provides connections to I-82 and I-84 and access to large industrial businesses
Bridge Rd (County Rd 1200)	Powerline Rd to Westland Rd	1991	860-2,500	Provides connection to I-84 north via Powerline Road and access to rural residences
Umatilla River Rd (County Rd 1275)	US 730 in Umatilla to Cooney Ln in Hermiston	1991	2,900-3,200	Provides alternative route to city of Umatilla and serves rural residences
Hermiston-Hinkle Rd (County Rd 1245)	Feedville Rd to Gettman Rd	1991	1,400-1,500	Provides access to the Hinkle Railyards and industrial developments along Feedville Road
Feedville Rd (County Rd 1000)	OR 207 to US 395	1991	620-1,200	Provides access to agricultural and industrial businesses
Punkin Center Rd (County Rd 1250)	US 395 to OR 207	1995	2,340	Provides connection between US 395 and OR 207 and serves rural residences
Powerline Rd (County Rd 1225)	I-82 to Bridge Rd	NA	≈2,000	Provides connection between OR 730 and I-82 and serves rural residences
Echo Area				
Thielsen Rd (County Rd 1300)	I-84 to city limits of Echo	1998	2,150	Provides major connection to I-84 for entire city
Milton-Freewater Area				
Walla Walla River Rd (County Rd 610)	Couse Creek Rd to Milton-Freewater UGB	1991	1,000-1,500	Provides access to rural residences and agricultural uses
County Rd (County Rd 650)	Chuckhole Ln to Milton-Freewater UGB	1991	980-1,000	Provides access to rural residences and agricultural uses
Stateline Rd (County Rd 500)	Winesap Rd to OR 11	1991	1,300-1,900	Provides access to OR 11 from rural residences and agricultural uses
Pendleton Area				
Rieth Rd (County Rd 1300)	Birch Creek Rd to I-84	1991	580-1,200	Provides access to town of Rieth and alternative route to Echo
Umatilla Indian Reservation Area				
Mission Rd (County Rd 900)	East of Hwy 30 to Emigrant Rd	1991	890-2,500	Provides important access to Pendleton
Weston Area				
Key Rd (County Rd 682)	OR 11 to Water St	1991	1,150-1,450	Provides connection to OR 11 and access to industrial businesses
Banister Rd (County Rd 750)	OR 11 to OR 204	1991	810-1,650	Provides connection to OR 11

ROADWAY CAPACITY

Transportation engineers have established various standards for measuring traffic capacity of roadways or intersections. Each standard is associated with a particular level of service (LOS). The LOS concept requires consideration of factors that include travel speed, delay, frequency of interruptions in traffic flow, relative freedom for traffic maneuvers, driving comfort and convenience, and operating cost. In the 1991 OHP, levels of service were defined by a letter grade from A-F, with each grade representing a range of volume to capacity (v/c) ratios. A volume to capacity ratio (v/c) is the peak hour traffic volume on a highway divided by the maximum volume that the highway can handle. If traffic volume entering a highway section exceeds the section's capacity, then disruptions in traffic flow will occur, reducing the level of service. LOS A represents relatively free-flowing traffic and LOS F represents conditions where the road system is totally saturated with traffic and movement is very difficult. The 1999 OHP maintains a similar concept for measuring highway performance, but represents LOS by specific v/c ratios to improve clarity and ease of implementation. Table 4-2 presents the level of service criteria and equivalent range of v/c ratios for freeways, Table 4-3 presents the level of service criteria and equivalent range of v/c ratios for two-lane highways, and Table 4-4 presents the level of service criteria and equivalent range of v/c ratios for unsignalized intersections.

**TABLE 4-2
LEVEL OF SERVICE CRITERIA FOR FREEWAYS**

Service Level (v/c Ratio) ⁽²⁾	Typical Traffic Flow Conditions
A (0.00-0.48)	Average operating speeds at the free-flow speed generally prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. Even at the maximum density for LOS A, the average spacing between vehicles is over 500 ft., or 26 car lengths, which affords the motorist with a high level of physical and psychological comfort.
B (0.49-0.59)	Average operating speeds at the free-flow speed are generally maintained. The lowest average spacing between vehicles is about 330 ft., or 18 car lengths. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high.
C (0.60-0.69)	Speeds are still at or near the free-flow speed of the freeway. Freedom to maneuver within the traffic stream is noticeably restricted at LOS C, and lane changes require more vigilance on the part of the driver. Minimum average spacing is in the range of 220 ft., or 11 car lengths.
C-D (0.70-0.73)	
D (0.74-0.83)	Speeds begin to decline slightly with increasing flows. In this range, density begins to deteriorate somewhat more quickly with increasing flow. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort levels. Vehicles are spaced at about 165 ft., or nine car lengths.
D-E (0.84-0.87)	
E (0.88-0.97)	LOS E describes operation at capacity. Operations in this level are volatile, because there are virtually no usable gaps in the traffic stream. Vehicles are spaced at approximately six car lengths, leaving little room to maneuver within the traffic stream at speeds that still exceed 50 mph. At capacity, the traffic stream has no ability to dissipate even the most minor disruptions, and any incident can be expected to produce a serious breakdown with extensive queuing. Maneuverability within the traffic stream is extremely limited, and the level of physical and psychological comfort afforded the driver is extremely poor.
E-F (0.98-0.99)	

- F (>1.00) LOS F describes breakdowns in vehicular flow. Such conditions generally exist within queues forming behind breakdown points. Breakdown occurs when the ratio of arrival flow rate to actual capacity or the forecast flow rate to estimated capacity exceeds 1.00. Whenever LOS F conditions exist, there is a potential for them to extend upstream for significant distances.

Source: Transportation Research Board, Highway Capacity Manual, Special Report 209. National Research Council, 1994.

Although a freeway interchange serves both the freeway and the crossroad to which it connects, it is important that the interchange be managed to maintain safe and efficient operation of the freeway through the interchange area. The maximum volume to capacity ratio for ramp terminals of interchange ramps shall be the smaller of the values of the volume to capacity ratio for the crossroad, or 0.85.

The 1999 Oregon Highway Plan (OHP) establishes mobility standards for the state highway system.¹ Highways of Statewide importance, such as US 395 (Pendleton-John Day Highway) should operate at a v/c ratio of 0.80 inside the Urban Growth Boundary and at a v/c ratio of 0.70 or better in rural areas. For highways of district importance, such as Highway 37, the roadways should operate at a v/c ratio of 0.85 within the Urban Growth Boundary and at a v/c ratio of 0.75 or better in rural areas.

**TABLE 4-3
LEVEL OF SERVICE CRITERIA FOR TWO-LANE HIGHWAYS**

Service Level	Typical Traffic Flow Conditions
A (0.00-0.48)	Motorists are able to drive at their desired speed which, without strict enforcement, would result in average speeds approaching 60 mph. Passing demand is well below passing capacity, and almost no platoons of three or more vehicles are observed.
B (0.49-0.59)	Speeds of 55 mph or slightly higher are expected on level terrain. Passing demand needed to maintain desired speeds becomes significant and approximately equals the passing capacity.
C (0.60-0.69)	Further increases in flow result in noticeable increases in platoon formation, platoon size, and frequency of passing impediment. Average speed still exceeds 52 mph on level terrain, even though unrestricted passing demand exceeds passing capacity. While traffic flow is stable, it is becoming susceptible to congestion due to turning traffic and slow-moving vehicles.
C-D (0.70-0.73)	
D (0.74-0.83)	Unstable traffic flow as passing demand is very high. Average platoon sizes of 5 to 10 vehicles are common, although speeds of 50 mph can still be maintained under ideal conditions. This is the highest flow rate that can be maintained for any length of time over an extended section of level terrain without a high probability of breakdown.
D-E (0.84-0.87)	
E (0.88-0.97)	Under ideal conditions, speeds will drop below 50 mph. Average travel speeds on highways with less than ideal conditions will be slower, as low as 25 mph on sustained upgrades. Passing is virtually impossible and platooning becomes intense when slower vehicles or other interruptions are encountered.
E-F (0.98-0.99)	
F (>1.00)	Heavily congested flow with traffic demand exceeding capacity.

Source: Transportation Research Board, Highway Capacity Manual, Special Report 209. National Research Council, 1994.

**TABLE 4-4
LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS**

Service Level	Typical Traffic Flow Conditions
A (<0.48)	Reserve capacity ≥ 400 passenger cars per hour (PCPH) with little or no delay.
B ($0.49-0.59$)	Reserve capacity of 300 to 399 PCPH with short traffic delays.
C ($0.60-0.69$)	Reserve capacity of 200 to 299 PCPH with average traffic delays.
C-D ($0.70-0.73$)	
D ($0.74-0.87$)	Reserve capacity of 100 to 199 PCPH with long traffic delays.
E ($0.88-0.97$)	Reserve capacity of 0 to 99 PCPH with very long traffic delays.
E-F ($0.98-0.99$)	
F (>1.00)	The demand volume exceeds the capacity of the lane, and extreme delays will be encountered with queuing which may cause severe congestion affecting other traffic movements in the intersection. This condition usually warrants improvement to the intersection.

Source: Transportation Research Board, Highway Capacity Manual, Special Report 209. National Research Council, 1985.

The operations analysis of Umatilla County’s state highway system focused on the rural sections of the highways (those sections outside the incorporated cities). Capacity along those roadway segments was evaluated in two different ways: traffic operations along the roadway alone, and traffic operations at unsignalized intersections. No urban sections of roadway were addressed as part of this analysis (i.e. within a city’s UGB). The urban section analyses can be found in the separate TSP reports prepared for each city.

Rural Highway Operations

The traffic operations along the rural highway sections were determined using the 1994 Highway Capacity software. This software is based on the *1994 Highway Capacity Manual, Special Report 209*, published by the Transportation Research Board. The peak hour traffic was assumed to be 10 percent of the 24-hour ADT volume and the directional split was assumed to be 60/40. In segments where more than one volume was reported, a worst case analysis was performed using the highest reported volume for that segment. Roadway features such as the percentage of no-passing zones, general terrain, and land and shoulder widths were determined from the roadway inventory. For I-82 and I-84, where summer volumes are 30 to 40 percent higher than average annual volumes, capacity analysis was also conducted for the summer condition.

Freeway Operations

Analysis of freeway segments is based on traffic volumes and composition (i.e., percent trucks), lane widths, lateral clearance between the edge of the travel lane and the nearest roadside or median obstacle or object influencing traffic behavior, and driver population (i.e., regular and familiar users of the facility).

The operations on the rural sections of the freeways were analyzed for a typical peak hour during 1996 average annual and summer conditions. The resulting level of service for each highway segment is shown in Table 4-5. All rural segments of the freeways in Umatilla County operate at LOS A (<0.48 v/c) or better during average conditions and at LOS B (0.49-0.59 v/c) or better during peak summer conditions.

**TABLE 4-5
SUMMARY OF OPERATIONS ON FREEWAYS**

Location	Level of Service for 1996 Average Daily Conditions (v/c)	Level of Service for 1996 Peak Summer Conditions (v/c)
I-82		
OR/WA border	A (<0.48)	B (0.49-0.59)
0.30 miles south of US 730	A (<0.48)	A (<0.48)
0.30 miles north of I-84	A (<0.48)	A (<0.48)
I-84		
West of I-82	A (<0.48)	A (<0.48)
Stanfield to Pendleton	A (<0.48)	A (<0.48)
East of the Umatilla-Mission Hwy	A (<0.48)	A (<0.48)

Two-Lane and Multi-Lane Highway Operations

Analyses of rural two-lane and multi-lane highways take into account the magnitude, type, and directional distribution of traffic as well as roadway features such as the percentage of no-passing zones, general terrain, and lane and shoulder widths.

The operations on the rural sections of the two-lane and multi-lane highways were analyzed for a typical peak hour during 1996 average annual conditions. The resulting level of service for each highway segment is shown in Table 4-6. All but one rural segment of the two-lane and multi-lane highways in Umatilla County operate at LOS C (0.60-0.69 v/c) or better. The only segment operating below LOS C (0.60-0.69 v/c) is along US 730 near the Umatilla/Morrow County line.

**TABLE 4-6
SUMMARY OF OPERATIONS ON RURAL SECTIONS
OF TWO-LANE AND MULTI-LANE HIGHWAYS**

Location	Two-Lane or Multi-Lane Highway Section	Level of Service for 1996 Peak Hour Conditions (v/c)
US 30		
West I-84 terminus	Two-Lane	C (0.60-0.69)
East I-84 terminus	Two-Lane	B (0.49-0.59)
US 395 (Pendleton-John Day Hwy)		
OR 74 and OR 244 junctions	Two-Lane	A (<0.48)
US 730		
Umatilla/Morrow Co. line	Two-Lane	D (0.74-0.87)
OR/WA border	Two-Lane	B (0.49-0.59)
OR 207 (Hermiston Highway)		
0.06 miles south of US 730	Two-Lane	C (0.60-0.69)
0.10 miles north of OR 207 (Lexington-Echo Hwy)	Two-Lane	B (0.49-0.59)
Lexington-Echo Highway		
Umatilla/Morrow Co. line to Hermiston Hwy junction	Two-Lane	A (<0.48)
Hermiston Hwy junction to Echo west city limits	Two-Lane	A (<0.48)
OR 37		
Pendleton north city limits	Two-Lane	B (0.49-0.59)
0.01 miles west of Athena-Holdman Hwy	Two-Lane	A (<0.48)
OR 74		
Umatilla/Morrow Co. line	Two-Lane	A (<0.48)
0.10 miles west of US 395 (Pendleton-John Day Hwy)	Two-Lane	A (<0.48)
OR 11		
0.01 miles northeast of Havana-Helix Hwy	Two-Lane	C (0.60-0.69)
OR/WA border	Multi-Lane	A (<0.48)
OR 204		
ODOT automatic recorder near Weston	Two-Lane	B (0.49-0.59)
Umatilla/Union Co. line	Two-Lane	A (<0.48)
OR 244		
0.2 mile east of Pendleton	Two-Lane	A (<0.48)
Umatilla National Forest Boundary (MP 10.0)	Two-Lane	A (<0.48)
Umatilla-Mission Highway		
OR 11 junction	Two-Lane	B (0.49-0.59)
I-84 junction	Two-Lane	C (0.60-0.69)
Athena-Holdman Highway		
OR 37 to Havana-Helix Hwy	Two-Lane	A (<0.48)
Havana-Helix Highway		
Helix to OR 11 junction	Two-Lane	A (<0.48)
Freewater Highway		
OR/WA border	Two-Lane	B (0.49-0.59)
Sunnyside-Umapine Highway		
OR/WA border	Two-Lane	A (<0.48)
0.01 miles west of Or Hwy 11	Two-Lane	B (0.49-0.59)

Unsignalized Intersection Operations of Highways

Traffic operations were determined at intersections along the rural highway sections using the 1985 Highway Capacity software for unsignalized intersections. Since all intersecting roads are controlled by stop signs in these areas, the analysis was performed for unsignalized intersections.

Analysis of unsignalized intersections is based on traffic volumes on both the major street and side street approaches as well as the distribution of gaps in the major street traffic stream.

Traffic operations were analyzed for intersections located along the highest volume rural sections of the state highways. Traffic operations were analyzed using a peak hour two-way traffic volume of 10 percent of the daily traffic. Also, a 60/40 directional split was used to reflect the distribution of traffic on the highways during the peak hour.

Under these assumptions, all of the left turns from the major highways and the left and right turns from the minor approaches operate at LOS A (<0.48 v/c) except at the intersection of Sunnyside-Umapine Highway and Highway 11, north of Milton-Freewater. On the eastbound approach of Sunnyside-Umapine Highway to Highway 11, vehicles turning left will experience long delays as they attempt to turn onto Highway 11 which carries over 14,000 vehicles per day along this section. Although the traffic volume on this approach is relatively low, approximately 125 vehicles per hour, long delays for vehicles turning left result in LOS D (0.74-0.83 v/c) on this approach. The level of service for each unsignalized intersection is shown in Table 4-7.

**TABLE 4-7
SUMMARY OF OPERATIONS AT CRITICAL RURAL HIGHWAY
INTERSECTIONS**

Location	Movement	1996 LOS
Lexington-Echo Highway (E-W) at OR 207 (N-S)	Westbound; Left and Right	A (<0.48)
	Southbound; Left	A (<0.48)
OR 37 (N-S) at US 730 (E-W)	Northbound; Left and Right	A (<0.48)
	Westbound; Left	A (<0.48)
Athena-Holdman Highway (E-W) at OR 37 (N-S)	Westbound; Left and Right	A (<0.48)
	Southbound; Left	A (<0.48)
Sunnyside-Umapine Highway (E-W) at OR 11 (N-S)	Eastbound; Left and Right	D (0.74-0.83)
	Northbound; Left	A (<0.48)
OR 204 (E-W) at OR 11 (N-S)	Westbound; Left and Right	A (<0.48)
	Southbound; Left	A (<0.48)
Athena-Holdman Highway (E-W) at OR 11 (N-S)	Eastbound; Left and Right	A (<0.48)
	Northbound; Left	A (<0.48)
Havana-Helix Highway (N-S) at OR 11 (E-W)	Southbound; Left and Right	A (<0.48)
	Eastbound; Left	A (<0.48)
Umatilla-Mission Highway (N-S) at OR 11 (E-W)	Northbound; Left and Right	A (<0.48)
	Westbound; Left	A (<0.48)
OR 74 (E-W) at US 395 (N-S)	Eastbound; Left and Right	A (<0.48)
	Northbound; Left	A (<0.48)
OR 244 (E-W) at US 395 (N-S)	Westbound; Left and Right	A (<0.48)
	Southbound; Left	A (<0.48)

Note: The level of service is shown for all evaluated movements of the unsignalized intersections.

RURAL COUNTY ROAD OPERATIONS

The analysis of rural county roadway operations includes the areas outside the urban boundaries of incorporated cities. Traffic operations along county roads that are within the urban areas of cities should be addressed in each city's own TSP.

Since the observed traffic flows along many of the rural county roads are less than 1,000 vpd, peak hour traffic operations along these roads and at lower volume intersecting roads, are at excellent levels (LOS A, <0.48 v/c). Even where daily traffic volumes range between 1,000 and 6,000 vpd, such as along the "highly important" roads depicted in Table 4-1, roadway traffic operations are still at excellent levels (LOS A, <0.48 v/c). Access to and from these "highly important" roads at intersecting minor roads is also adequate, reaching an estimated LOS B (0.49-0.59 v/c), where peak hour minor road traffic volumes reach up to 150 vph.

At intersections where county roads intersect state highways maintaining acceptable operating levels, and providing safe access to and from the highway is an important concern to ODOT. The following table was developed summarizing the existing p.m. peak hour traffic operations for these types of intersections where existing information was available.

**TABLE 4-8
SUMMARY OF OPERATIONS AT SELECTED INTERSECTIONS
OF RURAL COUNTY ROADS AND HIGHWAYS**

Location	Year of Analysis	Critical Approach	LOS	v/c
Powerline Road at US 730 (Umatilla)	1997	NB	B ⁽¹⁾	(0.49-0.59)
Powerline Road at I-82 SB Ramp	1997	SB	A ⁽¹⁾	(<0.48)
Powerline Road at I-82 NB Ramp	1997	NB	A ⁽¹⁾	(<0.48)
Bensel Road at US 395	1994	NA	C ⁽²⁾	(0.60-0.69)
Baggett Lane at US 395	1994	NA	D ⁽²⁾	(0.74-0.87)
Joy Lane at US 395	1994	NA	D ⁽²⁾	(0.74-0.79)
Theater Lane at US 395 (Hermiston)	1995	WB	C ⁽³⁾	(0.60-0.69)
Highland Avenue at OR 207 (Hermiston)	1995	All	B ⁽³⁾	(0.49-0.59)
Stateline Road at OR 11	1997	EB	D ⁽⁴⁾	(0.74-0.79)
Ferndale Road at OR 11	1997	EB	C ⁽⁴⁾	(0.60-0.69)
Crockett Road at OR 11	1997	EB	C ⁽⁴⁾	(0.60-0.69)
Airport Road at US 30 (Pendleton)	1996	SB	B ⁽⁵⁾	(0.49-0.59)
Old Reith Road at US 30 (Pendleton)	1996	NB	A ⁽⁵⁾	(<0.48)
Southgate Place at US 395	1996	All	B ⁽⁵⁾	(0.49-0.59)

(1) Hayden River Estates, Kittelson and Assoc., Inc., October 1997

(2) Hermiston-Umatilla Highway 395 Corridor Land Use/Transportation Plan, Kittelson and Assoc., Inc., June 1995

(3) Hermiston TSP, David Evans and Assoc, Inc., May 1998

(4) Highway 11 Corridor Land Use and Transportation Plan, David Evans and Assoc., Inc.

(5) Pendleton TSP, Kittelson and Assoc., Inc., Dec. 1996

TRANSPORTATION DEMAND MANAGEMENT MEASURES

This section briefly describes two elements that may impact transportation demand management: 1) distribution of departure time to work; and 2) distribution of travel modes.

Alternative Work Schedules

One way to maximize the use of the existing transportation system is to spread peak traffic demand over several hours instead of a single hour. Statistics from the 1990 Census show the spread of departure to work times over a 24-hour period (see Table 4-9). Approximately 30 percent of the total employees (those not working at home) depart for work between 7:00 a.m. and 8:00 a.m. Another 34 percent depart in either the hour before or the hour after the peak. Therefore, nearly two-thirds of all morning commute trips occur between 6:00 a.m. and 9:00 a.m.

**TABLE 4-9
DEPARTURE TO WORK DISTRIBUTION**

Departure Time	1990 Census	
	Trips	Percent
12:00 a.m. to 4:59 a.m.	693	2.9%
5:00 a.m. to 5:59 a.m.	2,100	8.7%
6:00 a.m. to 6:59 a.m.	5,103	21.1%
7:00 a.m. to 7:59 a.m.	7,313	30.3%
8:00 a.m. to 8:59 a.m.	3,149	13.0%
9:00 a.m. to 9:59 a.m.	935	3.9%
10:00 a.m. to 10:59 a.m.	459	1.9%
11:00 a.m. to 11:59 a.m.	244	1.0%
12:00 p.m. to 3:59 p.m.	2,252	9.3%
4:00 p.m. to 11:59 p.m.	1,898	7.9%
Total	24,146	100.0%

Source: US Bureau of Census.

Assuming an average nine-hour work day, the corresponding afternoon peak can be determined for work trips. Using this methodology, the peak work travel hour would occur between 4:00 and 5:00 p.m., which corresponds with the peak hour of activity measured for traffic volumes.

TRAVEL MODE DISTRIBUTION

Although the automobile is the primary mode of travel for most residents in Umatilla County, some other modes are used as well. Modal split data is not available for all types of trips. The 1990 Census statistics that were reported for journey to work trips are shown in Table 4-10 and reflect the predominant use of the automobile in Umatilla County.

In 1990, 89.3 percent of all trips to work were in a private vehicle (auto, van, or truck). Trips in single-occupancy vehicles made-up 74.2 percent of all trips, and carpooling accounted for 15.1 percent.

Bicycle usage was lower than in many other counties (approximately 0.4 percent) in 1990. Since the census data does not include trips to school or other non-work activities, overall bicycle usage may be greater. None of Umatilla County's rural roadways include dedicated bicycle lanes; however, the cities of Pendleton, Hermiston, Stanfield, and Echo do have some dedicated bikeways. Dedicated bicycle lanes can encourage bicycle commuting, as can other facilities, such as bicycle parking, showers, and locker facilities.

Pedestrian activity was fairly average (4.8 percent of trips to work) in 1990. Statewide, 4.2 percent of the population travel to work on foot. Again, the census data only report trips to work; trips to school or other non-work activities are not included.

**TABLE 4-10
JOURNEY TO WORK TRIPS**

Trip Type	1990 Census	
	Trips	Percent
Private Vehicle	22,456	89.3%
<i>Drove Alone</i>	18,656	74.2%
<i>Carpooled</i>	3,800	15.1%
Public Transportation	40	0.2%
Motorcycle	105	0.4%
Bicycle	98	0.4%
Walk	1,212	4.8%
Other	235	0.9%
Work at Home	1,005	4.0%
Total	25,151	100.0%

Source: US Bureau of Census.

ACCIDENT ANALYSIS

The Oregon Department of Transportation (ODOT) collects detailed accident information on an annual basis along the two Interstate and 16 State Highways in Umatilla County. A detailed analysis of accidents along these highways is located in Appendix B.

No detailed information is available on reported accidents along county roadways; therefore, no analysis could be performed.

CHAPTER 5: TRAVEL FORECASTS

The traffic volume forecasts for Umatilla County are based on historic growth on the state highway system taking into account historic and projected population growth. Forecasts were only prepared for the state highway system in the county, since the volumes on these roadways are much higher than on any of the county roads.

LAND USE

Land use and population growth play an important part in projecting future traffic volumes. Historic trends and their relationship to historic traffic growth on state highways are the basis of those projections. Population forecasts were developed to help determine future transportation needs. The amount of growth, and where it occurs, will affect traffic and transportation facilities in the study area. This report is not intended to provide a complete economic forecast or housing analysis, and it should not be used for any purpose other than that for which it is designed.

The population projections for Umatilla County are based on historic growth rates, the original population and employment forecasts made by the State of Oregon Office of Economic Analysis (OEA), and a recent study¹ identifying new economically-driven factors that will result in a higher population total than what was projected in the DEA forecast.

Both historic and projected population estimates for Umatilla County are summarized in Table 5-1. Factors that will affect the future growth rate of Umatilla County include employment opportunities, available land area for development, and community efforts to manage growth.

**TABLE 5-1
UMATILLA COUNTY POPULATION TRENDS**

Year	Population	Average Annual Growth Rate	Total Growth
1970	44,923	-	-
1980	58,855	2.7%	31.0%
1990	59,249	0.07%	0.7%
1997	65,500	1.44%	10.6%
2000	70,548	-	19.1%
2020 Projected	86,650	1.22%	32.2%

Umatilla County worked with the OEA (1999) to increase the official population projections for the County. Even though higher estimates have been adopted for the County than were used for the forecasting in this document, the new estimates will not impact travel projections for the TSP. This is because travel forecasts are based primarily on historic traffic levels taking into account population and land use. The difference between the original estimates and new official estimates is not great enough to impact travel projections.

¹ *Umatilla County Population Analysis*, December 16, 1998, produced by David Evans and Associates, Inc.

A detailed description of existing and future land use projections, including the methodology and data sources used, is contained in the Umatilla County Population Analysis located in Appendix D. This appendix contains both the original estimates of the OEA and the new official estimates for the county.

Historic Growth

The population of Umatilla County has grown since the 1970s, with significantly slower growth in the 1980s, reflecting a general slowdown in the state's economy. Helix, Pilot Rock, and Weston actually experienced a net population loss between 1970 and 1990. The number of people residing in Stanfield nearly doubled between 1970 and 1980. This population growth may have been fueled by some significant housing developments and the location of several food processing plants in Stanfield during this time.

Estimated at 65,500 in 1997, the population of Umatilla County has grown relatively rapidly since the 1990 Census, with an average annual growth rate of 1.44 percent. Most of the jurisdictions in Umatilla County have grown at a healthy rate, comparable to the annual growth rate of 1.44 percent for the county overall. The smaller jurisdictions of Adams and Helix have grown at a slightly faster rate, starting from the smaller population bases of 223 (Adams) and 150 (Helix) in 1990.

Projected Growth

Umatilla County is expected to experience population gains for the next 20 years. Like much of rural Oregon, the economy of Umatilla County remains largely seasonal, with nearly one-quarter of all employment agriculture-based. Therefore, population increases are difficult to predict, and are not likely to be as stable as the forecasts appear to imply.

An ad-hoc HUES (Hermiston, Umatilla, Echo, and Stanfield) Impact Planning Group was formed in early 1997 to lead cooperative efforts to address growth concerns in western Umatilla County arising from four major employers locating or expanding in the region. The HUES Growth Impact Study, conducted by the Benkendorf Associates Corporation, Hobson Johnson & Associates, and Martin Davis Consulting, quantifies the impact of the construction and operation of these four facilities. Employment impacts are translated into household and population impacts, and disaggregated across the four HUES communities, Pendleton, and rural Umatilla County.

Of these four employers (the Two Rivers Correctional Institution, the Umatilla Chemical Agent Disposal Facility, the Union Pacific Railroad Hinkle Locomotive Shop, and the Wal-Mart Distribution Center and Truck Maintenance Facility), only one (the Wal-Mart Distribution Center) had been announced and incorporated in the long-range population and employment forecast prepared by the Office of Economic Analysis. Because the Umatilla County site was selected as the location for the Wal-Mart Distribution Center in 1994, its impacts were already incorporated in the Office of Economic Analysis long-term population and employment forecast. Applying the HUES methodology, DEA, Inc. subtracted out the impact of the Wal-Mart Distribution Center, in order to identify the population impacts resulting from the three "big four" employers otherwise not accounted for in the OEA forecast. These estimated impacts were then applied to the original population forecasts for Echo and Stanfield.

As mentioned earlier, Umatilla County has concluded work with the OEA to revise the state's official population estimates for the county to account for the impact of the major employers. The new projections are higher than those initially estimated by the OEA, but are not different enough to require any revisions to travel projections.

Overall, Umatilla County is expected to experience healthy rates of population growth, averaging nearly one and a half percent annually over the planning horizon. The western portion of Umatilla County is expected to grow faster than the rest of Umatilla County, fueled by the four major employers.

Potential Development Impact Analysis

To supplement the demographic analysis and to determine more specific potential growth areas in Umatilla County, DEA reviewed ODOT’s Potential Development Impact Analysis (PDIA). The PDIA provides estimates for a maximum development scenario in rural Umatilla County. Potential growth areas or “polygons” are identified around the county based on zoning. A detailed summary of the PDIA is contained in Appendix D.

The analysis is based on a number of assumptions, some of which are acknowledged to overstate potential development. Some of the key assumptions include the following:

- No adjustments were made for slopes, bodies of water, riparian areas, or other physical development constraints.
- Development estimates do not account for market factors.
- Where the zoning ordinance does not specify a parking requirement, no adjustment was made for parking.

The analysis concludes that there is potential for development of residential land use designations in rural Umatilla County as shown in Table 5-2.

**TABLE 5-2
POTENTIAL DEVELOPMENT IMPACT ANALYSIS SUMMARY**

Designated Use	Acreage		Residential Units/1,000 Square Feet		
	Net Area	Vacant	Existing	Potential	Maximum
Residential	20,104	14,338	2,944	44,888	47,832
Commercial	437	201	NA	2,048.7	NA
Industrial	3,643	2,243	NA	NA	NA

Approximately 20,104 acres of land is zoned for rural residential uses with 2,944 existing residential units. Of the residential land, approximately 14,338 acres are vacant representing development potential of 44,888 units. This methodology combines existing units with the potential units to achieve a maximum development potential. This potential is estimated at 47,832 residential units.

In terms of non-residential uses, approximately 437 acres of land are zoned for commercial uses, while 3,643 acres are zoned for industrial uses. Of the commercially-designated land, an estimated 201 acres are vacant, yielding potential development of 2,048,700 square feet. Additionally, there are an estimated 2,243 acres vacant industrially-designated lands. The PDIA analysis did not provide an estimate of the potential development represented by these 2,243 acres.

TRAFFIC VOLUMES

Traffic volume projections are based on historic growth trends for highway volumes taking into account current and future land use projections.

Historic

Before projecting future traffic growth, it is important to examine past growth trends on the Umatilla County roadway system. Historic data are only available for the state highway system in Umatilla County; however, these roadways carry far more traffic than any other roads in the county. ODOT collects traffic count data on the state highways (rural and urban sections) every year at the same locations.

Historical growth trends on the state highways in and around Umatilla County were established using the average annual daily traffic (AADT) volume information presented in the ODOT Traffic Volume Tables for the years 1976 through 1996. The AADT volumes were obtained for each of these years at several locations along each highway. Using a linear regression analysis of the average AADT volumes between 1976 and 1996, an average annual growth rate was determined. Table 5-3 summarizes the historic total growth experienced on each of these sections.

**TABLE 5-3
HISTORIC GROWTH RATES ON STATE HIGHWAYS**

Location	Average Annual Growth 1976-1996	Total Growth 1976-1996
I-82		
OR/WA border	1.91% ⁽¹⁾	46.0% ⁽¹⁾
0.30 miles south of US 730	2.23% ⁽¹⁾	55.6% ⁽¹⁾
0.30 miles north of I-84	2.13% ⁽¹⁾	52.6% ⁽¹⁾
I-84		
West of I-82	2.95%	78.9%
Stanfield to Pendleton	1.96%	47.4%
East of the Umatilla-Mission Hwy	2.87%	76.0%
US 30		
0.01 miles west of Rieth Road	0.79%	17.0%
Pendleton urban area	1.41%	32.2%
US 395 (Pendleton-John Day Hwy)		
Pendleton – I-84 undercrossing	1.89%	45.5%
Pendleton – south city limits	-0.15%	-2.9%
between OR 74 and OR 244 junctions	2.18%	53.8%
US 395 (Umatilla-Stanfield Hwy)		
Hermiston – 0.01 miles south of Jennie Avenue	2.55%	65.3%
Stanfield – north city limits	1.70%	40.0%
0.50 miles north of I-84	1.95%	47.3%
US 730		
Umatilla/Morrow Co. line	1.54%	35.7%
0.50 miles east of I-82 (Umatilla urban area)	2.18%	54.0%
OR/WA border	1.38%	31.4%

**TABLE 5-3, Cont.
HISTORIC GROWTH RATES ON STATE HIGHWAYS**

OR 207 (Hermiston Highway)		
0.10 miles southwest of Hooker Road	2.42%	61.4%
Hermiston Avenue – 0.01 miles south of Orchard Avenue W.	4.85%	157.9%
Hermiston south city limits to I-84 junction	2.38%	60.0%
0.10 miles north of OR 207 (Lexington-Echo Hwy)	5.11%	170.8%
Lexington-Echo Highway		
Umatilla/Morrow Co. line to Hermiston Hwy junction	0.63%	13.3%
Hermiston Hwy junction to Echo	0.60%	12.7%
Echo urban area	0.85%	18.4%
Echo east city limits	-0.08%	-1.17%
OR 37		
Pendleton north city limits	4.32%	132.9%
Pendleton – 0.01 miles north of US 30	-0.34%	-6.7%
0.01 miles west of Athena-Holdman Hwy	-1.63%	-28.0%
OR 74		
Umatilla/Morrow Co. line	0.53%	11.1%
0.10 miles west of US 395 (Pendleton-John Day Hwy)	1.45%	23.3%
OR 11		
Pendleton – 0.40 miles north of I-84	3.61%	103.1%
0.01 miles northeast of Havana-Helix Hwy	1.23%	27.8%
Adams-east city limits	0.73%	16.1%
Milton-Freewater – south city limits	1.58%	37.0%
Milton-Freewater – north city limits	2.72%	70.9%
Milton-Freewater – 0.01 miles north of Sunnyside-Umapine Hwy	2.70%	71.0% ⁽²⁾
Milton Automatic Recorder	2.70%	71.0% ⁽²⁾
OR 204		
ODOT automatic recorder near Weston	1.80%	42.9%
Umatilla/Union Co. line	1.85%	44.2%
OR 244		
0.2 miles east of US 395 junction	1.32%	30.0%
0.01 miles east of Camas Road (Ukiah)	1.41%	32.4%
At Umatilla National Forest Boundary (MP 10.0)	1.24%	28.0%
Umatilla-Mission Highway		
OR 11 junction	4.59%	145.2%
0.01 miles south of Mann Road	4.37%	135.2%
Athena-Holdman Highway		
OR 37 to Havana-Helix Hwy	2.23%	55.6%
Athena – 0.01 miles east of 3rd Street	1.91%	45.9%
0.01 miles east of OR 11	2.05%	50.0%
Havana-Helix Highway		
Helix to OR 11 junction	2.66%	69.0%
Freewater Highway		
OR/WA border	2.41%	60.9%
Milton-Freewater – north city limits	-0.74%	-13.8%
Milton-Freewater – 0.01 miles E. of W. Main St. on Broadway St.	-0.53%	-10.1%
Sunnyside-Umapine Highway		
OR/WA border	1.77%	41.9%
0.01 miles west of OR 11 (Milton-Freewater urban area)	3.80%	110.8%

(1) Growth based on 1988 to 1996 period after ODOT began keeping records in 1988.

(2) Based on historical trends from 1975-1995 taken from the Milton-Freewater/Stateline Rd Highway 11 Corridor Land Use and Transportation Plan, David Evans and Assoc., Inc., June 1997, pp. 3-8.

Source: ODOT 1976-1996 Transportation Volume Tables; information compiled by DEA, Inc.

Over the 20-year period from 1976 to 1996, average growth on the rural sections of state highways in Umatilla County ranged from a low of -1.63 percent per year along OR 37 just west of the Athena-Holdman Highway to a high of 5.11 percent per year along OR 207 (Hermiston Highway) just north of the Lexington-Echo Highway junction. Average annual growth along the rural sections of freeways in the county was nearly 2.4 percent over the period.

In general, growth on the rural sections of the state highways exceeded the population growth in Umatilla County. This relationship reflects the modern trend toward an increase in per capita vehicle miles traveled and the increase in commercial and tourist traffic. The total county population has been increasing at a rate just over one percent per year over the last twenty years, whereas traffic volumes on the rural sections of the state highways in Umatilla County have been increasing at rates between two and four percent per year. One highway, OR 207 (Lexington-Echo Highway) grew at a rate of over seven percent per year during the same period. Traffic volumes on the urban sections of the state highways have been increasing at a slower pace, generally between zero and two percent per year. The lower growth rates on the urban sections of the state highways could be a result of the decreases in population in some of the cities in the county during this period.

Future Traffic Volumes

The forecasting methodology was based on the available existing and historic traffic data while taking into account population growth trends. The traffic forecast for the state highway system in Umatilla County was performed using a Level 1-Trending Forecast² analysis. This type of forecast projects future traffic volumes based on one or more of the following growth rates: the historical growth on the state highway system, the historical population growth, and the projected population growth.

The forecasting methodology used in this forecast assumed that traffic demand on the state highways will grow at a rate equivalent to the historical traffic growth trend of each highway. To confirm that using the historical traffic growth trend in the Trending Forecast analysis was the best projection methodology, comparisons were made with the historical and projected population growth for the county.

Comparisons show that historical traffic growth rates on most of the rural sections of the state highways in the county are higher than the historic and projected population growth rates for the county. (This is the case even if population projections are adjusted upward to the new county estimates.) Therefore, it was decided that the most appropriate growth rates to project future traffic are those rates which were calculated from the historic traffic growth and not those rates which were calculated from the historic and future population forecasts. Using the same linear regression analysis used to calculate the historic growth rate of traffic, forecasts were made for the years 1998 through 2018. On the urban sections of the state highways, more consideration was given to the historic and projected population growth rates in the individual urban areas. For a detailed description of the traffic forecasts on the urban sections of the state highways, refer to the TSPs for the individual cities.

It is important to note that using the historical growth trends assumes that future traffic patterns will remain consistent with historical patterns, without consideration of future planned developments.

The forecast future traffic volumes and total growth from 1996 to 2018 are shown in Table 5-4.

² ODOT *Transportation System Planning Guidelines*, August 1995, p. 29.

**TABLE 5-4
FORECAST TRAFFIC VOLUMES AND TOTAL GROWTH ON STATE HIGHWAYS**

Location	1996 ADT (vehicles/day)	2018 ADT (vehicles/day)	Total Growth 1996-2018
I-82			
OR/WA border	12,700	19,340	52.3%
0.30 miles south of US 730	6,300	9,595	52.3%
0.30 miles north of I-84	7,400	14,240	92.4%
I-84			
West of I-82	8,500	21,100	148.3%
Stanfield to Pendleton	11,500	28,510	148.3%
East of the Umatilla-Mission Hwy	6,800	12,700	86.4%
US 30			
West I-84 terminus	4,100	4,890	19.2%
Pendleton urban area	15,700	18,710	19.2%
East I-84 terminus	1,600	3,125	95.3%
US 395 (Pendleton-John Day Hwy)			
Pendleton – I-84 undercrossing	22,400	28,250	26.1%
Pendleton – south city limits	6,700	8,450	26.1%
Between OR 74 and OR 244 junctions	800	1,250	55.9%
US 395 (Umatilla-Stanfield Hwy)			
Hermiston – 0.01 miles south of Jennie Avenue	20,500	34,540	68.5%
Stanfield – north city limits	8,540 ⁽¹⁾	13,660 ⁽²⁾	60.0% ⁽³⁾
Stanfield – north of I-84	8,600 ⁽¹⁾	13,760 ⁽²⁾	60.0% ⁽³⁾
US 730			
Umatilla/Morrow Co. line	5,700	9,300	63.2%
0.50 miles east of I-82 (Umatilla urban area)	9,700	15,825	63.2%
Umatilla east city limits	3,900	4,760	22.1%
OR/WA border	2,300	2,805	22.1%
OR 207 (Hermiston Highway)			
0.06 miles south of US 730	3,300	6,930	110.0%
Hermiston Ave– 0.01 miles south of Orchard Avenue W.	9,800	10,890	11.1%
Hermiston south city limits to I-84 junction	4,400	4,890	11.1%
0.10 miles north of OR 207 (Lexington-Echo Hwy)	1,300	6,125	371.2%
Lexington-Echo Highway			
Umatilla/Morrow Co. line to Hermiston Hwy junction	1,250	1,385	10.6%
Hermiston Hwy junction to Echo	550	610	10.6%
Echo urban area	1,110	1,385	24.5%
Echo east city limits	590	735	24.5%
OR 37			
Pendleton north city limits	1,700	2,625	54.3%
Pendleton – 0.01 miles north of US 30	3,500	5,400	54.3%
0.01 miles west of Athena-Holdman Hwy	180	190	5.6%
OR 74			
Umatilla/Morrow Co. line	100	155	54.6%
0.10 miles west of US 395 (Pendleton-John Day Hwy)	200	310	54.6%

TABLE 5-4, Cont.
FORECAST TRAFFIC VOLUMES AND TOTAL GROWTH ON STATE HIGHWAYS

OR 11			
Pendleton – 0.40 miles north of I-84	6,500	11,190	72.2%
0.01 miles northeast of Havana-Helix Hwy	4,600	6,075	32.0%
Adams – east city limits	4,000	4,640	16.1%
Milton-Freewater – south city limits	6,300	6,865	8.9%
Milton-Freewater – north city limits	13,500	14,705	8.9%
Milton-Freewater– 0.01 miles N of Sunnyside-Umapine Hwy	14,700	21,500	46.1% ⁽⁴⁾
OR/WA border	14,200	20,800	46.1% ⁽⁴⁾
OR 204			
ODOT automatic recorder near Weston	1,200	1,175	48.1%
Umatilla/Union Co. line	620	905	46.2%
OR 244			
0.2 miles east of Pendleton to US 395 junction	650	1,070	64.9%
0.01 miles east of Camas Street (Ukiah)	900	1,305	45.2%
At Umatilla National Forest Boundary (MP 10.0)	320	510	59.3%
Umatilla-Mission Highway			
OR 11 junction	1,300 ⁽⁵⁾	3,055	135.0%
I-84 junction	3,700 ⁽⁵⁾	8,695	135.0%
Athena-Holdman Highway			
OR 37 to Havana-Helix Hwy	140	225	62.5%
Athena – 0.01 miles east of 3rd Street	2,700	3,525	30.6%
Athena – east city limits	2,000	2,610	30.6%
Havana-Helix Highway			
Helix to OR 11 junction	430	765	78.2%
Freewater Highway			
OR/WA border	1,400	2,015	44.0%
Milton-Freewater – north city limits	2,500	2,800	12.1%
Milton-Freewater – 0.01 miles E. of W. Main St. on Broadway St.	6,200	6,950	12.1%
Sunnyside-Umapine Highway			
OR/WA border	440	810	84.0%
0.01 miles west of OR 11 (Milton-Freewater urban area)	2,100	3,765	79.3%

- (1) ADT volumes shown are taken from June 1998 ODOT traffic counts.
- (2) The forecast volume shown is consistent with the Highway 395 North Corridor Study currently being prepared by OTAK, where an ADT volume of between 12,000 and 15,000 is projected for the year 2018.
- (3) Total growth rate shown is for the 20-year planning period (1998-2018).
- (4) Growth rate shown was established using the 20-year (1997-2017) growth rate of 41.4% identified in the Milton-Freewater/Stateline Rd Highway 11 Corridor Lane Use and Transportation Plan, David Evans and Assoc., Inc., June 1997, pp. 3-10. This growth rate was then factored into a 22 year (1996-2018) growth rate.
- (5) It is expected that volumes along the Umatilla-Mission Highway will increase substantially after the cultural center and related development is completed in spring 1998.

Source: ODOT 1976-1996 Transportation Volume Tables; compiled by DEA, Inc.

HIGHWAY SYSTEM CAPACITY

Both existing and future level-of-service (LOS) analyses were performed on the rural sections of state highways in Umatilla County. The future LOS analysis was performed for the year 2018 by applying the overall growth expected during the 1996 to 2018 forecast period to the 1996 traffic volumes. The traffic

operation of mainstream traffic along rural freeway sections, two-lane highway sections, and signalized intersections were determined using the 1994 Highway Capacity Software. This software is based on the *1994 Highway Capacity Manual, Special Report 209*, published by the Transportation Research Board. The traffic operation of rural unsignalized intersections was determined using the 1985 Highway Capacity Software which is based on the *1985 Highway Capacity Manual, Special Report 209*, published by the Transportation Research Board.

Freeway Operations

Analysis of freeway segments is based on traffic volumes and composition (i.e., percent trucks), lane widths, lateral clearance between the edge of the travel lane and the nearest roadside or median obstacle or object influencing traffic behavior, and driver population (i.e., regular and familiar users of the facility). Table 5-5 compares freeway level of service operations under average and summer conditions for the 1996 and future 2018 periods.

All rural segments of the freeways in Umatilla County are expected to operate at LOS B (0.49-0.59 v/c) or better during year 2018 average and summer conditions except for the segment of I-84 between Stanfield and Pendleton which is expected to operate at LOS C (0.60-0.69 v/c) under both future average and summer conditions.

**TABLE 5-5
SUMMARY OF FUTURE RURAL FREEWAY OPERATIONS**

Location	Level of Service for Average Daily Conditions (v/c)		Level of Service for Peak Summer Conditions	
	1996	2018	1996	2018
	I-82			
OR/WA border	A (<0.48)	B (0.49-0.59)	B (0.49-0.59)	B (0.49-0.59)
0.30 miles south of US 730	A (<0.48)	A (<0.48)	A (<0.48)	A (<0.48)
0.30 miles north of I-84	A (<0.48)	A (<0.48)	A (<0.48)	B (0.49-0.59)
I-84				
West of I-82	A (<0.48)	B (0.49-0.59)	A (<0.48)	B (0.49-0.59)
Stanfield to Pendleton	A (<0.48)	C (0.60-0.69)	A (<0.48)	C (0.60-0.69)
East of the Umatilla-Mission Hwy	A (<0.48)	A (<0.48)	A (<0.48)	B (0.49-0.59)

Two-Lane and Multi-Lane Highway Operations

The two-lane and multi-lane highway peak hour analyses indicate that all but one of the highway segments analyzed operated at level-of-service C (0.60-0.69 v/c) or better in 1996, while all but seven are expected to operate at LOS C (0.60-0.69 v/c) or better under 2018 peak hour future traffic volumes. Eleven of the 27 two-lane rural highway sections analyzed are expected to experience decreased LOS over the 20-year planning horizon. Total traffic growth along the analyzed rural highway locations is expected to range from a low of 5.6 percent along OR 37 just west of the Athena-Holdman Highway to a high of 371 percent along OR 207 (Hermiston Highway) just north of the Lexington-Echo Highway junction. The median total 20-year growth of the analyzed sections is expected to be nearly 56 percent. The results of the two-lane and multi-lane highway analyses are shown in Table 5-6.

Unsignalized Operations at Highway Intersections

Unsignalized peak hour intersection analyses were performed at 10 rural highway intersections in Umatilla County for both the existing and future conditions.

In general, the unsignalized intersections on the rural sections of the state highways in Umatilla County are expected to continue to operate very well throughout the 20-year planning period. All but two intersection movements are expected to operate at LOS B (0.49-0.59 v/c) or better under peak hour future year 2018 traffic volumes. The results of the unsignalized intersection analyses are shown in Table 5-7.

**TABLE 5-6
SUMMARY OF FUTURE OPERATIONS ON RURAL SECTIONS OF TWO-LANE AND
MULTI-LANE HIGHWAYS**

Location	Two-Way or Multi-Lane Highway Section	Level of Service (v/c) for 1996 Peak Hour Conditions	Level of Service (v/c) for 2018 Peak Hour Conditions
US 30			
West I-84 terminus	Two-Way	C (0.60-0.69)	D (0.74-0.83)
East I-84 terminus	Two-Way	B (0.49-0.59)	C (0.60-0.69)
US 395 (Pendleton-John Day Hwy)			
OR 74 and OR 244 junctions	Two-Way	A (<0.43)	B (0.49-0.59)
US 730			
Umatilla/Morrow Co. line	Two-Way	D (0.74-0.87)	E (0.84-0.97)
OR/WA border	Two-Way	B (0.49-0.59)	B (0.49-0.59)
OR 207 (Hermiston Highway)			
0.06 miles south of US 730	Two-Way	C (0.60-0.69)	D (0.74-0.83)
0.10 miles north of OR 207 (Lexington-Echo Hwy)	Two-Way	B (0.49-0.59)	D (0.74-0.83)
OR 207 (Lexington-Echo Highway)			
Umatilla/Morrow Co. line to Hermiston Hwy junction	Two-Way	A (<0.48)	A (<0.48)
Hermiston Hwy junction to Echo west city limits	Two-Way	A (<0.48)	A (<0.48)
OR 37			
Pendleton north city limits	Two-Way	B (0.49-0.59)	B (0.49-0.59)
0.01 miles west of Athena-Holdman Hwy	Two-Way	A (<0.48)	A (<0.48)
OR 74			
Umatilla/Morrow Co. line	Two-Way	A (<0.48)	A (<0.48)
0.10 miles west of US 395 (Pendleton-John Day Hwy)	Two-Way	A (<0.48)	A (<0.48)
OR 11			
0.01 miles northeast of Havana-Helix Hwy	Two-Way	C (0.60-0.69)	C (0.60-0.69)
OR/WA border	Multi-Lane	A (<0.48)	A/B (0.48-0.59)
OR 204			
ODOT automatic recorder near Weston	Two-Way	B (0.49-0.59)	B (0.49-0.59)
Umatilla/Union Co. line	Two-Way	A (<0.48)	A (<0.48)
OR 244			
0.2 mile east of Pendleton	Two-Way	A (<0.48)	B (0.49-0.59)
Umatilla National Forest Boundary (MP 10.0)	Two-Way	A (<0.48)	A (<0.48)
Umatilla-Mission Highway			
OR 11 junction	Two-Way	B (0.49-0.59)	C (0.60-0.69)
I-84 junction	Two-Way	C (0.60-0.69)	E (0.84-0.97)
Athena-Holdman Highway			
OR 37 to Havana-Helix Hwy	Two-Way	A (<0.48)	A (<0.48)
Havana-Helix Highway			
Helix to OR 11 junction	Two-Way	A (<0.48)	A (<0.48)
Freewater Highway			
OR/WA border	Two-Way	B (0.49-0.59)	B (0.49-0.59)
Sunnyside-Umapine Highway			
OR/WA border	Two-Way	A (<0.48)	A (<0.48)
0.01 miles west of Or Hwy 11	Two-Way	B (0.49-0.59)	C (0.60-0.69)

**TABLE 5-7
SUMMARY OF FUTURE OPERATIONS AT CRITICAL RURAL INTERSECTIONS**

Location	Movement	1996 LOS (v/c)	2018 LOS (v/c)
Lexington-Echo Highway (E-W) at OR 207 (N-S)	Westbound; Left and Right	A (<0.48)	D (0.74-0.83)
	Southbound; Left	A (<0.48)	A (<0.48)
OR 37 (N-S) at US 730 (E-W)	Northbound; Left and Right	A (<0.48)	A (<0.48)
	Westbound; Left	A (<0.48)	A (<0.48)
Athena-Holdman Highway (E-W) at OR 37 (N-S)	Westbound; Left and Right	A (<0.48)	A (<0.48)
	Southbound; Left	A (<0.48)	A (<0.48)
Sunnyside-Umapine Highway (E-W) at OR 11 (N-S)	Eastbound; Left and Right	D (0.74-0.83)	E (0.84-0.97)
	Northbound; Left	A (<0.48)	A (<0.48)
OR 204 (E-W) at OR 11 (N-S)	Westbound; Left and Right	A (<0.48)	B (0.49-0.59)
	Southbound; Left	A (<0.48)	B (0.49-0.59)
Athena-Holdman Highway (E-W) at OR 11 (N-S)	Eastbound; Left and Right	A (<0.48)	B (0.49-0.59)
	Northbound; Left	A (<0.48)	A (<0.48)
Havana-Helix Highway (N-S) at OR 11 (E-W)	Southbound; Left and Right	A (<0.48)	A (<0.48)
	Eastbound; Left	A (<0.48)	A (<0.48)
Umatilla-Mission Highway (N-S) at OR 11 (E-W)	Northbound; Left and Right	A (<0.48)	B (0.49-0.59)
	Westbound; Left	A (<0.48)	A (<0.48)
OR 74 (E-W) at US 395 (N-S)	Eastbound; Left and Right	A (<0.48)	A (<0.48)
	Northbound; Left	A (<0.48)	A (<0.48)
OR 244 (E-W) at US 395 (N-S)	Westbound; Left and Right	A (<0.48)	A (<0.48)
	Southbound; Left	A (<0.48)	A (<0.48)

Note: The level of service is shown for all evaluated movements of the unsignalized intersections.

RURAL COUNTY ROAD OPERATIONS

The analysis of future rural county roadway operations should include only the areas outside the urban boundaries of incorporated cities. Traffic operations along county roads that are within the urban areas of cities should be addressed in each city's own TSP.

Congestion is generally not an issue along most of the rural county roads, where traffic volumes are less than 1,000 vpd. Peak hour traffic operations along these roads and where they intersect lower volume roads, are at excellent levels (LOS A, <0.48 v/c). Even where daily traffic volumes range between 1,000 and 6,000 vpd, such as along the "highly important" roads depicted in Table 4-1, roadway traffic operations are still at excellent levels (LOS A, <0.48 v/c). Access to and from these "highly important" roads at intersecting minor roadways are also adequate, reaching an estimated LOS B (0.49-0.59 v/c), where peak hour minor road traffic volumes reach up to 150 vph.

Concern has been raised by ODOT officials over the traffic operations at intersections where county roads intersect state highways. The following table was developed summarizing the existing p.m. peak hour traffic operations for these types of intersections where existing and future traffic operations information was available.

**TABLE 5-8
SUMMARY OF OPERATIONS AT SELECTED INTERSECTIONS
OF RURAL COUNTY ROADS AND HIGHWAYS**

Location	Year of Analysis	Critical Approach	LOS (v/c)	20-Year No Build LOS (v/c)
Powerline Road at US 730 (Umatilla)	1997	NB	B (0.49-0.59)	D ^{(1),(2)} (0.74-0.83)
Powerline Road at I-82 SB Ramp	1997	SB	A (<0.48)	B ⁽²⁾ (0.49-0.59)
Powerline Road at I-82 NB Ramp	1997	NB	A (<0.48)	B ⁽²⁾ (0.49-0.59)
Bensel Road at US 395	1994	NA	C (0.60-0.69)	F ⁽³⁾ (>1.00)
Baggett Lane at US 395	1994	NA	D (0.74-0.83)	E ⁽³⁾ (0.84-0.87)
Joy Lane at US 395	1994	NA	D (0.74-0.83)	E ⁽³⁾ (0.84-0.97)
Punkin Center Road at US 395 (Hermiston)	1995	WB	D (0.74-0.83)	F ⁽⁴⁾ (>1.00)
Theater Lane at US 395 (Hermiston)	1995	WB	C (0.60-0.69)	F ⁽⁴⁾ (>1.00)
Elm Avenue at US 395 (Hermiston)	1995	EB	F (>1.0)	F ⁽⁴⁾ (>1.00)
Highland Avenue at OR 207 (Hermiston)	1995	All	B (0.49-0.59)	F ⁽⁴⁾ (>1.00)
Stateline Road at OR 11	1997	EB	D (0.74-0.83)	F ⁽⁵⁾ (>1.00)
Ferndale Road at OR 11	1997	EB	C (0.60-0.69)	E ⁽⁵⁾ (0.84-0.97)
Crockett Road at OR 11	1997	EB	C (0.60-0.69)	D ⁽⁵⁾ (0.74-0.83)
Airport Road at US 30 (Pendleton)	1996	SB	B (0.49-0.59)	F ⁽⁶⁾ (>1.00)
Old Reith Road at US 30 (Pendleton)	1996	NB	A (<0.48)	C ⁽⁶⁾ (0.60-0.69)
Southgate Place at US 395	1996	All	B (0.49-0.59)	B ⁽⁶⁾ (0.49-0.59)

(1) LOS shown is for a 6-year projection (year 2004).

(2) Hayden River Estates, Kittelson and Assoc., Inc., October 1997

(3) Hermiston-Umatilla Highway 395 Corridor Land Use/Transportation Plan, Kittelson and Assoc., Inc., June 1995

(4) Hermiston TSP, David Evans and Assoc, Inc., May 1998

(5) Highway 11 Corridor Land Use and Transportation Plan, David Evans and Assoc., Inc.

(6) Pendleton TSP, Kittelson and Assoc., Inc., Dec. 1996

CHAPTER 6: IMPROVEMENT OPTIONS ANALYSIS

As required by the Oregon Transportation Planning Rule (TPR), transportation alternatives were formulated for the Umatilla County Transportation System Plan (TSP). These potential improvements were developed with the help of county and state officials, local officials involved in city TSPs, and stakeholders in the region. Each of the transportation system improvements options was developed to address specific deficiencies, access, or safety concerns and attempt to address the concerns specified in the goals and objectives (Chapter 2).

The following list includes all of the potential transportation system improvements considered:

1. Implement Transportation Demand Management (TDM) Measures.
2. Umatilla County Roadway Improvement Projects.
3. Umatilla County Bridge Replacement Projects.
4. ODOT Modernization, Preservation, Safety, Interstate Maintenance, and Bicycle/Pedestrian Needs.
5. ODOT Bridge Replacement Needs.

The transportation system improvements evaluated in this section of the Umatilla County TSP include state highway and county road projects. **It should be noted that not all of the transportation improvement options recommended along the county and state systems have identified funding. Therefore, recommended transportation improvements cannot be considered as committed projects, but are subject to the county's and ODOT's abilities to meet these current and future needs financially.**

EVALUATION CRITERIA

The evaluation of the potential transportation improvements in Umatilla County was based on review of transportation needs assessments performed by the county and state of Oregon.

Cost was also considered in the evaluation of most of these transportation needs improvements. Costs were estimated in 1998 dollars based on preliminary alignments for each potential transportation system improvement.

STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM PROJECTS

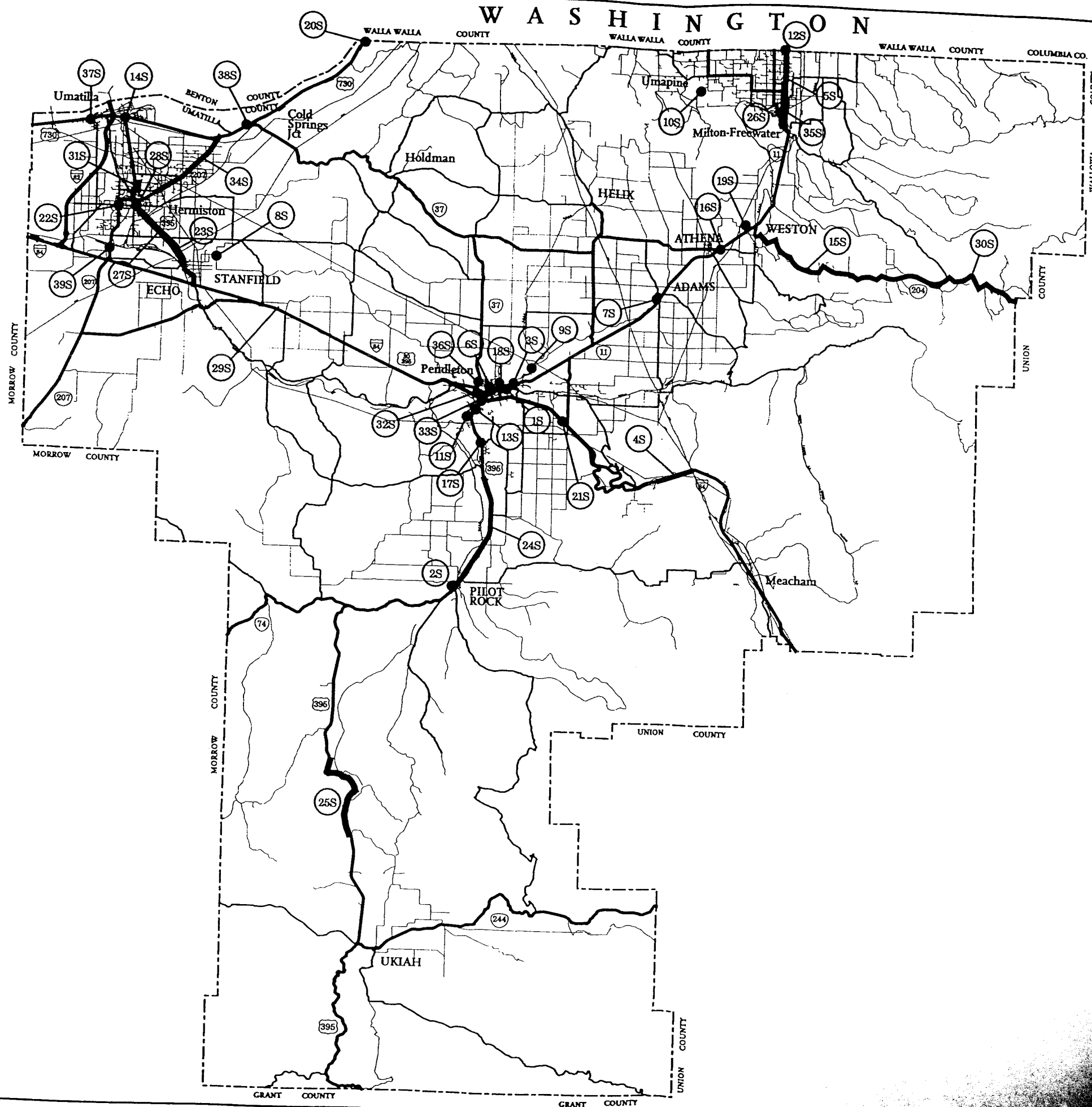
The Oregon Department of Transportation (ODOT) has a comprehensive transportation improvement and maintenance program that covers the entire state highway system. The Statewide Transportation Improvement Program (STIP) identifies all the highway improvement projects in Oregon. The STIP lists specific projects, the counties in which they are located, and their construction year.

A draft list of the 2000 to 2003 STIP projects has recently been distributed by ODOT Region 5. The list identifies 39 projects within Umatilla County. Most of these projects are located along highways under state jurisdiction, with six projects along county roads, and four projects along city roads. STIP projects scheduled for construction in the county include bridge replacements, highway preservation, modernization, and safety improvements.

Table 6-1 outlines all 39 STIP projects for the county and includes project name, length, roadway location, type of work, estimated date of construction, and cost. These projects are also shown graphically in Figure 6-1.

**TABLE 6-1
2000-2003 STIP UPDATE**

Project No.	Project Name	Length (Miles)	Highway or Road No.	Type of Work	Program Year	Cost
1S	Jct. Oregon-Washington Hwy Merge Lane (Pendleton)	0.20	Pendleton Hwy. (US-30)	Extend Merge Lane at Junction OR-11.	2000	\$98,000
2S	West Birch Creek Bridge No. 59C900 (Pilot Rock)	0.01	SW 2nd Street	Replace Structure.	2000	\$275,000
3S	10th Street – Eastgate (Pendleton)	0.43	Pendleton Hwy. (US-30)	Bridge replacement, realignment, and traffic signal installation.	2000	\$13,100,000
4S	Wayside Rockfall	2.00	I-84 / US-30	Rockfall Correction.	2000	\$959,000
5S	Milton-Freewater – WA State Line Signing Project	5.32	Oregon-WA Hwy. (OR 11)	Install signs.	2000	\$300,000
6S	Pendleton Paving Project	13.07	US-395	Pavement Reconstruction, Guardrail, and Bridge Rail Retrofit.	2000	\$7,428,000
7S	Wildhorse Creek Bridge No. 005002 (Adams)	0.01	Main Street	Replace Structure.	2001	\$225,000
8S	USRS Feed Canal Bridge No. 59C212	0.07	Cooper Road (Co. Rd. #1171)	Replace Structure.	2001	\$182,000
9S	Wildhorse Creek Bridge No. 59C358	0.07	McCormach Road (Co. Rd. #979)	Replace Structure.	2001	\$425,000
10S	Dry Creek Bridge No. 59C535	0.16	Harris Road (Co. Rd. #697)	Replace Structure.	2001	\$549,000
11S	McKay Creek Bridge No. 59C001	0.07	SW Quinney Avenue (Co. Rd. #1320)	Replace Structure.	2001	\$655,000
12S	Oregon-Washington Hwy / State Line Road Traffic Signal	0.00	Oregon-WA Hwy. (OR 11)	Install traffic signal / Cooperative project with Washington DOT.	2001	\$315,000
13S	Pendleton-John Day Hwy / Perkins Avenue Traffic Signal	0.00	Pendleton-John Day Hwy. (US 395)	Install traffic signal.	2001	\$298,000
14S	Col. River Hwy / Umatilla-Stanfield Hwy. Traffic Signal	0.00	Umatilla-Stanfield Hwy. (US 395 / 730)	Install traffic signal.	2001	\$236,000
15S	Jct. Hwy 8 – Basket Mountain Road Section	10.50	Weston-Elgin Hwy. (OR 204)	Pavement Reconstruction, Guardrail Improvements, & Minor Realignment.	2001	\$3,857,000
16S	Oregon-Washington / Athena Holdman Hwy Intersection		Oregon-WA Hwy. (OR 11)	Reconstruct Intersection.	2001	\$412,000
17S	McKay Creek Bridge No. 8050	0	Pendleton-John Day Hwy. (US 395)	Scour Protection.	2001	\$136,000
18S	Umatilla River Bridge No. 59C111 (Pendleton)		8th Street (Co. Rd. #983)	Replace Structure.	2002	\$1,080,000
19S	Pine Creek Bridge No. 59C542	0.07	Johnson Road (Co. Rd. #678)	Replace Structure.	2002	\$340,000
20S	Columbia River Hwy Variable Message Sign (MP 203.2)	0.00	Columbia River Hwy. (US 730/ 395)	Variable Message Sign.	2002	\$240,000



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 PORTLAND, OR 97201-4830 (503) 233-6663

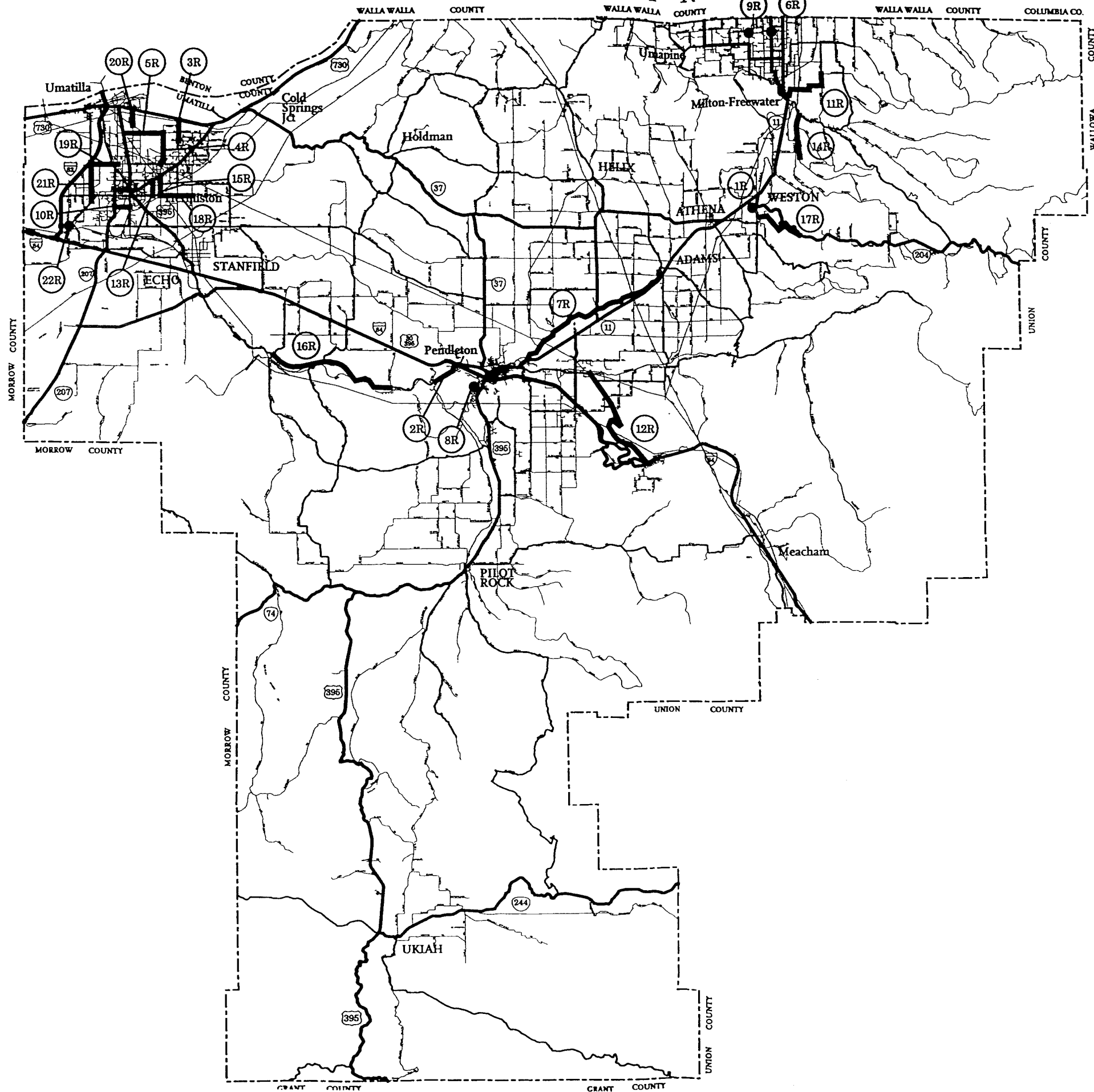


LEGEND:
 (15) ● PROJECT NUMBER AND LOCATION
 (See Table 6-1)

FIGURE 6-1
Draft 2000-2003 STIP
Projects
-Umatilla County

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WASHINGTON



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PORTLAND, OR 97201-4830 (503) 223-6663



NORTH

(NOT TO SCALE)

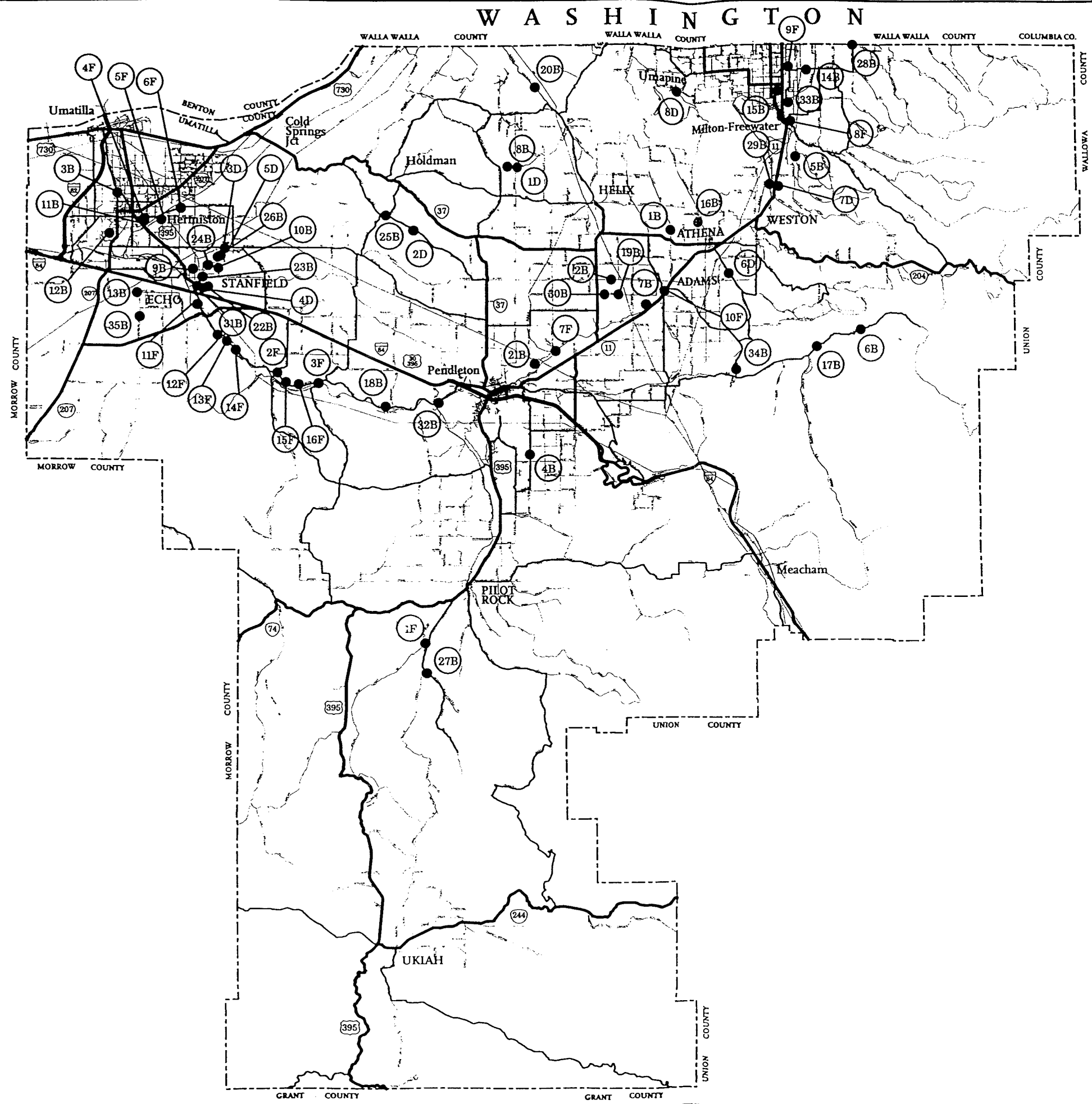
LEGEND:

(XX) — PROJECT NUMBER AND LOCATION
(See Table 6-2)

FIGURE 6-2

Umatilla County Roadway Improvement Projects

M:\C00001\UMAT6-2.DGN\BJD\08-07-98



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NORTH

(NOT TO SCALE)

LEGEND:

- 1B ● PROJECT NUMBER AND LOCATION
(CURRENT UMATILLA COUNTY PLAN)
- 1D ● PROJECT NUMBER AND LOCATION
(REMAINING STRUCTURALLY DEFICIENT BRIGDES)
- 1F ● PROJECT NUMBER AND LOCATION
(REMAINING FUNCTIONALLY OBSOLETE BRIDGES)

FIGURE 6-3

Umatilla County
Potential Bridge Replacement
Projects

DATE: 11/20/2013 11:30 AM

TABLE 6-1, Cont.
2000-2003 STIP UPDATE

21S	Pendleton Variable Message Sign (Westbound)	0.00	(I-84 / US-30)	Variable Message Sign.	2002	\$240,000
22S	Hermiston Hwy @ Highland Avenue Traffic Signal	0.00	Hermiston Hwy. (OR 207)	Install traffic signal.	2002	\$261,000
23S	SE 4th Street (Hermiston) - I-84 Section	6.87	Umatilla-Stanfield Hwy. (US 395)	Pavement Reconstruction.	2002	\$2,722,000
24S	McKay Dam - Pilot Rock	8.78	Pendleton-John Day Hwy. (US 395)	Pavement Preservation	2002	\$2,720,000
25S	Cape Horn Summit - Albee Road Section	7.95	Pendleton-John Day Hwy. (US 395)	Pavement Reconstruction and Cut Slope Excavation.	2002	\$4,223,000
26S	Milton-Freewater Median Section	2.70	Oregon-WA Hwy. (OR 11)	Install Raised Median.	2002	\$621,000
27S	NW Elm Ave. - NW Harding Ave. Median Section	5.94	Umatilla-Stanfield Hwy. (US 395)	Install Raised Median.	2002	\$1,246,000
28S	Hermiston Hwy @ Highland Avenue Section	N/A	Hermiston Hwy. (OR 207)	Reconstruct intersection.	2002	\$315,000
29S	I-84 Overpass Screening	70.88	I-84	Overpass Screening.	2002	\$273,000
30S	Tollgate Section	11.30	Weston-Elgin Hwy. (OR 204)	Overlay, widening, minor realignment, safety upgrades.	2003	\$12,107,000
31S	East 4th Street Extension (Hermiston)	0.50	East 4 th Street	Extension of East 4th Street from Elm Avenue to Theater Lane.	2003	\$832,000
32S	20th Street Extension (Pendleton)	0.40	Pendleton Hwy. (US-30)	Extend 20th Street to US-30 (Westgate), widening, and bridge work.	2003	\$8,774,000
33S	Pendleton-John Day Hwy / Jct. I-84 Ramp (WB) Traffic Signal	0.00	Pendleton-John Day Hwy. (US 395)	Install traffic signal.	2003	\$265,000
34S	Jct. Hwy 2 – Elm Avenue Section	5.50	Hermiston Hwy. (OR 207)	Pavement Preservation and Guardrail Improvements.	2003	\$1,197,000
35S	Uxing NE 8th (Eastside) Bridge No. 6979A	0	Oregon-Washington Hwy. (OR 11)	Deck Overlay.	2003	\$304,000
36S	Umatilla River (Ball Park) Bridge No. 2117	0	(US-30)	Bridge Replacement.	2003	\$3,009,000
37S	Umatilla River Bridge No. 00624A	0	Columbia River Hwy. (US 730)	Bridge Replacement.	2004	\$3,069,000
38S	Oxing @ Cold Springs Bridge No. 1637A	0	Columbia River Hwy. (US 730)	Bridge Rail.	2004	\$136,000
39S	Umatilla River (Hinkle) Bridge No. 2318A	0	Hermiston Hwy. (OR 207)	Overlay and Bridge Rail.	2004	\$386,000
Total:						\$73,810,000

IMPROVEMENT OPTIONS EVALUATION

Through the transportation analysis and input provided from the public involvement program, multiple improvement projects were identified. These options included replacing bridges, constructing new and reconstructing existing roadways, and providing improved pedestrian and bicycle facilities.

Option 1. Implement Transportation Demand Management (TDM) Strategies

One of the goals of the Oregon Transportation Planning Rule (TPR) is to reduce the reliance on the automobile. The TPR recommends that counties evaluate TDM measures as part of their TSPs. These strategies are designed to change the demand on the transportation system by providing facilities for other modes of transportation, implementing carpooling programs, and developing other transportation measures within the community, such as staggering work schedules at local businesses. These types of TDM strategies may be more effective in a large urban city, but some strategies can still be useful in the rural and urban areas of Umatilla County.

There are two types of TDM measures that would be useful in Umatilla County. One is the development of facilities for alternative modes of transportation. This would include paved or improved shoulders, paths, sidewalks, and bike lanes that would handle pedestrians and bicyclists. Another TDM measure would be to implement a countywide carpooling program.

Umatilla County can implement TDM strategies by changing its road standards. (This is discussed in more detail in Chapter 9.) The county should require all future road improvement projects to include the addition of some sort of pedestrian facility, such as new sidewalks or walkways, which will effectively separate pedestrians from motorized traffic. All new road improvement projects should consider providing bikeways or improved shoulders, depending on traffic volumes.

Implementing a countywide carpool program could also be effective. Because intercity commuting is a factor in Umatilla County, residents who live in Umatilla County and residents who live in other cities and rural areas should be encouraged to carpool with a fellow coworker or someone who works in the same area.

Cost

No direct costs for revising road standards have been determined. However, the cost for several types of facilities which promote walking and biking in the county are summarized below (1998 dollars).

- Paved Shoulders – Shoulders constructed along both sides of a road that are six feet in width would cost around \$36 per linear foot of road. This would include four inches of asphalt and nine-inches of aggregate.
- Multi-Use Paths – A multi-use path ten feet in width would cost around \$16 per linear foot. This includes two inches of asphalt and four inches of aggregate. (Example: Along the abandoned NPRR rail line between Milton-Freewater and Washington State.)
- Concrete Sidewalks – The estimated cost to install new sidewalks on one side of an existing road is around \$25 per linear foot. This includes a five-foot wide walkway composed of four inches of concrete and two inches of aggregate.
- Bike Lanes – The cost to install bike lanes on both sides of an existing road is around \$45 per linear foot. This cost includes widening the roadway by five feet on both sides, installing curbs, using a fill composed of four inches of asphalt and nine inches of aggregate, and placement of an eight-inch painted stripe.

These costs are for stand-alone improvements. The costs can be reduced by adding these facilities when implementing needed roadway improvements throughout the Umatilla County area.

Costs associated with a countywide carpool program were not determined as part of this plan.

Recommendation

Although the primary goal of TDM measures is to reduce the number of vehicle trips made within the county, especially during peak periods, road capacity for automobiles and trucks is generally not an issue in Umatilla County. However, providing adequate facilities for pedestrians and bicyclists increases the livability of urban and rural areas of the county, and improves driver, pedestrian, and bicycle safety. With more emphasis on walking or biking in the county, conditions such as air quality and noise levels would be improved, as well. Therefore, the TDM strategies summarized above are recommended.

Option 2: Umatilla County Roadway Improvement Projects

In 1998, the Umatilla County Roadway Department devised a roadway improvement plan for the preservation and modernization of existing county roads as well as construction of new roadways. A total of 22 projects were identified. These projects are summarized below in Table 6-2 and illustrated in Figure 6-2.

Many of the roadway improvements identified in this plan were devised from a Needs Assessment made by county officials for roadways under direct control of the county. Three projects in this plan were extracted from recommended road improvement projects identified in the *Pendleton TSP* and *Hermiston TSP* and the completed *Highway 11 Corridor Land Use and Transportation Plan*. These projects were selected through coordination with other city and/or state officials who have an expressed interest in or have shared jurisdiction over these projects.

**TABLE 6-2
UMATILLA COUNTY ROADWAY IMPROVEMENT PROJECTS**

Map No.	Project Name	County Rd. No.	Location	Miles	Type of Work	Cost (\$ x 1,000)
1R	Key Rd.	682	Hwy 11 to Water St.	2	Widen, Align, Shoulder and Pave	\$300
2R	Reith Rd. ⁽¹⁾	1300	I-84 to West end of Reith	1.8	Align, Widen, Shoulder and Pave	\$250
3R	Craig Rd. ⁽²⁾	1259	Spearman Rd. to Hwy 730	1.3	Reconstruct and Pave	\$300
4R	N. Ott Rd.	1261	Punkin Center Rd. to Bensel Rd.	2	Reconstruct and Pave	\$450
5R	Bensel Rd.	1268B	N. Ott to Hwy 395	2.6	Reconstruct and Pave	\$600
6R	Ballou Rd. ⁽³⁾	518	Ballou Rd. and Hwy 11 Intersection	NA	Reconstruct and Raise Intersection	\$350
7R	Adams Rd.	973	Hwy 11 at Pendt. to Adams	11.8	Align, Widen, Shoulder and Pave	\$1,800
8R	SW Hailey Ave. ⁽⁴⁾	1305	SW 30th to Kirk Ave on SW 37th	0.5	Curb, Gutter, Sidewalk and Pave	\$500
9R	Sunquist Rd.	512	Intersection with Sunquist and Triangle Sta.	NA	Realign intersection and Widen	\$250
10R	Gettman Rd.	1196	Hwy 207 to Hermiston Hinkle Rd.	1	Align, Widen, Repave and Shoulder	\$225
11R	Milton Cemetery Rd.	564MC	M-F City Limits to Whiteman Rd.	4	Align, Widen, Shoulder and Pave	\$900
12R	Emigrant Rd.	937	Poverty Flat to Mission Rd	9	Repave and Shoulder	\$1,400
13R	Townsend Rd.	1217	Hwy 207 to E. Loop Rd.	0.9	Reconstruct and Pave	\$300
14R	Couse Creek Rd.	613	W.W. River Rd. to Blue Mtn. Sta. Rd.	2.8	Align, Widen, Shoulder and Pave	\$750
15R	S. Ott Rd.	1211	Hwy 207 to E. Loop Rd.	1.1	Reconstruct and Pave	\$300
16R	Reith Rd.	1300	Barnhart Rd. to Nolin	9.6	Align, Widen, Shoulder and Pave	\$1,500
17R	Kirk Rd.	648	Weston City Limits to Hwy 204	3.5	Widen, Align, Shoulder and Pave	\$600
18R	Highland Ext.	1198	S. Edwards to Canal Rd.	0.75	Reconstruct and Pave	\$200
19R	Punkin Center Rd. ⁽⁵⁾	1250	Sunshine Lane West to Powerline Rd.	2	New Construction with Bridge	\$14,800
20R	Sagebrush Rd.	1269	Bowdin Lane to Hwy 730	1	New Construction	\$750
21R	Powerline Rd.	1225	I-82 South to Westland Rd.	2.5	Widen and Repave	\$1,200
22R	Westland Rd.	1215	Intersection w/Lamb, Walker and Westland	NA	Align and Reconstruct Intersection	\$250
Total						\$27,975,000

- Notes:
- (1) The project has already been completed.
 - (2) This project is currently under construction (to be completed in 1999).
 - (3) Recommended in the Highway 11 Corridor Land Use and Transportation Plan, David Evans and Assoc., Inc., June 1997, pg. 5-2.
 - (4) Recommended in the Pendleton TSP, Kittelson & Assoc., Inc., December 26, 1996, pg. 9-19.
 - (5) Recommended in the Hermiston TSP, David Evans and Assoc., Inc., May 30, 1997, pg. 7-17.

Many county related projects recommended in the aforementioned city TSPs and Corridor Plan are not included in the county's roadway improvement plan. It is recommended that the city, county, and state public officials coordinate efforts to ensure implementation of these projects over the next 20 years.

Recommendation

Since the projects identified in the county roadway improvement plan reflect the transportation needs for county roads, they are recommended.

Option 3: Umatilla County Bridge Replacement Projects

In 1998, the Umatilla County Roadway Department also devised a bridge replacement plan for various bridges under county jurisdiction. Many, but not all these bridges, have been identified as being structurally deficient, functionally obsolete, or having a sufficiency rating less than 55, as determined from the state bridge inspection inventory.

As mentioned earlier, there are three mutually exclusive elements used to rate bridge conditions in the state bridge inspection inventory: structural deficiency, functional obsolescence, and sufficiency rating. Structural deficiency is determined based on the condition rating for the deck, superstructure, substructure, or culvert and retaining walls. It may also be based on the appraisal rating of the structural condition or waterway adequacy. Functional obsolescence is determined based on the appraisal rating for the deck geometry, under-clearances, approach roadway alignment, structural condition, or waterway adequacy. The sufficiency rating is a complex formula which takes into account four separate factors to obtain a numeric value rating the ability of a bridge to service demand. The scale ranges from zero to 100 with higher ratings indicating optimal conditions and lower ratings indicating insufficiency. Sufficiency ratings of 55 or less indicate an insufficiency. Bridges with ratings under 50 may be nearing a structurally deficient condition.

County-Identified Bridge Projects

In 1998, a total of 35 projects were identified by the county. The estimated timeline to replace these bridges is over the next 10 years, with two to four bridges being replaced each year. These projects are summarized below in Table 6-3 and illustrated in Figure 6-3. Projects are assigned a unique project number (#B) to make a connection between the table and figure. As indicated in the table, one project has already been completed with three others scheduled for construction this year (1999).

**TABLE 6-3
UMATILLA COUNTY BRIDGE REPLACEMENT PROJECTS**

Project No.	Bridge No.	Bridge Location	Length (feet)	Width (feet)	Estimated Year of Replacement	Funding Source	Estimated Cost ³⁾
1B ⁽¹⁾	59C562	Gerking Flat	25	25	1998	County	\$43,000
2B	59C607	West Fork Greasewood	20	21	1998	County	\$33,900
3B	59C274	Hermiston Canal	15	25	1998	County	\$25,800
4B ⁽²⁾	59C329	South Coyote Creek	18	24	1999	County	\$30,800
5B	59C420	Drain Ditch	7	20	1999	County	\$11,800
6B ⁽²⁾	59C616	Hagen Creek	16	23	1999	County	\$27,300
7B	59C169	Wildhorse Creek	13	20	2000	County	\$22,000
8B	59C178	S. Fork Juniper Canyon	21	21	2000	County	\$35,500
9B	59C203	Stanfield	33	24	2001	County	\$56,500
10B	59C212	Furnish Ditch	30	24	2001	County	\$51,300
11B	59C240	Southeast 9th	18	24	2001	County	\$30,800
12B	59C284	Maxwell Ditch	20	21	2002	County	\$33,900
13B	59C325	Emigrant Butte/Hunt Ditch	28	24	2002	HBRR or County	\$47,900
14B	59C457	Buchanon/Birch Cr. Rd.	20	24	2002	County	\$34,300
15B	59C473	Irrigation Ditch/Cobb Rd.	8	22	2002	County	\$13,600
16B ⁽²⁾	59C551	Frog Flat/Dry Creek	20	24	2003	County	\$34,300
17B	59C727	Gibbon/Umatilla River	104	23	2003	HBRR/County	\$189,100
18B	59C754	Barnhart	8	24	2003	County	\$13,700
19B	59C603	Greasewood Creek	25	24	2003	HBRR/County	\$42,800
20B	59C164	Vansycle Canyon	25	17	2004	HBRR/County	\$41,800
21B	59C358	Rutten/Wildhorse Creek	71	20	2004	HBRR/County	\$127,800
22B	59C206	Furnish Ditch	20	19	2004	County	\$33,700
23B	59C205	South Ash/Feed Canal	60	30	2004	HBRR/County	\$111,600
24B	59C194	Stanfield Drain	36	21	2005	HBRR/County	\$60,900
25B	59C675	South Fork Cold Springs	24	21	2005	HBRR/County	\$40,600
26B	59C680	Stanfield Drain	25	21	2005	HBRR/County	\$42,400
27B	59C067	Boylen/W. Birch Creek	20	24	2005	County	\$34,300
28B	59C490	Fir Creek	19	22	2006	County	\$32,300
29B	59C422	Dry Creek	63	21	2006	HBRR/County	\$113,700
30B	59C602	Greasewood Creek	20	24	2006	County	\$34,300
31B	59C207	Furnish Ditch	20	19	2006	County	\$33,700
32B	59C069	Rieth/Umatilla River	245	22	2007	HBRR/County	\$443,900
33B	59C455	Milton Nursery/W-W River	225	24	2007	HBRR/County	\$410,400
34B	59C378	Thornhollow Cattle Pass	20	24	2007	County	\$34,300
35B	59C327	Hunt Ditch	40	20.5	2007	HBRR/County	\$67,600
Total							\$2,441,600

Notes:

- (1) Project has already been completed.
- (2) Project is scheduled for construction this year (1999).
- (3) Estimated cost includes bridge removal and new construction costs. Construction cost estimates assumed at least a 28-foot bridge width to account for a sidewalk on at least one side of bridge.

The total cost to remove and replace the existing bridges was determined using 1997 square foot construction cost estimates, supplied by ODOT, which were taken from the latest prospectus completed for the federal Highway Bridge and Roadway Rehabilitation (HBRR) fund. These estimates assume a cost of \$6 per square foot for bridge removal, and \$56 to \$60 per square foot for bridge construction, depending on the bridge span. Existing bridge widths and lengths were used when calculating bridge construction costs.

Other Deficient Bridges/Potential Projects

The current Umatilla roadway department's bridge replacement program does not include a number of county bridges identified as deficient in the state bridge inspection program. This is partly because the planning period for the county's bridge replacement program only covers a ten year period. This plan recommends that the Umatilla County roadway department extend its program to cover a 20-year period to allow for short- and long-term planning. An extended planning period would permit the department to expand its bridge replacement project list to include needed projects.

The county's project list should be expanded to include, at least, the bridges identified as being structurally deficient and functionally obsolete. (Replacement of structurally deficient and functionally obsolete bridges should receive higher priority than replacement of bridges with low sufficiency ratings, less than 55.)

Eight county bridges were identified in the state bridge inspection inventory as being structurally deficient which were not included in the ODOT 2000-2003 STIP Update or the county's list of bridge replacement projects. Table 6-4 describes each of these bridges and includes replacement cost estimates. The location of these bridges are illustrated in Figure 6-3 and are identified by a project number (#D) unique to their condition.

TABLE 6-4
REPLACEMENT OF STRUCTURALLY DEFICIENT BRIDGES

Project No.	Bridge No.	Bridge Location	Length (feet)	Width (feet)	Estimated Cost*
1D	59C119	South Juniper Canyon over South Fork Juniper Canyon	25	21.6	\$42,500
2D	59C145	South Fork Cold Springs Road over South Fork Cold Springs	42	22.8	\$71,600
3D	59C025	Stage Gulch Road over US Feed Canal	65	28.0	\$120,100
4D	59C209	Bartley Road over US Feed Canal	49	18.5	\$82,300
5D	59C213	Loop Road over Stanfield Drainage Ditch	25	22.2	\$42,500
6D	59C401	Wild Horse Road over Wild Horse Creek	26	19.8	\$43,900
7D	59C421	Sams Road over Dry Creek	42	18.7	\$70,600
8D	59C529	County Road 708 over Pine Creek	40	20.6	\$67,700
Total:					\$541,200

Note: *Estimated cost includes bridge removal and new construction costs. Construction cost estimates assumed at least a 28-foot bridge width to account for a sidewalk on at least one side of bridge.

There are 16 more bridges which were identified as being functionally obsolete in the state bridge inspection inventory that were also not included in the ODOT 2000-2003 STIP Update or the county's list of bridge replacement projects. Table 6-5 presents these bridges along with their replacement costs. The location of these bridges are also illustrated in Figure 6-3 and were assigned a project number (#F) unique to their condition.

**TABLE 6-5
REPLACEMENT OF FUNCTIONALLY OBSOLETE BRIDGES**

Project No.	Bridge No.	Bridge Location	Length (feet)	Width (feet)	Estimated Cost ⁽¹⁾
1F	59C065	Yellow Jacket Road over West Birch Creek	35	20.0	\$59,100
2F	59C093	Nolin Bridge over the Umatilla River	144	18.5	\$257,900
3F	59C099	Cunningham Road over the Umatilla River	135	20.2	\$243,200
4F	59C198	Townsend Road over "A" Line Canal	28	19.0	\$47,100
5F	59C227	SE 10th Street over "A" Line Canal	28	16.2	\$46,600
6F	59C231	North Ott Road over "A" Line Canal	31	20.1	\$52,400
7F	59C356	Wild Horse Road over Wild Horse Creek	82	20.2	\$147,700
8F	59C440	MF Cemetery Road over the Walla Walla River	158	27.1	\$291,100
9F	59C483	Birch Creek Road over Walla Walla River	112	22.8	\$203,500
10F	59C568	County Road 825 over Wild Horse Creek	59	22.0	\$100,300
11F	59C703	Thiesen Road over Furnish Ditch	31	24.0 ⁽²⁾	\$73,100
12F	59C705	Rieth Road over US Feed Canal	37	22.8	\$63,100
13F	59C706	Rieth Road over Furnish Ditch	25	22.4	\$42,600
14F	59C708	Rieth Road over Furnish Ditch	28	22.3	\$47,700
15F	59C721	Rieth Road over Furnish Ditch	23	22.5	\$39,200
16F	59C752	Rieth Road over Furnish Ditch	30	22.3	\$51,100
				Total:	\$1,765,900

Note: (1) Estimated cost includes bridge removal and new construction costs. Construction cost estimates assumed at least a 28-foot bridge width to account for a sidewalk on at least one side of bridge.
 (2) The estimated replacement width of this bridge is 40 feet.

Furthermore, there are 17 additional bridges which have sufficiency ratings less than 55 that were also not included in the ODOT 2000-2003 STIP Update or the county's list of bridge replacement projects. A description of these bridges is as follows:

- Bridge #59C018 on County Road 1061 over Dry Gully
- Bridge #59C081 on County Road 1411 over Bear Creek
- Bridge #59C117 on County Road 983 over North Fork Cold Spring
- Bridge #59C222 on County Road 1201 over Furnish Ditch
- Bridge #59C226 on County Road 1219 over Maxwell Ditch
- Bridge #59C229 on County Road 1217 over IRR Canal
- Bridge #59C241 on County Road 1251 over IRR Canal
- Bridge #59C264 on County Road 1250 over North Canal
- Bridge #59C280 on County Road 1196 over Maxwell Ditch
- Bridge #59C286 on County Road 1191 over "A" Line Canal
- Bridge #59C287 on County Road 1187 over Maxwell Ditch
- Bridge #59C312 on County Road 1231 over Westland A Canal
- Bridge #59C407 on County Road 641 over Hay Creek
- Bridge #59C572 on County Road 844 over Greasewood Creek
- Bridge #59C581 on County Road 814 over Sand Hollow
- Bridge #59C628 on County Road 953 over Greasewood Creek

- Bridge #59C726 on IRR River Road over Meacham Creek.

Recommendation

It is recommended that the structurally deficient and functionally obsolete bridges listed above be added to the county’s bridge replacement program and that the plan be expanded to cover a 20-year time period. The county should also consider options for improving bridges with low sufficiency ratings.

Option 4: ODOT Modernization, Preservation, Safety, Interstate Maintenance, and Bicycle/Pedestrian Needs

ODOT Region 5 has formulated a needs assessment document for all interstate, state and US highways in Umatilla County. This document identifies and describes needed projects dealing with the modernization, preservation, and safety of roadways and bridges. It also includes interstate highway maintenance needs and bicycle/pedestrian needs for highways in the county.

Recommendation

It is recommended that the ODOT needs assessment projects summarized in Appendix B along with the potential roadway and bridge improvement projects identified in Options 2 and 3, be evaluated and prioritized through a coordinated effort between ODOT and county officials. This process will also involve earmarking projects for future STIP submittal.

SUMMARY

Table 6-6 summarizes the recommendations of the road system modal plan based on the evaluation process described in this chapter. Chapter 7 discusses how these improvement options fit into the modal plans for Umatilla County.

**TABLE 6-6
TRANSPORTATION IMPROVEMENT OPTIONS: RECOMMENDATION SUMMARY**

Option	Recommendation
1. Implement Transportation Demand Measures	• Implement
2. Umatilla County Roadway Improvement Projects	• Implement
3. Umatilla County Bridge Replacement Projects	• Implement
4. ODOT Modernization, Preservation, Safety, Interstate Maintenance, and Bicycle/Pedestrian Needs.	• Implement; ODOT has jurisdiction but project should be coordinated with county or affected cities.
5. ODOT Bridge Needs	• Implement; ODOT has jurisdiction but project should be coordinated with county or affected cities.

CHAPTER 7: TRANSPORTATION SYSTEM PLAN

The purpose of this chapter is to provide detailed operational plans for each of the transportation systems within Umatilla County. The Umatilla County TSP covers all the transportation modes that exist within the county. This is typically the area outside the urban growth boundaries (UGB's) of incorporated cities, the Umatilla National Forest boundaries, and the Confederated Tribes of the Umatilla Indian Reservation. Components of the Umatilla County TSP include roadway classification and design standards, access management recommendations, transportation demand management measures, modal plans, and a system plan implementation program.

Some areas located on the Umatilla Indian Reservation and within the UGB's of specific cities are addressed in this plan. Located in the modal plans section of this report, there are recommended transportation improvements, either identified previously in this plan or taken from a related study, which include a facility under county jurisdiction and require coordination between the county and another jurisdiction. Depending on the nature of each improvement project, the county may be responsible for providing all, none, or a portion of the funding necessary to implement each project. In some cases, coordination may consist of the county relinquishing ownership of a roadway to another jurisdiction with all subsequent improvements being the responsibility of that jurisdiction.

It should be noted that the Umatilla County TSP is not a plan for any specific city or the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). ODOT will be working with representatives from the CTUIR to develop a transportation system plan for the reservation. It should also be noted that the Joint Management Agreements the county has with the cities within the County address transportation needs as well as jurisdictional issues. The individual City TSPs apply to lands within their Urban Growth Boundaries and the County TSP applies to lands outside of established UGBs.

Previous Road Functional Classifications and Road Design Standards

At this time, Umatilla County has no official road functional classifications for roadways under county jurisdiction. However, existing road design standards do exist for county roads. Ordinance 87-2 was adopted in 1987 and has designations for urban, suburban, and rural county roads. Urban roads are classified as either arterials, collectors, minor roads, service and industrial roads, or cul-de-sacs. Suburban roads are classified as either arterials, collectors, or minor roads. Rural roads are classified as either recreational or local roads. Table 7-1 presents the existing design criteria for each of the county roadway standards which are to be replaced with the standards displayed in Table 7-2.

**TABLE 7-1
PREVIOUS COUNTY ROAD DESIGN STANDARDS**

Road Classification	Minimum Right of way	Minimum Surface Width	Curbing	Sidewalks
<i>Urban Areas:</i>				
Arterials	50 feet	36 feet	Yes	5 feet (both sides)
Collectors	50 feet	34 feet	Yes	5 feet (both sides)
Minor Streets	50 feet	32 feet	Yes	5 feet (both sides)
Service and Industrial Streets	80 feet	42 feet	Yes	5 feet (both sides)
Cul-de-Sacs	60 feet (Bulb Radius - 50 feet)	32 feet (Bulb Radius - 40 feet)	Yes	5 feet (both sides)
<i>Suburban Areas:</i>				
Arterial	60 feet	32 feet	No	No
Collector	60 feet	30 feet	No	No
Minor Street	60 feet	28 feet	No	No
<i>Rural Areas:</i>				
Recreation Roads ⁽¹⁾	60 feet	22 feet	No	No
Local Roads	60 feet	32 feet (unpaved)	No	No

Note: (1) A second option includes a 28-foot wide gravel road with a 60-foot ROW.

Future Road Functional Classifications and Road Design Standards

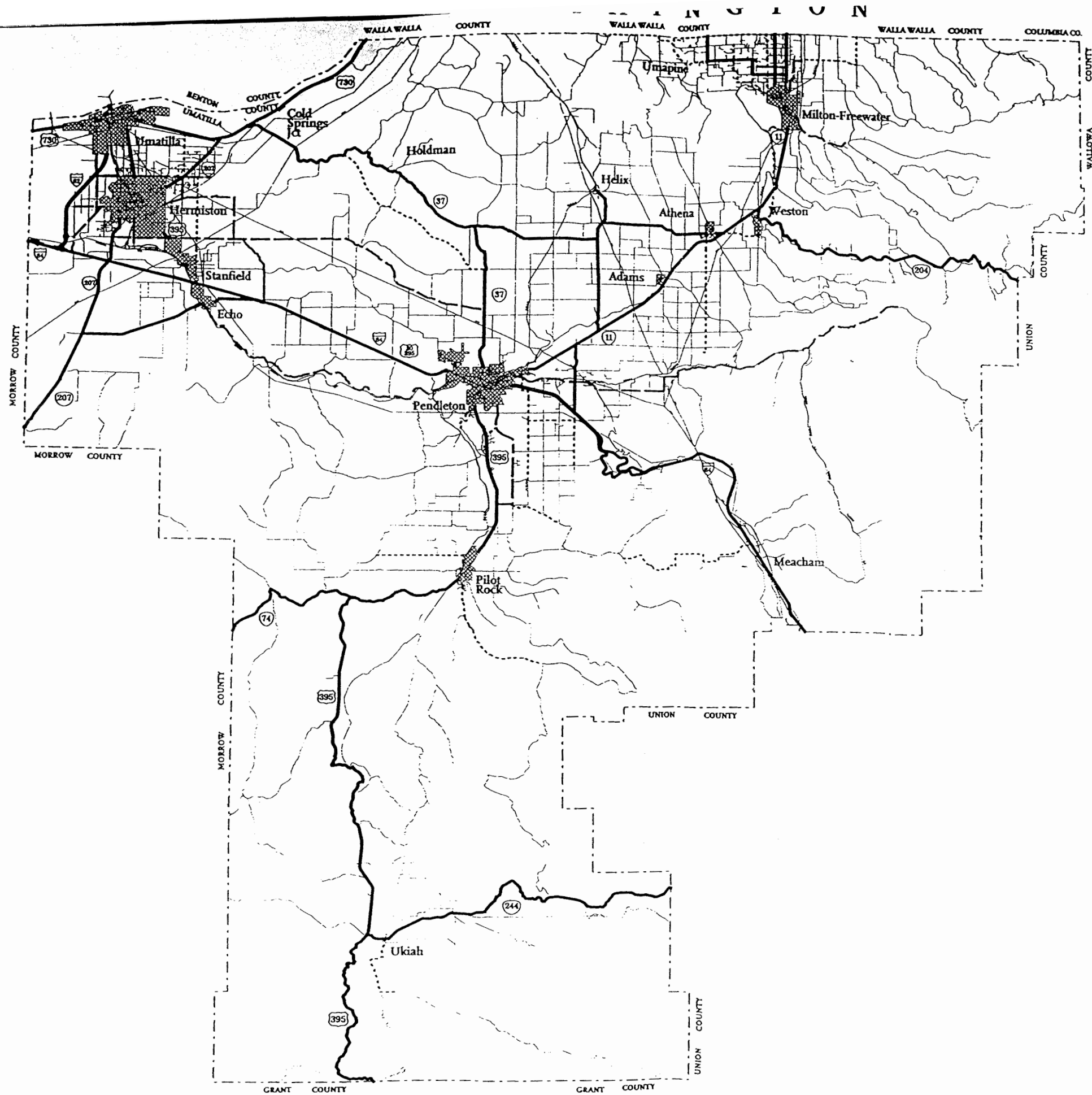
The development of the Umatilla County TSP provides the county with an opportunity to review and revise the functional classification of rural county roads and corresponding road design standards. These standards will ultimately be adopted as part of this plan.

It should be noted that the road functional classifications and road design standards identified in this section of the Umatilla County TSP apply only to the sections of county roads, *which lie outside the urban growth boundaries of incorporated cities*. Within the urban growth boundaries of cities, adopted city street classifications and design standards are to be employed, even along county-maintained roads. Although the outlying areas in many cities may presently have a rural appearance, these lands will ultimately be part of the urban area. Retrofitting rural roads in these areas to urban standards in the future is expensive and controversial. Therefore, an attempt should be made to bring them up to a more acceptable urban standard should always be considered, especially when development occurs.

The functional classification of a road system relates the design of a roadway to its function. The function is determined by operational characteristics such as travel demand, road capacity, and the operating speed of the roadway. Based on the existing and anticipated future use of the state and county roadway system, and the professional judgment of Umatilla County roadway department officials, a functional road classification system for the county has been devised. This system is shown graphically in Figure 7-1.

The new county road classification system includes four road classes. All arterials in Umatilla County are interstate, national, and state highways, part of the state highway system. Rural county roads are classified as either rural major collectors, rural minor collectors, or rural local roads and are assigned a County Road Number by the County Public Works Department. The rural major and minor collector roads are listed below in Table 7-2.

Other roads not identified as an arterial or collector, and are not located inside the urban growth boundary of a city, are **private roads or public rights of way**. **These roads are not County Roads** and are not maintained by the County. Umatilla County allows for the establishment of easements to provide legal access to parcels according to partitioning standards.



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NORTH

(NOT TO SCALE)

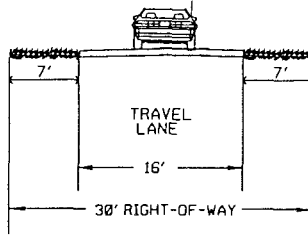
LEGEND:

- URBAN GROWTH BOUNDARY
- INTERSTATE, STATE, OR US HIGHWAY
- MAJOR COLLECTOR (COUNTY)
- MINOR COLLECTOR (COUNTY)
- LOCAL ROAD (COUNTY)

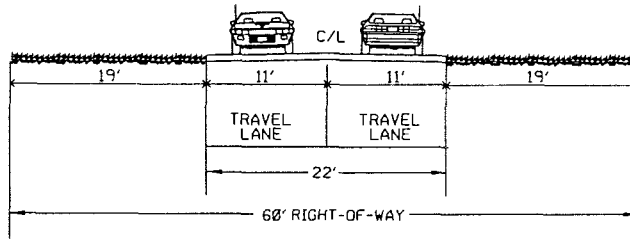
FIGURE 7-1

Future Roadway Functional Classification -Umatilla County

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OPTION 1: PRIVATE ROADS AND PUBLIC RIGHT-OF-WAY



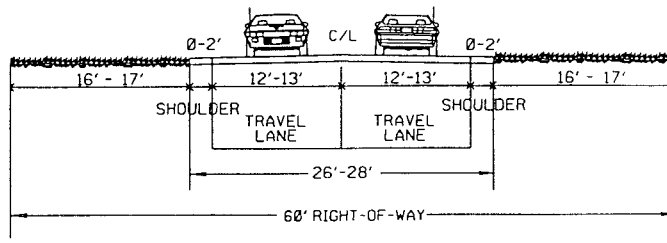
OPTION 2: PRIVATE ROADS AND PUBLIC RIGHT-OF-WAY


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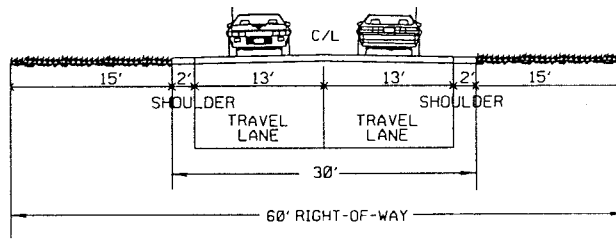
FIGURE 7-2A

Future Rural Road
 Design Standards
 Private Roads and Public Right-Of-Way

Umatilla County TSP



OPTION 1: RURAL LOCAL ROAD - RESIDENTIAL



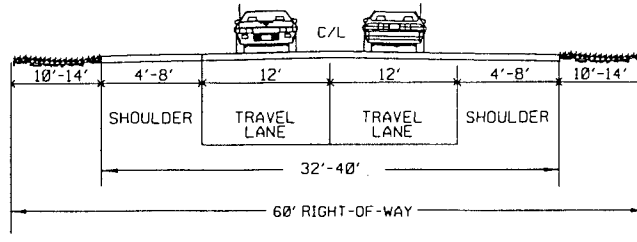
OPTION 2: RURAL LOCAL ROAD - INDUSTRIAL


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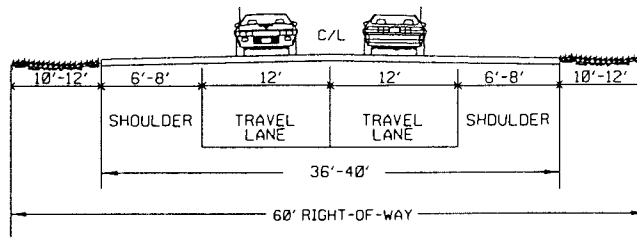
FIGURE 7-2B

Future Rural Road
 Design Standards
 Local Roads

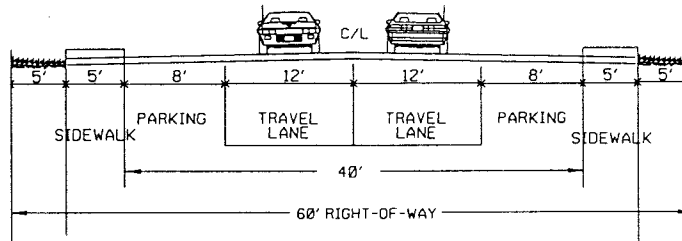
Umatilla County TSP



RURAL MAJOR AND MINOR COLLECTOR ROADS



RURAL ARTERIAL ROADS



URBAN ARTERIAL ROADS


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FIGURE 7-2C

Future Rural Road
 Design Standards
 Collector and Arterial Roads

Umatilla County TSP

**TABLE 7-2
FUNCTIONAL CLASSIFICATION OF ROADS IN UMATILLA COUNTY**

<u>Major Collectors</u>		<u>Minor Collectors</u>	
<u>Co. Rd. Number</u>	<u>Road Names</u>	<u>Co. Rd. Number</u>	<u>Road Names</u>
528	Appleton Rd.	500	Stateline Rd.
575	Eastside Rd. (Milton-Freewater UGB to Birch Creek Rd.)	517	Edwards/County Rd.
610	Walla Walla River Rd.	550	Birch Creek Rd./Hood Rd.
900	Mission Rd., Cayuse Rd, Bingham Rd.	625	Winesap Rd.
1000	Feedville Rd., Despain Gulch Rd.	643	Winn/Stein Rd.
1075	Tutilla Creek Rd., Shaw Rd.	650	Prunedale Rd., Stephens Rd., County
1190	North Loop Rd., East Loop Rd.	700	Umapine Rd.
1200	Bridge Rd.	737	Pambrum Rd.
1215	Westland Rd.	750	Bannister Rd.
1225	Powerline Rd. (City of Umatilla UGB to Westland Rd.)	850	South Cold Springs Rd.
1245	Hermiston-Hinkle Rd. (UPRR to Feedville Rd.)	908	Short Mile Rd.
1250	Punkin Center Rd. (395 to Sunshine Lane Rd., and 395 to Highway 207)	932	Tutuilla Church Rd.
1275	Umatilla River Rd. (Bensel Rd. to Punkin Center Rd.)	986	Riverside Ave.
1300	Reith Rd. (Echo UGB to Pendleton UGB)	987	Goad Rd.
		1025	South Market Rd.
		1027	South Market Rd.
		1046	Ross Rd.
		1050	Spring Creek Rd.
		1086	McKay Dr.
		1182	East Harding (Edwards Rd. to Ash Rd.)
		1201	South Edwards Rd.
		1246	Baxter Rd.
		1259	Craig Rd.
		1285	Beach Access Rd.
		1307	Korvola Rd.
		1375	E. Birch Creek Rd. (Pilot Rock UGB to Pearson Creek)
		1386	Circle Rd.
		1475	Soap Hill Rd. (Ukiah UGB to National Forest Boundary)

Note: All ODOT facilities including Interstate, State and US Highways comprise the arterial roads in the county.

The existing road design standards for rural county roads have been revised to more closely fit with the road functional classification system. Road design standards ensure the design of a roadway supports its intended function. Road standards institute design parameters necessary to provide a community with roadways which are relatively safe, aesthetic, and easy to administer when new roadways are planned or constructed. They are based on experience, and policies and publications of the profession.

The new road design standards for rural county roads are summarized in Table 7-3, and displayed in Figures 7-2A through 7-2C. These standards will be adopted as part of this plan.

**TABLE 7-3
FUTURE RURAL ROAD DESIGN STANDARDS**

Classification	Surface Width	Right of way Width	Min. Posted Speed
Private Roads and Public rights of way			
Option 1	16 feet	30 feet	--
Option 2	22 feet	60 feet	--
¹ Local Road			
Option 1 - residential	26-28 feet	60 feet	15-25 mph
Option 2 - industrial	30 feet	60 feet	15-25 mph
Major and Minor Collector			
Option 1	32-40 feet	60 feet	25-35 mph
Option 2 - Urban	40 feet	60 feet	35-55 mph
Arterial Roads			
Option 1	36-40 feet	60 feet	35-55 mph
Option 2 - Urban	40 feet	60 feet	35-55 mph

Note: The rural arterial road design standards above apply only to roadways that are under county jurisdiction, and do not apply to state highways.

Right of way widths identified above allow for safe conditions because of the extra clearance for vehicles on the road and the elimination of drivers' perception of a narrow road. Recommended shoulder widths, based on the amount of traffic expected along the road, are summarized in Table 7-4.

**TABLE 7-4
RECOMMENDED SHOULDER WIDTHS ON RURAL ROADS****

Road Use	Major and Minor		
	Local Roads	Collectors	Arterial Roads
ADT under 400	2 ft	2 ft	4 ft
ADT over 400	2 ft	4 ft	6 ft
DHV* under 100			
DHV 100-200	4 ft	6 ft	6 ft
DHV 200-400	6 ft	8 ft	8 ft
DHV over 400	8 ft	8 ft	8 ft

* DHV (Design Hour Volume) is the expected traffic volume in the peak design hour (usually at commuter times).

Source: 1991 Oregon Bicycle and Pedestrian Plan.

** Widths not provided for private roads and public rights of way

¹ To be used in new County Road construction and in areas of County Road improvements needed due to development

Private Roads and Public Rights of Way

Umatilla County allows for the establishment of ingress-egress easements to provide legal access to parcels. Although these are not roads under County jurisdiction, they are included in this Plan to recognize their existence and to set the standards for their creation. County Development Code Standards for partitions addresses the minimum required widths of these easements based on the number of parcels it serves. Option 1 in Figure 7-2A is to be used for easements serving 3 parcels or less. This standard includes a 16 foot surface width with a 30 foot easement width. Option 2 is to be used for easements serving 4 or more parcels. This standard includes a 22 foot surface width (two 11-foot travel lanes) with a 60 foot easement width.

The specific engineering and design standards for private roads and public rights of way are addressed and approved by the Umatilla County Public Works Department. Option 2 may apply to roads dedicated as public roads within a platted subdivision.

Local Roads

Generally, the average weekday traffic volume on a rural local road averages less than 500 vehicles per day, and design speeds are 15 - 25 MPH. The recommended standard for a rural local road is a 26-28 foot roadway within a 60-foot right of way, as shown in Figure 7-2B. Travel lanes would be 12 to 13-foot wide with two-foot-wide shoulders on both sides of the road if needed based on engineering standards. The narrower roads and travel lanes generally improve the neighborhood aesthetics in residential areas, and discourage speeding. They also reduce construction costs, storm water run-off, and vegetation clearance. It is expected that on rural local roads, parking will be off-pavement. The large right of way width reserves plenty of room for future expansion of the roadway to urban residential or collector road standards.

For the most part, rural roads will not include sidewalks. Pedestrians are generally accommodated on the shoulder of the road, as are bicyclists. However, in areas with high pedestrian or bicycle use, a pathway should be considered, preferably located on both sides of the roadway, separated from the roadway by at least five feet of greenbelt or drainage ditch.

Rural Major and Minor Collector Roads

Collector roads are primarily intended to serve abutting lands and local access needs of neighborhoods. They are intended to carry between 1,200 and 10,000 vehicles per day. Collectors can serve residential, commercial, industrial, and mixed land uses. Figure 7-2C shows a cross section with a 60-foot right of way and a 32- to 40-foot paved width. This width allows two 12-foot travel lanes and four- to eight-foot shoulders. Width of the shoulder is determined by anticipated traffic volumes, as shown in Table 7-4. It is expected that on rural collector roads, parking will be off-pavement. The recommended right of way allows for future expansion of the roadway to urban residential or collector road standards.

In most instances, rural collectors will not include sidewalks. Pedestrians are generally accommodated on the shoulder of the road, as are bicyclists. As is the case for local roads, in areas with high pedestrian or bicycle use, a pathway should be considered, preferably located on both sides of the roadway, separated from the roadway by at least five feet of greenbelt or drainage ditch.

In the instance that a collector road is located in a rural area deemed by the County as needing a more urban road design standard, Option 2 should be used. Examples of possible areas that may need a more urban road design are unincorporated communities such as Umapine, Reith, and Meacham, or areas where there are existing high density developments, such as subdivisions which already have sidewalks alongside the road. In these areas, a 40-foot paved surface should be provided, with two 12-foot travel lanes and on-street parking provided on both sides of the road. Curbing and 5-foot wide sidewalks should also be provided on

both sides. A 60-foot right of way should be maintained.

If traffic volume forecasts exceed 5,000 vehicles per day, then driveways serving single-family houses should not be permitted on that section.

Rural Arterial Roads

Arterial roads form the primary roadway network within and through a region. As shown in the future street classification map, every rural arterial is a state highway linking major cities in the county and providing a connection to urban areas outside of the region. These provide a continuous roadway system which distributes traffic between different neighborhoods and districts. Generally, arterial roads are high capacity roadways which carry high traffic volumes with minimal activity. Access should be provided along an intersecting rural, local, or collector road. Direct access to residential property along a rural arterial should be discouraged.

In the event that the county decides to construct or reclassify a rural road as an arterial, Figure 7-2C shows the recommended design standard. This would include a 60-foot right of way and a 36- to 40-foot paved width. This width allows two 12-foot travel lanes and six- to eight-foot shoulders. Width of the shoulder is determined by anticipated traffic volumes, as shown in Table 7-4. No on-street parking should be allowed on this type of design standard.

For the most part, rural arterial roads will not include sidewalks. Pedestrians are generally accommodated on the shoulder of the road, as are bicyclists. However, in areas with high pedestrian or bicycle use, a pathway should be considered, preferably located on both sides of the roadway, separated from the roadway by at least five feet of greenbelt or drainage ditch.

In the instance that arterial road is located in a rural area deemed by the County as needing a more urban road design standard, Option 2 should be used. Examples of possible areas that may need a more urban road design are unincorporated communities such as Umapine, Reith, and Meacham, or areas where there are existing high density developments, such as subdivisions which already have sidewalks alongside the road. In these areas, a 40-foot paved surface should be provided, with two 12-foot travel lanes and on-street parking provided on both sides of the road. Curbing and 5-foot wide sidewalks should also be provided on both sides. A 60-foot right of way should be maintained.

Cul-de-Sac Roads

Cul-de-sac, or “dead-end” residential roads are intended to serve only the adjacent land in residential neighborhoods. These streets should be as short as possible.

The recommended road and shoulder width is the same as the local road standard. However, the required amount of right of way may be less than 60 feet.

Because cul-de-sac streets limit road connectivity, they should only be used where topographical or other environmental constraints prevent road/street connections. Where cul-de-sacs must be used, pedestrian and bicycle connections to adjacent cul-de-sacs or through-streets should be provided.

Bike Lanes

In cases where a bikeway is proposed within the road right of way, five to six feet of roadway pavement (between curbs) should be striped for bike lanes on each side of the road. The striping should be done in conformance with the *State Bicycle and Pedestrian Plan* (1995). Where there will be curb parking the bike lane will be located between the parking and travel lanes. In some situations, curb parking may have to be removed to permit a bike lane.

Bikeways should be added when new roads are built or road improvements are made as part of the road system plan.

On existing arterial and collector roads that are not scheduled to be improved as part of the road system plan, bike lanes may be added at any time to encourage cycling, or when forecast traffic volumes exceed 2,500 to 3,000 vehicles per day. The striping of bike lanes on roads which lead directly to schools should be high priority.

Sidewalks

Along rural county roads, sidewalks may not be necessary. However, paved or improved shoulders should be provided with a sufficient width to safely accommodate pedestrians (see Table 7-4).

Sidewalks should be constructed along the collector and arterial roads located in areas deemed by the county as “urbanizable.” (See recommended road standards for rural major and minor collects and rural arterial roads.)

Another essential component of the sidewalk system is road crossings. Intersections must be designed to provide safe and comfortable crossing opportunities. This includes crosswalks, signal timing when traffic signals are present, (to ensure adequate crossing time) and other enhancements such as curb extensions, which are used to decrease pedestrian crossing distance and as traffic calming measures.

ACCESS MANAGEMENT

Access management is an important tool for maintaining a transportation system. Too many access points along arterial roads lead to an increased number of potential conflict points between vehicles entering and exiting driveways and through vehicles on the arterial roads. This leads to not only increased vehicle delay and a deterioration in the level of service on the arterial, but also a reduction in safety. Research has shown a direct correlation between the number of access points and collision rates. Experience throughout the United States has also shown that a well-developed access plan for a road system can minimize local cost for additional capacity and/or access improvements along unmanaged roadways. Therefore, it is essential that all levels of government maintain the efficiency of existing arterial roads through better access management.

The Transportation Planning Rule (TPR) defines access management as measures regulating access to streets, roads and highways from public roads and private driveways and requires that new connections to arterials and state highways be consistent with designated access management categories. As Umatilla County continues to develop, the arterial/collector/local road system will become more heavily used and relied upon for a variety of travel needs. As such, it will become increasingly important to manage access on the existing and future arterial/collector road system as new development occurs.

One objective of the Umatilla County TSP is to develop an access management policy that maintains and enhances the integrity (capacity, safety, and level-of-service) of the county’s roads. Too many access points along a road can contribute to a deterioration of its safety, and on some roads, can interfere with efficient traffic flow.

Access Management Techniques

The number of access points to an arterial can be restricted through the following techniques:

- Restrictions on spacing between access points (driveways) and public/private roads based on the type of development and the speed along the arterial.
- Sharing of access points between adjacent properties.
- Providing access via collector or local roads where possible.

- Constructing frontage roads to separate local traffic from through-traffic.
- Providing service drives to prevent spill-over of vehicle queues onto the adjoining roadways.
- Providing acceleration, deceleration, and right-turn only lanes.
- Offsetting driveways to produce T-intersections to minimize the number of conflict points between traffic using the driveways and through traffic.
- Installing median barriers to control conflicts associated with left-turn movements.
- Installing barriers to the property along the arterial to restrict access width to a minimum.

Recommended Access Management Standards

Access management is hierarchical, ranging from complete access control on freeways to increasing use of roads for access purposes, to including parking and loading at the local and minor collector level. Table 7-5 describes recommended general access management guidelines by roadway functional classification.

**TABLE 7-5
RECOMMENDED ACCESS MANAGEMENT STANDARDS**

Functional Classification	Intersections ⁽²⁾			
	Public Road		Private Drive	
	Type ⁽¹⁾	Spacing	Type	Spacing
Arterial				
State Highways	(3)	(3)	(3)	(3)
Major Collectors (listed in Table 7-2)	At-grade	¼ mile	L/R Turns	500 ft.
Major and Minor Collectors (listed in Table 7-2)	at-grade	500 ft.	L/R Turns	250 ft.
Local Road	at-grade	250 ft.	L/R Turns	Access to Each Lot
Alley (Urban)	at-grade	100 ft.	L/R Turns	Access to Each Lot

Notes:

- (1) For most roadways, at-grade crossings are appropriate.
- (2) Allowed moves and spacing requirements may be more restrictive than those shown to optimize capacity and safety. Also, see section below on "Access Control Rights" along state highways.
- (3) See Access Management Spacing Standards, Appendix C of the 1999 Oregon Highway Plan.

Application

These access management standards are generally not intended to eliminate existing intersections or driveways. Rather, they should be applied as new development occurs. Over time, as land is developed and redeveloped, access to roadways will meet these standards. However, where there is a recognized problem, such as an unusual number of collisions, these techniques and standards can be applied to retrofit existing roadways.

To summarize, access management strategies consist of managing the number of access points and providing traffic and facility improvements. The solution is a balanced, comprehensive program that provides reasonable access while maintaining the safety and efficiency of traffic movement.

State Highways

Although state highways comprise some of the most important routes in the Umatilla County transportation system, these highways are under ODOT jurisdiction and are subject to access management spacing standards in the 1999 Oregon Highway Plan. Although Umatilla County may designate state highways as arterial roadways within their transportation systems, the access management for these facilities follow the Access Spacing Standards of the OHP. Table B-6 shows the 1999 OHP access management classifications and standards for highways of different highway classifications.

Access Management Spacing Standards for Interchanges

Although a freeway interchange serves both the freeway and the crossroad to which it connects, it is important that the interchange be managed to maintain safe and efficient operation of the freeway through the interchange area. The main problem to avoid is the formation of traffic queues on freeway off-ramps which back up into portions of the ramps needed for safe deceleration from freeway speeds. This is a significant safety concern. The purpose of these interchange access spacing standards is to preserve the function of the interchange to provide safe and efficient operations between connecting roadways and to minimize the need for major improvements of existing interchanges.

The access spacing standards for interchanges with two-lane County crossroads are shown in the table 7-6 and figure 7-3 below. It should be noted that the interchange access management standards displayed in the table supercede the general access management standards shown in Table 7-5 above, unless the latter standards are greater.

TABLE 7-6
MINIMUM SPACING STANDARDS APPLICABLE TO FREEWAY INTERCHANGES
WITH TWO-LANE COUNTY CROSSROADS

Category of Mainline	Type of Area	Spacing Dimension			
		A	X	Y	Z
FREEWAY	Fully Developed Urban	1 mile	750 ft	1320 ft	750 ft
	Urban	1 mile	1320 ft	1320 ft	990 ft
	Rural	2 mile	1320 ft	1320 ft	1320 ft

Notes:

- 1) These distances may be superceded by the Access Management Spacing Standards, providing the distances are greater than the distances listed in the above table.
- 2) No four-legged intersections may be placed between ramp terminals and the first major intersection.

A = Distance between the start and end of tapers along freeway between adjacent interchanges

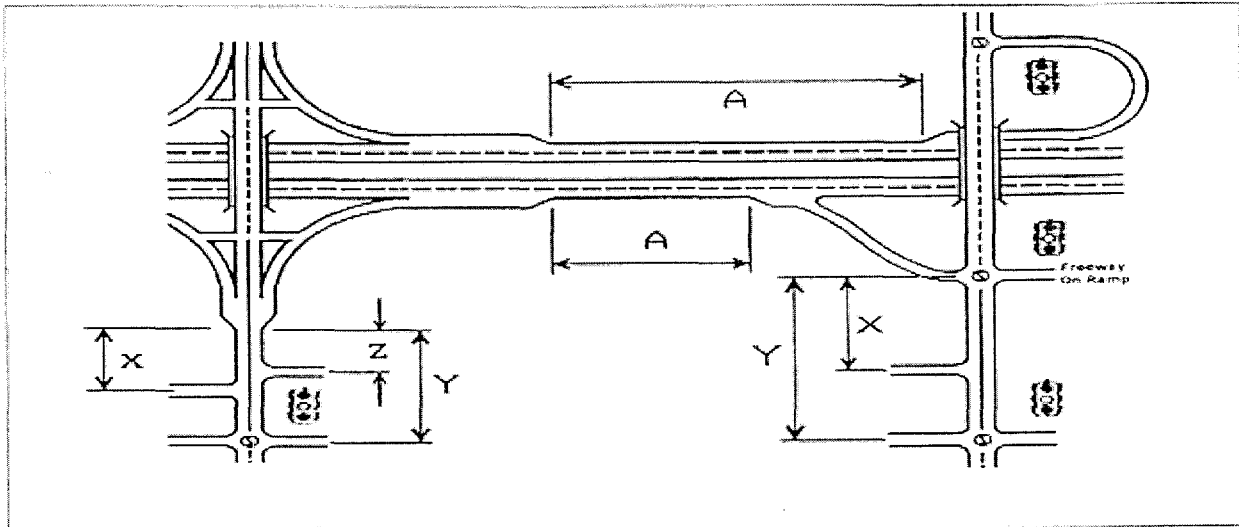
X = Distance to the first approach on the right side of the two-lane crossroad; right in/ right out only

Y = Distance to first major intersection on the two-lane crossroad; no left turns allowed within this roadway section

Z = Distance between the last right in/ right out approach to the two-lane crossroad and the start of the taper for the on-ramp to the freeway

Figure 7-3

**MINIMUM SPACING STANDARDS APPLICABLE TO FREEWAY INTERCHANGES
WITH TWO-LANE COUNTY CROSSROADS**



These standards are consistent with 1999 Oregon Highway Plan, Access Management Standards for Interchanges and apply mainly to new development. In general, new accesses are not allowed within 1320 feet of the intersection of the freeway ramps and the County crossroad, which are referred to as ramp terminals. Standards for Freeway Interchanges with multi-lane or two lane crossroads that are state highways are included in Appendix C of the 1999 Oregon Highway Plan.

Access Control Rights

Historically, owners of property abutting public roadways have enjoyed a common law abutter's right of access to the roadway. However, in order to provide for a transportation system that would accommodate changing public needs, legislation has been passed to modify the rights of access. Oregon Revised Statutes specify among other property rights, the right of access can be purchased or condemned as deemed necessary for rights of way. The Oregon Department of Transportation has purchased access control rights from many properties along state highways.

Once the state has acquired the access rights to a property, road approach permits can only be issued at locations on the property where the right of access has been reserved. These "reservations of access" give the property owner the common law right of access to the state highway only at specific locations and they are clearly identified in the deed where the property owner sold the right of way to the state. If the owner wants to gain additional access rights to the highway, they must apply for a "grant" of access.

There may be local road connections shown in this Transportation System Plan that will require modifying the existing access rights or gaining additional access rights to the state highway system. Review of this TSP by ODOT does not imply tacit approval to modify or grant additional access rights. This must be accomplished by applying to ODOT for such modification or grant.

An "Indenture of Access" is used to modify existing access rights such as moving or widening the reservation or lifting other restrictions that may have been placed on it. A "Grant of Access" is required to

gain an additional access point to the highway and, depending on the circumstances, may require payment to the state for the market value of the grant. Application for both the Indenture and Grant of Access is made to local ODOT District Office.

Rural Major and Minor Collectors

The county has identified rural major and minor collectors throughout the county (see Figure 7-1 and Table 7-2). These designations are appropriate as these roadways are essential connectors between major destinations, but are secondary routes to the state highways (arterials).

MODAL PLANS

The Umatilla County modal plans have been formulated using information collected and analyzed through a physical inventory, forecasts, goals and objectives, and input from transportation management groups and area residents. They consider the transportation system needs for Umatilla County over the next 20 years considering the growth projections discussed in Chapter 5, and the recommended transportation improvements evaluated in Chapter 6 of this plan. The modal plans are also based on the recommendations of other transportation studies, completed or on-going, for other cities and highway corridors in the county, where coordination with the county will be necessary.

Road System Plan

The road system plan outlines a series of roadway and bridge improvements recommended for construction within Umatilla County over the next 20 years. The plan includes all county-specified projects recommended for implementation in Chapter 6 (Improvement Options), and any projects that are recommended in the eight city TSPs (Adams, Athena, Echo, Helix, Pilot Rock, Stanfield, Ukiah, and Weston) where coordination with and/or funding through the county is necessary, (i.e., projects involving county roads which are located inside a city's urban growth boundary). The road system plan also includes other projects recommended for implementation in other completed Transportation System Plans and Corridor Plans, where projects are located entirely along or partially along a county-maintained road. Such plans include:

- City of Hermiston TSP – prepared by David Evans and Assoc., Inc. (May 30, 1997)
- Pendleton TSP – prepared by Kittelson & Assoc., Inc. (December 26, 1996)
- Milton-Freewater/Stateline, Highway 11 Corridor Land Use and Transportation Plan – prepared by David Evans and Assoc., Inc. (January, 1998)
- City of Umatilla TSP – prepared by Kittelson & Assoc., Inc.
- US 395 North Corridor Plan – prepared by OTAK and Kittelson & Assoc., Inc.
- OR Highway 11 Corridor Plan – being prepared by David Evans and Assoc., Inc.
- Buildable Lands Inventory (Cities of Stanfield and Hermiston) – prepared by Shapiro and Assoc., Inc.

Several projects have also been identified by HUES, a growth impact strategic planning group of representatives from cities of Hermiston, Umatilla, Echo, and Stanfield, as well as the county, ODOT, and the Department of Corrections. The intention of the HUES Group is to identify the transportation needs of the Western County district and make sure these needs are recognized and included in the transportation planning activities of both the county and state. In August 1998, the HUES Group produced a Road Transportation Priorities report. The projects in this report pertaining to the county road system plan have been included, along with a description of the work to be performed and planning level cost estimates. The HUES Group's report can be found in Appendix E.

Roadway Improvement and Bridge Replacement Projects

The road system plan contains a multitude of roadway improvement and bridge replacement projects. In order to represent the common interests of people living and working in a community, group of communities or region, the county was initially broken up into four transportation districts (Western, Central, Eastern and Southern). At a March 18, 1999 meeting with representation from the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), County Commissioners, and county officials, it was decided that the entire CTUIR be established as a single transportation district, separate from the other four districts, to create a total of five transportation districts. Projects identified for the county as a whole were then assigned to each of these districts. Figure 7-3 presents the five transportation districts with the communities they represent listed below. These districts were devised with the help of county and state officials.

1. Western County – Hermiston, Umatilla, Echo, Stanfield
2. Central County – Pendleton, Pilot Rock
3. Eastern County – Adams, Athena, Helix, Weston, Milton-Freewater
4. Southern County – Ukiah
5. Confederated Tribes of the Umatilla Indian Reservation

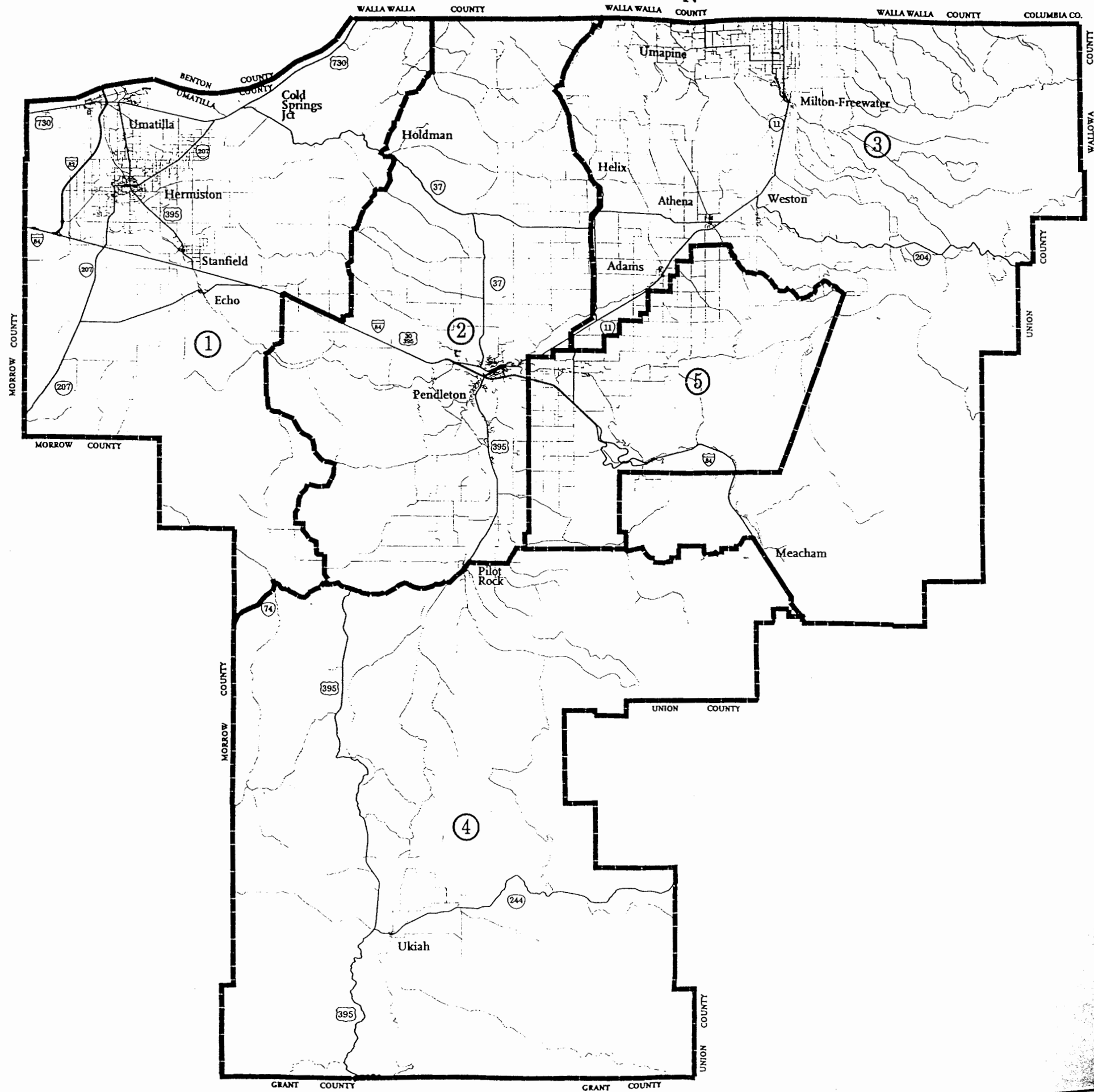
Tables 7-6 through 7-10 present all roadway improvement and bridge replacement projects for the five transportation districts in the county. The locations of projects in each district are displayed in Figures 7-4 through 7-8. The projects listed in each of the five transportation district tables do not reflect any level of prioritization. Projects are prioritized for each district in a capital improvement program (CIP), produced separately from the County TSP, and as a separate resolution. Each transportation district will be able to adjust the prioritization of projects in this CIP on a yearly basis. Once the CIP for all five districts has been established, each district will pursue project approval and implementation through the Umatilla County Board of Commissioners.

The inclusion of a project in the TSP does not constitute a commitment by ODOT or the county that either agency will participate in the funding of the project. ODOT's participation will be determined via the biennial updates of the multi-year STIP process, and the construction of any project is contingent upon the availability of future revenues. The county's participation will be according to project prioritization as indicated in the Capital Improvement Plan, and contingent upon available funding. Projects identified in the ODOT 2000-2003 STIP Update for Umatilla County have been omitted, under the assumption that they will eventually become approved projects scheduled for construction.

Even though a project is not listed, the project may still be completed by meeting other requirements in this TSP, County Comprehensive Plan, Development Code, or TSPs or Comprehensive Plans of other jurisdictions. The County may allow outright an improvement that is specifically identified in the Development Code as not requiring further land use regulation. This currently would allow the following categories of projects, even though not specifically listed in this TSP: (1) Normal operation, maintenance, repair and preservation activities of existing transportation facilities; (2) Installation of culverts, pathways, medians, fencing, guardrails, lighting and similar types of improvements within the existing right-of-way; (3) Landscaping as part of a transportation facility; (4) Emergency measures necessary for the safety and protection of property; (5) Acquisition of right-of-way for public roads, highways and other transportation improvements designated in this TSP or other jurisdiction's TSP except for those that are located in exclusive farm use or forest zone; (6) Construction of a street or road as part of an approved subdivision or land partition that is consistent with the applicable land division ordinances; (7) Projects listed in the TSP of another jurisdiction that extend beyond the boundary limits of that jurisdiction into the County. It is specifically recognized that the factors of a project may prevent the time and the process necessary for a

plan amendment and the project may be completed as an emergency measure necessary for the safety and protection of property.

WASHINGTON



DAVID EVANS
AND ASSOCIATES, INC.
2828 S.W. CORBETT AVENUE
PORTLAND, OR. 97201-4830 (503) 223-6663



NORTH

(NOT TO SCALE)

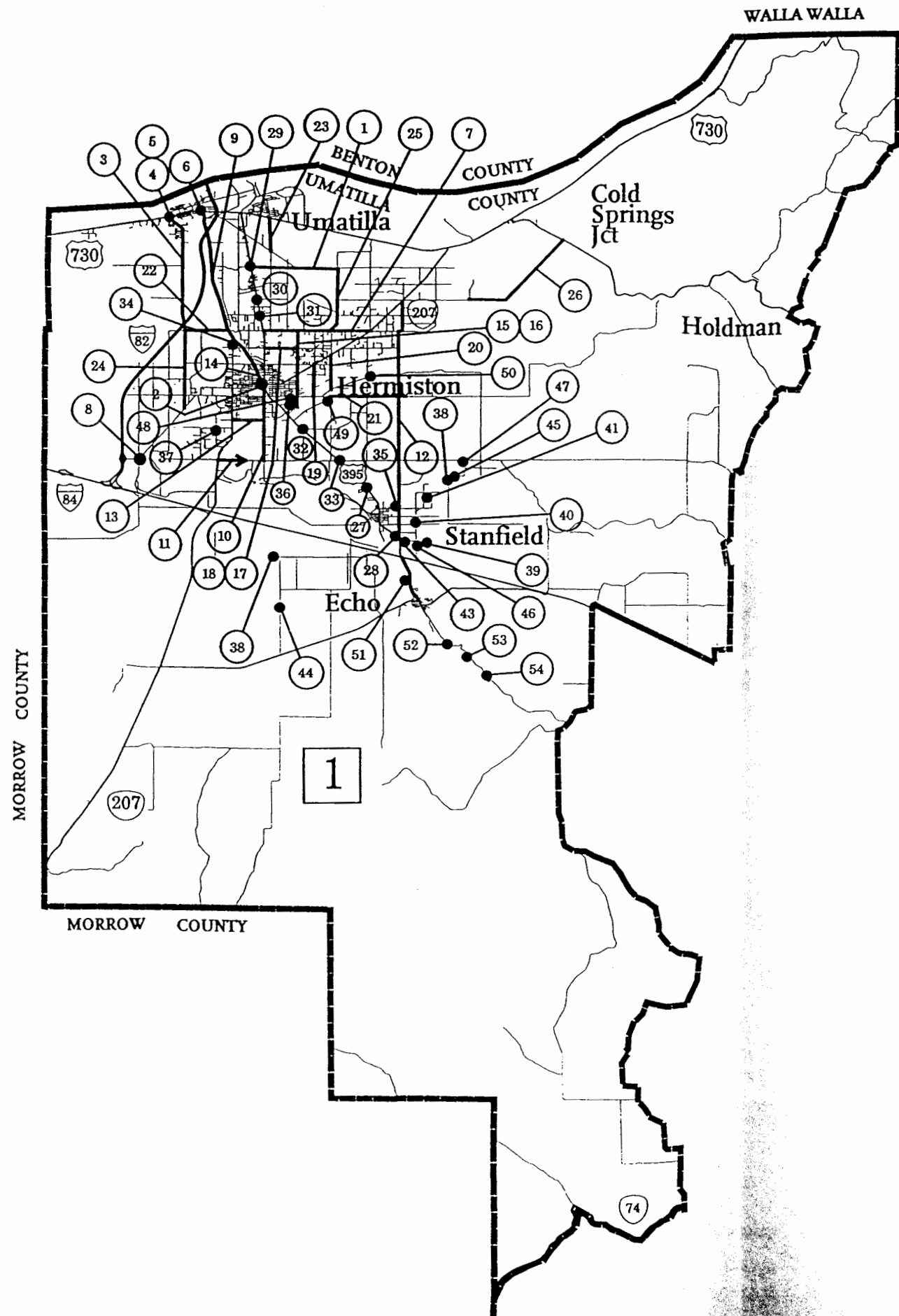
LEGEND:

— DISTRICT BOUNDARY

Ⓝ DISTRICT NUMBER

FIGURE 7-3

Umatilla County Transportation Districts



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NORTH

(NOT TO SCALE)

LEGEND:



PROJECT NUMBER



DISTRICT BOUNDARY



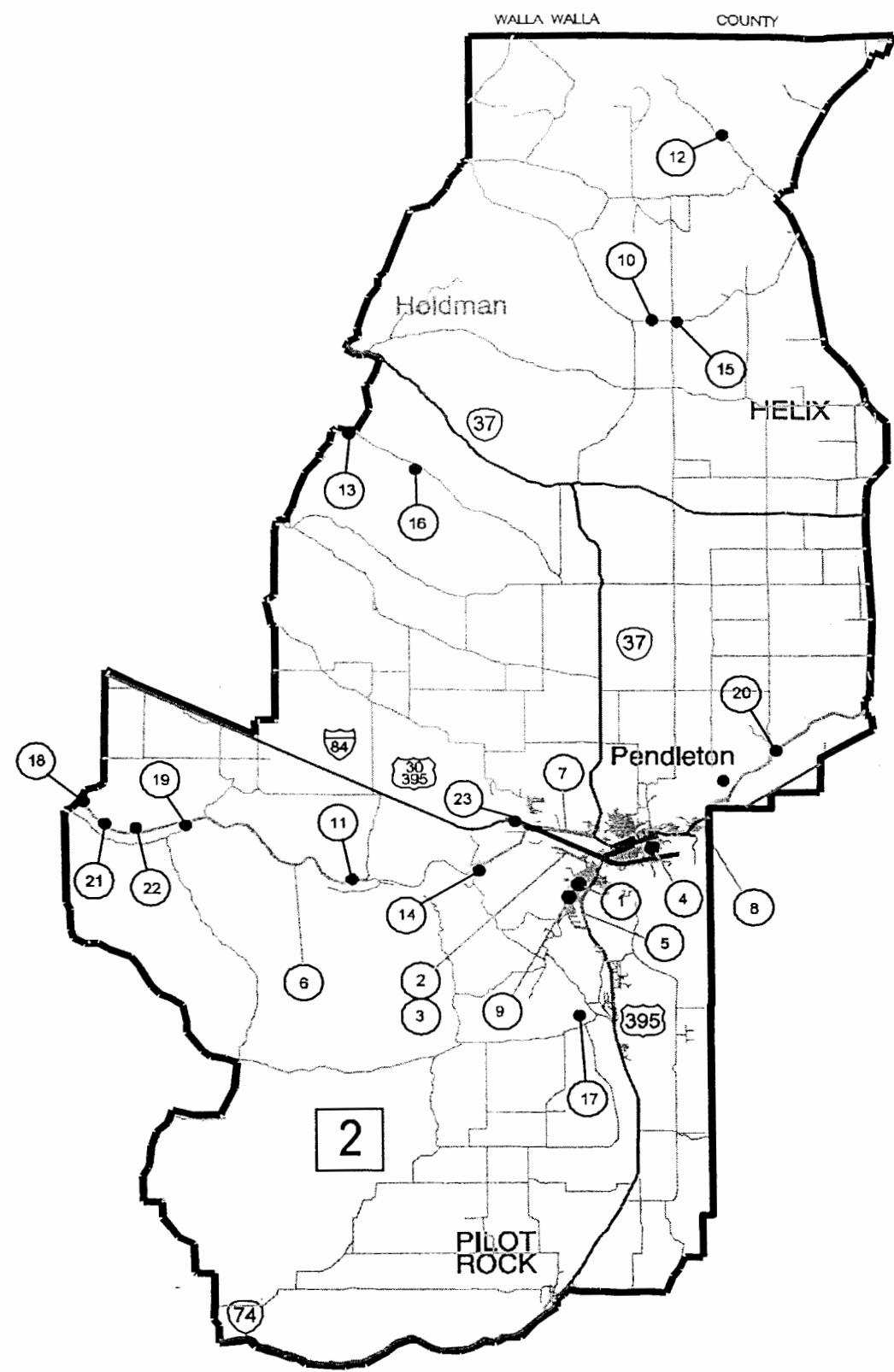
DISTRICT NUMBER


(REFER TO TABLE 7-8 IN REPORT
FOR PROJECT LOCATION /DESCRIPTION)

FIGURE 7-4

Roadway Improvement And
Bridge Replacement Projects
-Transportation District 1
(Western County)




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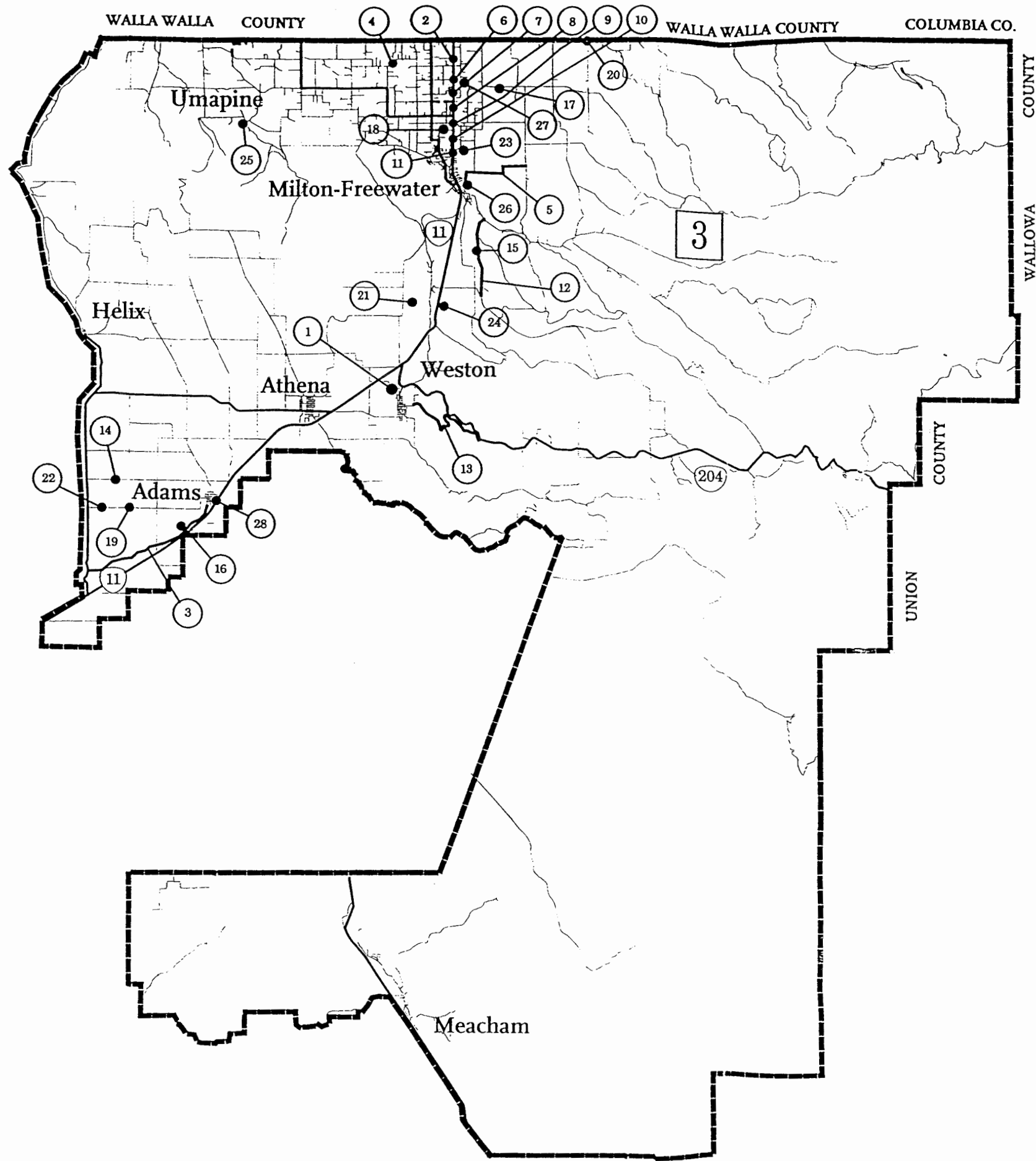


LEGEND:

-  PROJECT NUMBER
-  DISTRICT BOUNDARY
-  DISTRICT NUMBER

(REFER TO TABLE 7-9 IN REPORT FOR PROJECT LOCATION /DESCRIPTION)

FIGURE 7-5
Roadway Improvement And Bridge Replacement Projects -Transportation District 2 (Central County)




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 PORTLAND, OR 97201-4830 (503) 233-6663



NORTH

(NOT TO SCALE)

LEGEND:

- ① PROJECT NUMBER
- DISTRICT BOUNDARY
- 3 DISTRICT NUMBER

(REFER TO TABLE 7-10 IN REPORT FOR PROJECT LOCATION /DESCRIPTION)

FIGURE 7-6

Roadway Improvement And Bridge Replacement Projects -Transportation District 3 (Eastern County)



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(NOT TO SCALE)

LEGEND:

① PROJECT NUMBER

— DISTRICT BOUNDARY

4 DISTRICT NUMBER

(REFER TO TABLE 7-11 IN REPORT
FOR PROJECT LOCATION /DESCRIPTION)

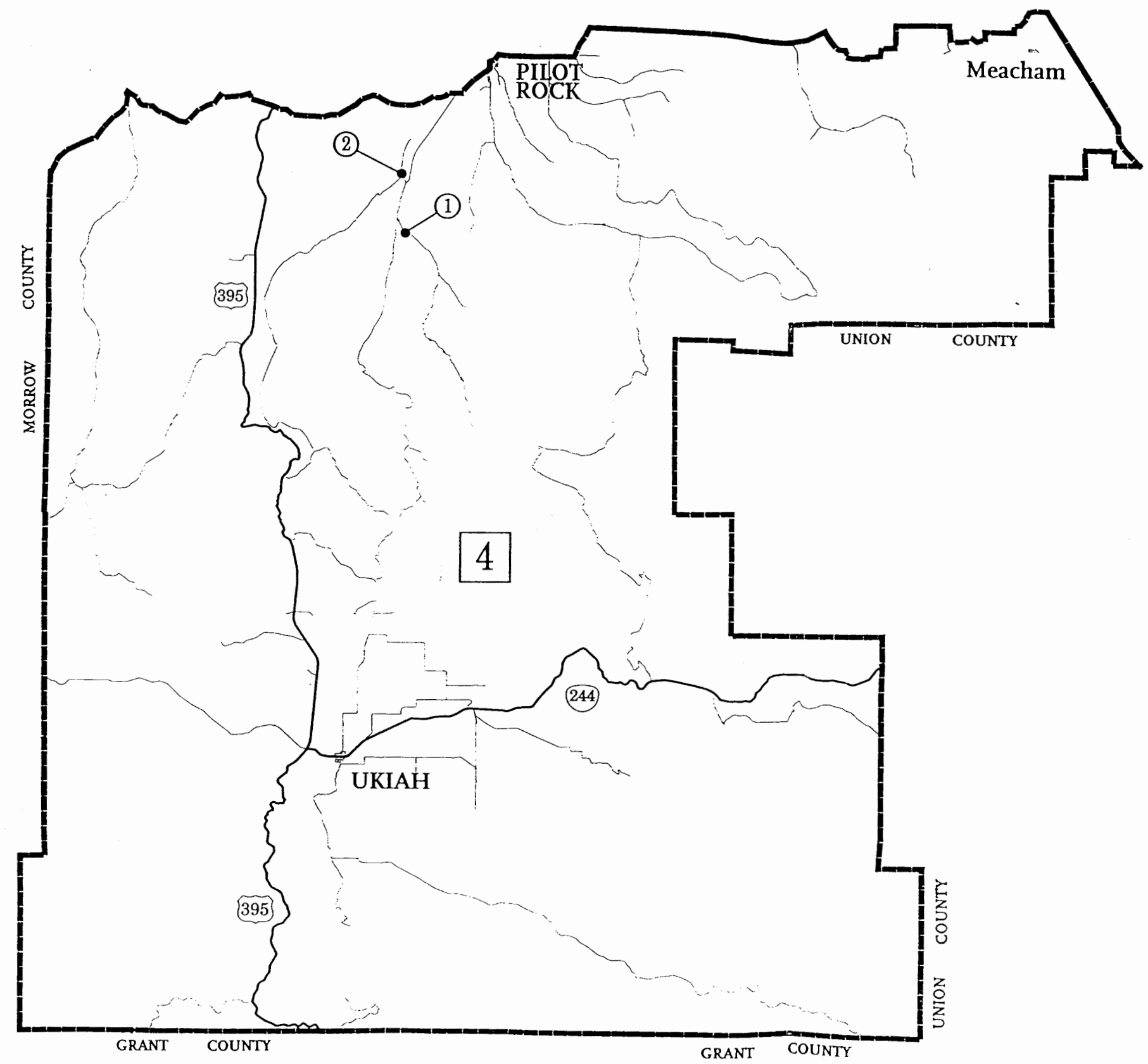


FIGURE 7-7

Roadway Improvement And
Bridge Replacement Projects
-Transportation District 4
(Southern County)

MCC 2011/11/03-98

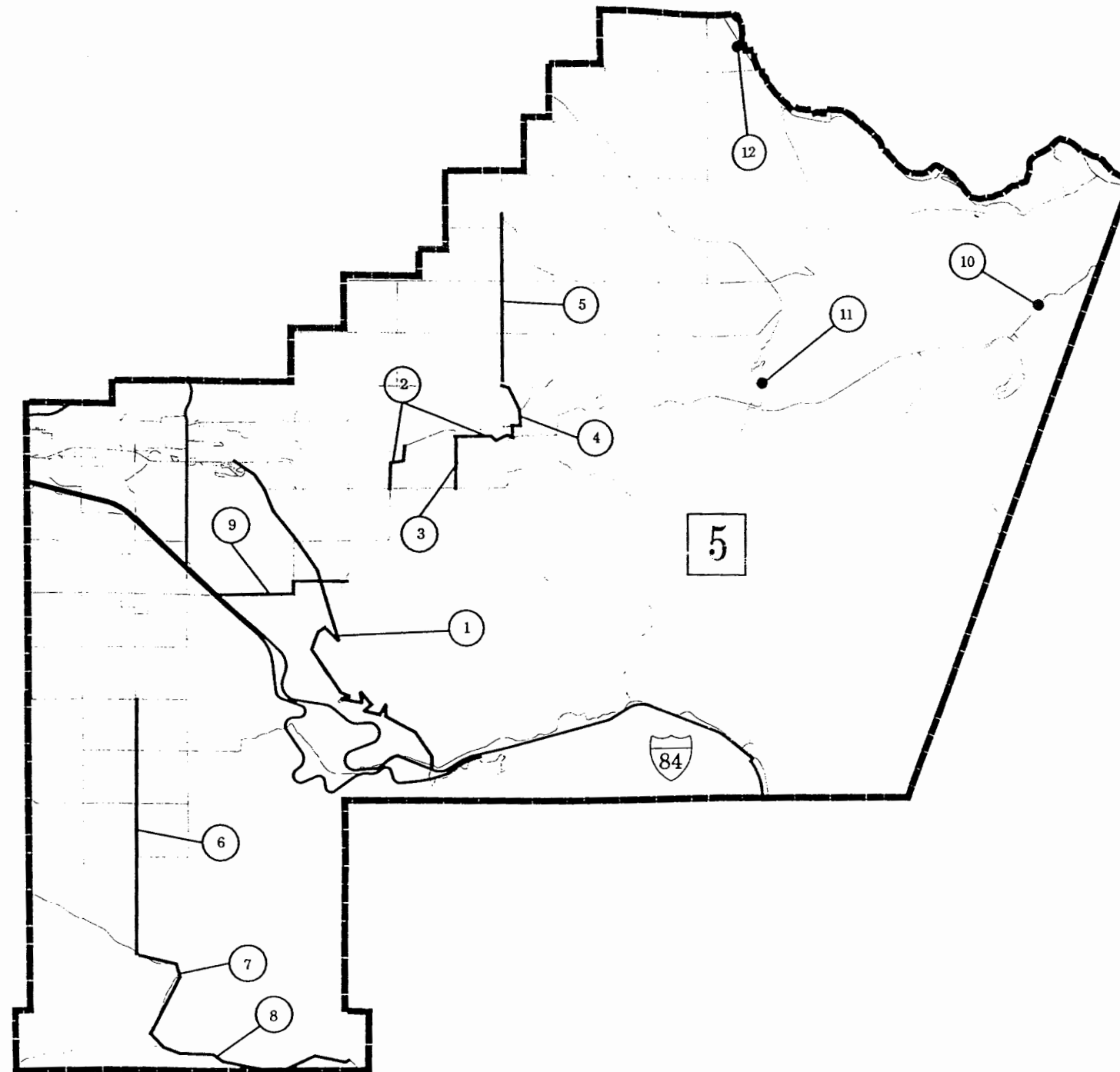


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NORTH

(NOT TO SCALE)



LEGEND:



PROJECT NUMBER



DISTRICT BOUNDARY



DISTRICT NUMBER

(REFER TO TABLE 7-12 IN REPORT
FOR PROJECT LOCATION /DESCRIPTION)

FIGURE 7-8

Roadway Improvement And
Bridge Replacement Projects
-Transportation District 5
(Umatilla Indian Reservation)

**TABLE 7-6
ROADWAY IMPROVEMENT AND BRIDGE REPLACEMENT PROJECTS –
TRANSPORTATION DISTRICT 1 (WESTERN COUNTY)
(SEE FIGURE 7-4 FOR LOCATION)**

Proj. No.	Project Name	County Rd/ Bridge No.	Location	Miles	Type of Work	Cost
1	Bensel Rd.	1268B	N. Ott to Hwy 395	2.6	Reconstruct and pave	\$600,000
2	Highland Ave. ⁽¹⁾⁽²⁾	1215	Highland Ave. and 11th St. Intersection (Hermiston)	NA	Realign intersection and replace traffic signal	\$209,000
3	Powerline Rd. /North of I-82 ⁽²⁾	1225	US 730 to I-82	3.6	Widen to include 6-foot shoulders and repave	\$1,728,000
4	Powerline Rd./US 730 Phase I ⁽²⁾⁽³⁾	1225	Intersection with US 730 (Umatilla)	NA	Install traffic signal	\$150,000
5	Powerline Rd./US 730 Phase II ⁽²⁾⁽³⁾	1225	Intersection with US 730 (Umatilla)	NA	Reconstruct Umatilla River Bridge, provide grade separation for the Powerline Rd./Hwy 730 intersection.	\$2,000,000
6	Umatilla River Rd./US 730 ⁽³⁾	1275	Intersection with US 730 (Umatilla)	NA	Install traffic signal	\$130,000
7	Punkin Center Rd. ⁽²⁾	1250	US 395 to Diagonal Rd. (Hermiston)	3.28	Widen, align, shoulder and pave rural section/ Urban upgrade ⁽⁶⁾	\$4,171,500
8	Westland Rd. ⁽²⁾	1215	Intersection w/Lamb, Walker and Westland	NA	Align and reconstruct intersection	\$250,000
9	Umatilla River Rd. Phase I ⁽²⁾	1275	US 730 to Elm Ave (City of Umatilla, Hermiston)	5.2	Widen, align, shoulder and pave rural section/ Urban upgrade ⁽⁶⁾	\$3,512,000
10	Hermiston-Hinkle Rd. ⁽²⁾	1245	Hinkle Rd. to Highland Ave. (Hermiston)	2.65	Widen, align, shoulder and pave rural section/ Urban upgrade ⁽⁶⁾	\$2,381,000
11	Feedville Rd. ⁽²⁾	1000	End of Wal-Mart road improvement west to Hwy 207	2.63	Widen, align, shoulder and pave	\$394,500
12	Edwards Rd. ⁽²⁾	1201	US 395 to Diagonal Rd.	7.4	Widen, align, shoulder and pave	\$1,110,000
13	Gettman Rd. ⁽²⁾	1196	OR 207 to Hermiston Hinkle Rd. (Hermiston)	1	City acquisition/urban upgrade	\$1,954,000
14	Umatilla River Rd. Phase II ⁽¹⁾	1275	Elm Ave. to Hermiston Ave. (Hermiston)	0.6	City acquisition/urban upgrade	\$1,155,000
15	East 10th St. Phase I ⁽¹⁾	1219	Columbia Dr. to Elm Ave. (Hermiston)	1.3	City acquisition/urban upgrade	\$2,542,000
16	East 10th St. Phase II ⁽¹⁾	1219	Elm Ave. to Punkin Center Rd. (Hermiston)	1.0	City acquisition/urban upgrade	\$2,654,000
17	Theater Ln. Phase I ⁽¹⁾	1244	US 395 to East 7th St. Alignment (Hermiston)	0.5	City acquisition/urban upgrade	\$988,000

TABLE 7-6, Cont.

**ROADWAY IMPROVEMENT AND BRIDGE REPLACEMENT PROJECTS –
TRANSPORTATION DISTRICT 1 (WESTERN COUNTY)**

Proj. No.	Project Name	County Rd/ Bridge No.	Location	Miles	Type of Work	Cost
18	Theater Ln. Phase II ⁽¹⁾	1244	East 7th St. Alignment to East 10th St. (Hermiston)	0.5	City acquisition/urban upgrade	\$1,195,000
19	Townsend Rd.	1217	OR 207 to E. Loop Rd. (Hermiston)	0.9	City acquisition/urban upgrade	\$1,758,000
20	S. Ott Rd.	1211	OR 207 to E. Loop Rd. (Hermiston)	1.1	City acquisition/urban upgrade	\$1,386,000
21	Highland Ext.	1198	S. Edwards to Canal Rd.	0.75	Reconstruct and pave	\$200,000
22	Umatilla River Bridge ⁽¹⁾⁽²⁾	1250	Punkin Center Rd. from Hwy 395 west to Powerline Rd. (Hermiston)	2	New construction with bridge ⁽⁶⁾	\$14,800,000
23	Sagebrush Rd.	1269	Bowdin Lane to US 730	1	New construction	\$750,000
24	Powerline Rd. /South of I-82	1225	I-82 South to Westland Rd.	2.5	Widen and repave	\$1,200,000
25	N. Ott Rd.	1261	Punkin Center Rd. to Bensel Rd.	2	Reconstruct and pave	\$450,000
26	E. Walls Rd.	1258	End of pavement at Marks Rd. to Hwy 37	3.75	Reconstruct and pave	\$845,000
27	US 395 access to Maime Street/Canal Road ⁽⁶⁾	1179	New intersection with US 395 (Stanfield)	NA	Construct new access to US 395 from Mamie Street, realign Canal Road approach, and install traffic signal.	\$545,000
28	US 395 access to new city street/Edwards Rd. ⁽⁶⁾	1201	New intersection with US 395 (Stanfield)	NA	Construct new access to US 395 from new city street and realign Edwards Road approach	\$226,000
29	Bensel Road ⁽⁴⁾	1268	Intersection with US 395	NA	Install traffic signal and geometric improvements	\$432,000
30	Baggett Lane ⁽⁴⁾	1266	Intersection with US 395	NA	Install traffic signal and geometric improvements	\$432,000
31	Joy Lane ⁽⁴⁾	1256	Intersection with US 395	NA	Install traffic signal and geometric improvements	\$432,000
32	SE Airport Road ⁽⁴⁾	1202	Intersection with US 395 (Hermiston)	NA	Install traffic signal and geometric improvements	\$432,000

TABLE 7-6, Cont.

**ROADWAY IMPROVEMENT AND BRIDGE REPLACEMENT PROJECTS –
TRANSPORTATION DISTRICT 1 (WESTERN COUNTY)**

33	Feedville Road ⁽⁴⁾	1000	Intersection with US 395 (Hermiston/Stanfield)	NA	Relocate intersection to the south and install traffic signal	\$5,026,200
34	Hermiston Canal Bridge	59C274	Midway Rd.	NA	Bridge replacement	\$25,800
35	Stanfield Bridge	59C203	South Edwards Rd.	NA	Bridge replacement (structurally deficient)	\$56,500
36	9th Irrigation Ditch Bridge	59C240	SE 9th Street	NA	Bridge replacement (sufficiency rating<55)	\$30,800
37	Maxwell Ditch Bridge	59C284	Lloyd Rd.	NA	Bridge replacement (sufficiency rating<55)	\$33,900
38	Emigrant Butte/Hunt Ditch Bridge	59C325	Emert Rd.	NA	Bridge replacement (structurally deficient)	\$47,900
39	Furnish Ditch Bridge	59C206	S. Ash Rd.	NA	Bridge replacement (sufficiency rating<55)	\$33,700
40	Feed Canal Bridge	59C205	S. Ash Rd.	NA	Bridge replacement	\$111,600
41	Stanfield Drain Bridge	59C194	N. Loop Rd.	NA	Bridge replacement	\$60,900
42	Stanfield Drain Bridge	59C680	Cooper Rd.	NA	Bridge replacement	\$42,400
43	Furnish Ditch Bridge	59C207	Irwin Rd.	NA	Bridge replacement	\$33,700
44	Hunt Ditch Bridge	59C327	Rosenburg Rd.	NA	Bridge replacement	\$67,600
45	US Feed Canal Bridge	59C025	Stage Gulch Rd.	NA	Bridge replacement (structurally deficient)	\$120,100
46	US Feed Canal Bridge	59C209	Bartley Rd.	NA	Bridge replacement (structurally deficient)	\$82,300
47	Stanfield Drainage Ditch Bridge	59C213	Loop Rd.	NA	Bridge replacement (structurally deficient)	\$42,500
48	"A" Line Canal Bridge	59C198	Townsend Rd.	NA	Bridge replacement (functionally obsolete)	\$47,100
49	"A" Line Canal Bridge	59C227	SE 10th Street	NA	Bridge replacement (functionally obsolete)	\$46,600
50	"A" Line Canal Bridge	59C231	N. Ott Rd.	NA	Bridge replacement (functionally obsolete)	\$52,400
51	Furnish Ditch Bridge	59C703	Thiesen Rd.	NA	Bridge replacement (functionally obsolete)	\$73,100

TABLE 7-6, Cont.
ROADWAY IMPROVEMENT AND BRIDGE REPLACEMENT PROJECTS –
TRANSPORTATION DISTRICT 1 (WESTERN COUNTY)

52	US Feed Canal Bridge	59C705	Rieth Rd.	NA	Bridge replacement (functionally obsolete)	\$63,100
53	Furnish Ditch Bridge	59C706	Rieth Rd.	NA	Bridge replacement (functionally obsolete)	\$42,600
54	Furnish Ditch Bridge	59C708	Rieth Rd.	NA	Bridge replacement (functionally obsolete)	\$47,700
TOTAL						\$57,720,500

Notes:

- (1) Recommended in the city of Hermiston TSP, May 30, 1997.
- (2) Project identified in the HUES Transportation Priorities Report, August 1998 (Appendix E).
- (3) Project recommended in the city of Umatilla TSP.
- (4) Project recommended in the US 395 North Corridor Plan.
- (5) Project recommended in the city of Stanfield TSP.
- (6) Improvements to the section of county roads located within the UGB of a city are assumed to be upgraded according to designated city street standards otherwise indicated in city's Transportation System Plan.

**TABLE 7-7
ROADWAY IMPROVEMENT AND BRIDGE REPLACEMENT PROJECTS –
TRANSPORTATION DISTRICT 2 (CENTRAL COUNTY)
(SEE FIGURE 7-5 FOR LOCATION)**

Proj. No.	Project Name	County Rd/ Bridge No.	Location	Miles	Type of Work	Cost
1	SW Hailey Ave. ⁽¹⁾	1305	SW 30th to Kirk Ave on SW 37th St. (Pendleton)	0.5	Curb, Gutter, Sidewalk and Pave	\$500,000
2	SW 28th Dr. Ext. ⁽¹⁾	1306	Current terminus to proposed extension of SW 37 th St. (Pendleton)	NA	New Construction of City Collector Street	\$594,000
3	SW 28th Dr. and SW 30th St. ⁽¹⁾	1306	Current terminus on SW 28th Dr. to Hailey St. on SW 30th St. (Pendleton)	NA	City Acquisition/Urban Upgrade	\$752,000
4	SE 10th St. ⁽¹⁾	992	Current terminus to Frazer Ave. (Pendleton)	NA	City Acquisition/Urban Upgrade	\$681,000
5	Southgate Pl. ⁽¹⁾	1303	US 395 to Quinney Ave. (Pendleton)	NA	City Acquisition/Urban Upgrade	\$176,000
6	Reith Rd. West	1300	Barnhart Rd. to Nolin Rd.	9.6	Align, Widen, Shoulder and Pave	\$1,500,000
7	Clopton Rd. ⁽¹⁾	1302	All (Pendleton)	NA	City Acquisition/Urban Upgrade	\$1,628,000
8	Riverside Ave. ⁽¹⁾	986	All (Pendleton)	NA	City Acquisition/Urban Upgrade	\$1,073,000
9	SW 44 th St. Upgrade ⁽¹⁾	1307	All (Pendleton)	NA	City Acquisition/Urban Upgrade	\$530,000
10	S. Fork Juniper Canyon Bridge	59C178	S. Juniper Canyon Rd.	NA	Bridge Replacement	\$35,500
11	Barnhart Bridge	59C754	Rieth Rd.	NA	Bridge Replacement	\$13,700
12	Vansycle Canyon Bridge	59C164	Vansycle Rd.	NA	Bridge Replacement (structurally deficient)	\$41,800
13	Fork Cold Springs Bridges	59C675	Bissinger Rd.	NA	Bridge Replacement (structurally deficient)	\$40,600
14	Rieth/Umatilla River Bridge	59C069	Birch Creek Rd.	NA	Bridge Replacement (structurally deficient)	\$443,900
15	S. Fork Juniper Canyon Bridge	59C119	S. Juniper Canyon Rd.	NA	Bridge Replacement (structurally deficient)	\$42,500
16	S. Fork Cold Springs Bridge	59C145	S. Fork Cold Springs Rd.	NA	Bridge Replacement (structurally deficient)	\$71,600
17	McKay Creek Bridge	59C001	SW Quinney Avenue	NA	Bridge Replacement (functionally obsolete)	\$149,000
18	Umatilla River Bridge	59C093	Mac Hoke Rd.	NA	Bridge Replacement (functionally obsolete)	\$257,900
19	Umatilla River Bridge	59C099	Cunningham Rd.	NA	Bridge Replacement (functionally obsolete)	\$243,200
20	Wild Horse Creek Bridge	59C356	Wild Horse Rd.	NA	Bridge Replacement (functionally obsolete)	\$147,700
21	Furnish Ditch Bridge	59C721	Rieth Rd.	NA	Bridge Replacement (functionally obsolete)	\$39,200
22	Furnish Ditch Bridge	59C752	Rieth Rd.	NA	Bridge Replacement (functionally obsolete)	\$51,100
23	NW "A" Ave. Extension to I-84	new	Extend NW "A" Ave from City of Pendleton to Barnhart Rd and I-84	TBD	Extension of a truck route from "A" Ave to Barnhart Rd just north of the I-84 interchange	\$6,000,000
						\$15,011,700

Note: (1) Recommended in the Pendleton TSP, Kittelson & Assoc., Inc., December 26, 1996.

TABLE 7-8
ROADWAY IMPROVEMENT AND BRIDGE REPLACEMENT PROJECTS –
TRANSPORTATION DISTRICT 3 (EASTERN COUNTY)
(SEE FIGURE 7-6 FOR LOCATION)

Proj. No.	Project Name	County Rd/ Bridge No.	Location	Miles	Type of Work	Cost
1	Key Rd.	682	OR 11 to Water St.	2	Widen, align, shoulder and pave	\$300,000
2	Ballou Rd. ⁽¹⁾	518	Ballou Rd. and OR 11 intersection	NA	Reconstruct and raise intersection	\$350,000
3	Adams Rd.	973	OR 11 at Pendt. to Adams	11.8	Align, widen, shoulder and pave	\$1,800,000
4	Sunquist Rd.	512	Intersection with Sunquist and Triangle Sta.	NA	Realign intersection and widen	\$250,000
5	Milton Cemetery Rd.	564MC	M-F City Limits to Whiteman Rd.	4	Align, widen, shoulder and pave	\$900,000
6	Ferndale Rd. ⁽¹⁾	522	Ferndale Rd. and OR 11 intersection	NA	Install traffic signal, turning radius improvements	\$208,000
7	Crockett Rd. ⁽¹⁾	526	Crockett Rd. and OR 11 intersection	NA	Grading and turning radius improvements	\$47,000
8	Tum-A-Lum Rd. ⁽¹⁾	505	Tum-A-Lum Rd. and OR 11 intersection	NA	Turning radius improvements	\$4,000
9	Appleton Rd. ⁽¹⁾	528	Appleton Rd. and OR 11 intersection	NA	Turning radius improvements	\$4,000
10	Locust Rd. ⁽¹⁾	542	Locust Rd. and OR 11 intersection	NA	Grading and turning radius improvements	\$24,000
11	Cobb Rd. ⁽¹⁾	544	Cobb Rd. and OR 11 intersection	NA	Turning radius Improvements	\$4,000
12	Couse Creek Rd.	613	W.W. River Rd. to Blue Mtn. Sta. Rd.	2.8	Align, widen, shoulder and pave	\$750,000
13	Kirk Rd.	648	Weston City Limits to OR 204	3.5	Widen, align, shoulder and pave	\$600,000
14	West Fork Greasewood Bridge	59C607	Midway Rd.	NA	Bridge replacement	\$33,900
15	Drain Ditch Bridge	59C420	Couse Creek Rd.	NA	Bridge replacement	\$11,800
16	Wildhorse Creek Bridge	59C169	Adams Rd.	NA	Bridge replacement	\$22,000
17	Buchanon Bridge	59C457	Birch Creek Rd.	NA	Bridge replacement	\$34,300
18	Irrigation Ditch Bridge	59C473	Cobb Rd.	NA	Bridge replacement	\$13,600
19	Greasewood Creek Bridge	59C603	Rodgers Rd.	NA	Bridge replacement	\$42,800
20	Fir Creek Bridge	59C490	Stateline Rd.	NA	Bridge replacement	\$32,300
21	Dry Creek Bridge	59C422	Steen Rd.	NA	Bridge replacement (functionally obsolete)	\$113,700
22	Greasewood Creek Bridge	59C602	Deining Rd.	NA	Bridge replacement	\$34,300
23	Milton Nursery/W-W River Bridge	59C455	Eastside Rd.	NA	Bridge replacement (functionally obsolete)	\$410,400
24	Dry Creek Bridge	59C421	Sams Rd.	NA	Bridge replacement (structurally deficient)	\$70,600
25	Pine Creek Bridge	59C529	Schubert Rd.	NA	Bridge replacement (structurally deficient)	\$67,700
26	Walla Walla River Bridge	59C440	MS Cemetery Rd.	NA	Bridge replacement (functionally obsolete)	\$291,100
27	Walla Walla River Bridge	59C483	Birch Creek Rd.	NA	Bridge replacement (functionally obsolete)	\$203,500
28	Wild Horse Creek Bridge	59C568	Sand Hollow Rd.	NA	Bridge replacement (functionally obsolete)	\$100,300
TOTAL						\$6,723,300

Note: (1) Recommended in the Highway 11 Corridor Land Use and Transportation Plan, David Evans and Assoc., Inc., June 1997.

**TABLE 7-9
ROADWAY IMPROVEMENT AND BRIDGE REPLACEMENT PROJECTS –
TRANSPORTATION DISTRICT 4 (SOUTHERN COUNTY)
(SEE FIGURE 7-7 FOR LOCATION)**

Proj. No.	Project Name	County Rd/ Bridge No.	Location	Miles	Type of Work	Cost
1	Boylen/W. Birch Creek Bridge	59C067	W. Birch Creek Rd.	NA	Bridge replacement	\$34,300
2	W. Birch Creek Bridge	59C065	Yellow Jacket Rd.	NA	Bridge replacement (functionally obsolete)	\$59,100
TOTAL						\$93,400

**TABLE 7-10
ROADWAY IMPROVEMENT AND BRIDGE REPLACEMENT PROJECTS –
TRANSPORTATION DISTRICT 5 (UMATILLA INDIAN RESERVATION)
(SEE FIGURE 7-8 FOR LOCATION)**

Proj. No.	Project Name	County Rd/ Bridge No.	Location	Miles	Type of Work	Cost
1	Emigrant Rd.	937	Poverty Flat to Mission Rd.	9	Repave and Shoulder	\$1,400,000
2	River Rd.	927/918	Cayuse Rd. to RR Crossing and White Rd. to Cayuse Rd.	2.1	Widen, Align, Shoulder, Pave	\$314,900
3	White Rd.	918	Cayuse Rd. to River Rd.	1.1	Widen, Align, Shoulder, Pave	\$164,900
4	North Cayuse Rd.	925	River Rd. to Mann Rd.	1.3	Widen, Align, Shoulder, Pave	194,900
5	Mann Rd.	925	Crawford Hollow Rd. to North Cayuse Rd.	3.3	Widen, Align, Shoulder, Pave	\$494,800
6	Motanic Rd.	1031	Best Rd. to McKay Creek Rd.	4.8	Widen, Align, Shoulder, Pave	\$719,800
7	Sumac Rd.	1050	Motanic Rd. to McKay Creek Rd.	3.3	Widen, Align, Shoulder, Pave	\$494,800
8	McKay Creek Rd.	1050	Sumac Rd. to N. Fork McKay Creek Rd.	4.1	Widen, Align, Shoulder, Pave	\$614,800
9	Kash Kash Rd./St. Andrews Rd.	934/931	End of Pavement Near I-84 to Niktyoway Rd.	2.6	Widen, Align, Shoulder, Pave, and Repave	\$367,000
10	Gibbon/Umatilla River Bridge	59C727	Irr River Rd.	NA	Bridge Replacement/SR>55	\$189,100
11	Thornhollow Cattle Pass Bridge	59C378	Sand Hollow Rd.	NA	Bridge Replacement (structurally deficient)	\$34,300
12	Wild Horse Creek Bridge	59C401	Wild Horse Rd.	NA	Bridge Replacement (structurally deficient)	\$43,900
TOTAL						\$5,033,200

Other Roadway Improvements Requiring County Coordination

Many roadway projects have been identified and recommended by Umatilla County cities, in their individual TSPs. Many of these projects are located within their Urban Growth Areas and, therefore, are not specifically listed in this TSP. The projects might involve the construction of new roads, intersections or extensions to roads as deemed necessary by the city jurisdiction. Although these projects are included in the city Plans, they involve coordination with County Public Works and the County Planning Department.

Land use planning, public facilities and transportation within UGAs are jointly managed by the cities and county as described in Joint Management Agreements. Most of these projects in the UGA involve County Roads that will eventually become city roads at some point in the future. Project coordination will apply the standards of the individual city's Plan for those projects within UGAs.

Projects such as the Barnhart Road Extension (extension of a truck route from "A" Avenue to Barnhart Road just north of the I-84 Barnhart Road interchange) addressed in the City of Pendleton TSP may be planned to extend beyond an UGB. This specific project has been included in the County TSP as well since it is planned to extend outside of the UGB.

There may be other situations where city TSP projects may extend outside of an UGB. Where these projects extend into the County TSP jurisdiction, County TSP standards may be applied and adjusted to provide continuity of the project from City UGA to County.

ODOT Needs Assessment

ODOT Region 5 has formulated a needs assessment document for all interstate, state and US highways in Umatilla County. This document is included in Appendix B and identifies and describes planned or needed projects dealing with the preservation, modernization, and safety of roadways and bridges. It also includes interstate highway maintenance needs and bicycle/pedestrian needs for highways in the county.

The needs assessment does not contain any projects which are under county jurisdiction. Because the Umatilla County TSP focuses mainly on transportation system improvements which are fully or partially under county control, these projects are not part of the road system plan. Although the county does not have direct control over these projects, they still affect traffic conditions in the county. Therefore, ODOT's plans to implement these projects should be coordinated with the county.

Pedestrian System Plan

In rural areas, it is typical to accommodate pedestrians on roadway shoulders. Many of the shoulders on both county roads and state highways in Umatilla County cannot safely accommodate pedestrians. Therefore, as Umatilla County's roads and the state highways are paved, repaved, or reconstructed, shoulders should be widened to meet the standards shown in Figures 7-2A through 7-2C. These standards should be applied to all roadway improvement projects identified in the road system plan, when relevant. New roads should be constructed with adequate shoulders.

In addition to accommodating pedestrians and bicyclists, shoulders also protect the roadway edge from deteriorating and increase safety for motorists. Costs for shoulder additions are approximately \$2 per square foot.

Western County (Transportation District 1)

A total of ten pedestrian-specific projects located along a county road in the Western County Transportation District have been identified in the draft city of Umatilla TSP. Each project's location, construction cost, and primary funding source are as follows, with implementation expected over the next 10 to 20 years:

Project No. 55 - Bensel Road Sidewalk (City of Umatilla): Install sidewalk on Bensel Road, from Umatilla River Road to US 395. (*Construction Cost Estimate: \$442,000; Primary Funding Agency: Umatilla County*)

Project No. 56 - Bud Draper Road Sidewalk (City of Umatilla): Install sidewalk on Bud Draper Road, from Roxbury Road to US 730. (*Construction Cost Estimate: \$67,000; Primary Funding Agency: Umatilla County*)

Project No. 57 - Roxbury Lane Sidewalk (City of Umatilla): Install sidewalk on Roxbury Lane, from Bud Draper Road to Beach Access Road. (*Construction Cost Estimate: \$181,000; Primary Funding Agency: Umatilla County*)

Project No. 58 - Beach Access Road Sidewalk (City of Umatilla): Install sidewalk on Beach Access Road, from McNary Beach Recreation Area to US 730. (*Construction Cost Estimate: \$522,000; Primary Funding Agency: Umatilla County*)

Project No. 59 - Powerline Road Sidewalk (City of Umatilla): Install sidewalk on Powerline Road, from US 730 to south Urban Growth Boundary. (*Construction Cost Estimate: \$823,000; Primary Funding Agency: Umatilla County*)

Project No. 60 - Umatilla River Road Sidewalk (City of Umatilla): Install sidewalk on Umatilla River Road, from US 730 to Bensel Road. (*Construction Cost Estimate: \$642,000; Primary Funding Agency: Umatilla County*)

Project No. 61 - Ford Road Sidewalk (City of Umatilla): Install sidewalk on Ford Road, from "O" Canal to Bensel Road. (*Construction Cost Estimate: \$522,000; Primary Funding Agency: Umatilla County*)

Project No. 62 - 3rd Street Sidewalk (City of Umatilla): Install sidewalk on 3rd Street, between "A" Street and DeVore Road. (*Construction Cost Estimate: \$963,000; Primary Funding Agency: City of Umatilla/Umatilla County*)

Project No. 63 - Scapelhorn Road Sidewalk (City of Umatilla): Install sidewalk on Scapelhorn Road, from 3rd Street to US 730. (*Construction Cost Estimate: \$302,000; Primary Funding Agency: City of Umatilla/Umatilla County*)

Project No. 64 - Power City Road Sidewalk (City of Umatilla): Install sidewalk on Power City Road, from US 730 to US 395. (*Construction Cost Estimate: \$415,000; Primary Funding Agency: Umatilla County*)

Eastern County (Transportation District 3)

Project No. 29 - North Main Street Sidewalk (Milton-Freewater): One pedestrian-specific project located along a county road in the Eastern County Transportation District has been identified in the Draft Milton-Freewater TSP. This project includes widening North Main Street to include six-foot wide sidewalks along the east side of the road between 8th Avenue and 15th Avenue. This project will be funded by the Milton-Freewater Public Works Department. The total cost of this project is \$40,000 with implementation expected over the next two to five years.

No other pedestrian-specific projects have been identified along county roadways in the remaining transportation districts of Umatilla County. There are, however, six multi-use pathway projects described

below in the Bicycle System Plan that are devised for both bicycle and pedestrian use. There are also numerous roadway improvement projects identified in the street system plan above that include some type of pedestrian facility (e.g. sidewalks and paved shoulders).

Bicycle System Plan

At present, bicyclists in Umatilla County share the roadway with motorists on most of the county roads. Many of the shoulders on both the county roads and state highways are inadequate for accommodating bicyclists. These shoulders are also needed to accommodate pedestrians, as mentioned above.

Most of the rural county roadways in Umatilla County have one- to two-foot shoulders, which are usually gravel and not paved. Traffic volumes on county roads are generally low enough that bicyclists can share the roadway with motorized vehicles. A minimum two-foot wide shoulder is recommended for all roadways except arterials, as shown in Figures 7-2B and 7-2C. Arterial roadways should have a minimum four-foot wide shoulder. All shoulders should be paved for local, minor collector, major collector, and arterial roadways.

Many of the rural roadway improvement projects recommended in the street system plan include a roadway widening component. As these roads are paved, repaved, resurfaced, or reconstructed, shoulders should be widened to meet the standards shown in Table 7-4. All new roads should be constructed with adequate shoulders.

A project has been identified in the city of Echo TSP to widen the shoulders along Thiesen Road from the I-84/US 395 interchange to downtown Echo. Improvements would include adding 6-foot shoulders along both sides of the road, the replacement of two county bridges, acquisition of additional right of way, and installation of 6-foot wide raised sidewalks and new guardrails along the I-84 overpass. The total cost for this project is estimated at \$1,941,300 with funding to be provided by the city of Echo, ODOT, and Umatilla County. Specific details on this project are outlined in the city of Echo TSP. This project has been identified as Project No. 65 – Thiesen Road for Western County (Transportation District 1).

Multi-Use Path Projects

A series of multi-use path projects have been added to this plan based on the recommendations of other completed or on-going studies, where the county is expected to take the lead role in implementation and financing. These improvements are designed to serve both bicyclists and pedestrians alike.

One recommendation, that is not associated with a specific listed project, is to construct a bicycle/pedestrian facility linking the Hermiston and city of Umatilla areas. It would begin at the intersection of Highland Avenue and Highway 207 (Buttercreek Highway), connect with the city of Hermiston bike path, continue west to Powerline Road, then continue north along Powerline Road, through the city of Umatilla, connecting with a future city bike facility. The route would then run along Highway 730, traveling east through the city of Umatilla to the intersection of River Road. The facility would then continue along River Road, intersecting with a proposed bike route in the city of Hermiston. The facility would follow River Road to 11th Street (a continuation of Buttercreek Highway), then continue south on 11th Street to its origin at the intersection of Buttercreek Highway and Highland Avenue. This potential route would be a multi-jurisdiction venture with the cities of Umatilla and Hermiston, Umatilla County, and ODOT.

Western County (Transportation District 1)

Project No. 66 - Rieth Road Pathway (Echo): A multi-use path has been recommended in the city of Echo TSP along the east side of Rieth Road, between Gerone Street and the Oregon Trail Grave Marker, for a distance of 2,200 feet. City of Echo residents feel this pathway is necessary as it will provide an alternative means of visiting the Oregon Trail Grave Marker, other than by automobile. The Oregon Trail Grave Marker is part of the many Oregon Trail sites in Echo. Providing alternative access to the sites in the area, such as the proposed path, may increase tourism in the area, thus enhancing the community economy.

Establishing a multi-use path on the east side of Rieth Road would include adding an eight-foot wide paved shoulder to the roadway, with proper striping to define the pathway. An eight-foot wide path would allow for two-way bike and pedestrian travel.

The estimated cost to construct an 8-foot wide shoulder with striping is \$105,600. This assumes a cost of \$48/linear foot for a paved shoulder constructed according to highway standards with eight-inch-wide striping.

Most of the funding for this project should be provided by the county, since it will be located along a county owned road. The city of Echo has applied to ODOT to have Thiesen Road and Rieth Road be classified as the Umatilla County Scenic Road #1, which may enable projects like this to receive federal or state funding.

Project No. 67 - Bud Draper Pathway (City of Umatilla): This project has been recommended for implementation over the next 10 to 20 years in the Draft City of Umatilla TSP. The estimated project cost is \$180,000 with primary funding to be provided by Umatilla County.

Project No. 68 - McNary Beach Recreation Area Pathway (City of Umatilla): This project has been recommended for implementation over the next 10 to 20 years in the Draft City of Umatilla TSP. The estimated project cost is \$200,000 with primary funding to be provided by Umatilla County.

Project No. 69 - Powerline Road to "F" Street Pathway (City of Umatilla): This project has been recommended for implementation over the next 10 to 20 years in the Draft City of Umatilla TSP. The estimated project cost is \$83,000 with primary funding to be provided by Umatilla County.

Project No. 70 - Powerline Road Pathway (City of Umatilla): This project has been recommended for implementation over the next 10 to 20 years in the Draft City of Umatilla TSP. The estimated project cost is \$50,000 with primary funding to be provided by Umatilla County.

Eastern County (Transportation District 3)

Project No. 30 - Walla Walla Valley Rail Pathway (Milton-Freewater): A multi-use path, for bicyclists and pedestrians, has been proposed in the *Highway 11 Corridor/ Land Use and Transportation Plan*, along the abandoned Walla Walla Valley Railway, between the Freewater Highway and OR 11. The proposed pathway is about 3.5 miles in length and extends from the city of Milton-Freewater to the Washington State line. This pathway also has the potential to be extended further north into the state of Washington, providing a connection to the cities of Walla Walla and College Place. The total cost for this project is estimated at \$304,500, assuming a ten-foot-wide path is constructed at a cost of around \$16 per linear foot of trail. This cost also assumes additional right of way costs assessed at around \$29,500. Acquisition of necessary rights-of-way may be difficult as there are several land owners along the proposed alignment; Burlington Northern Santa Fe Railroad (11.9 acres), City of Milton-Freewater (1.01 acres), and local landowners (3.49 acres).

Concerns have been raised regarding the proposed alignment of this path through agricultural areas. Potential conflicts could occur between path use and local farming practices, especially when farmers need to spray their crops. In times of spraying, access to the pathway may be closed.

This project is an excellent opportunity for improving bicycle and pedestrian travel through the OR 11 Corridor between the city of Milton-Freewater and the cities of Walla Walla and College Place to the north in the state of Washington. Since this project is located in a rural area of the county, it should be pursued by the county and considered for implementation over the next 5 to 10 years.

Other options for multi-use paths that were discussed in the plan are pathways along the Walla Walla River and beside Winesap Road. Although the likelihood that these projects will be implemented over the next 20 years is uncertain, the county should still consider them.

State Highways

The existing shoulder widths on some of the state highways are not wide enough to meet the recommendations in the *1991 Oregon Bicycle and Pedestrian Plan*. Most paved shoulders on state highways are 4- to 6-feet wide next to the sloping gravel roadway bed. Recommended minimum shoulder widths, based on forecasted traffic volumes for the year 2018, can be determined from Table 7-4. The results are summarized in Table 7-11.

TABLE 7-11
RECOMMENDED MINIMUM SHOULDER WIDTHS ON STATE HIGHWAYS

Location	2018 ADT (vehicles/day)	Recommended Shoulder Width
I-82 (McNary Hwy.)		
OR/WA border	19,340	8 feet
0.30 miles south of US 730	9,595	8 feet
0.30 miles north of I-84	14,240	8 feet
I-84 (Oregon Trail Hwy.)		
West of I-82	21,100	3 feet
Stanfield to Pendleton	28,510	8 feet
East of the Umatilla-Mission Hwy	12,700	8 feet
US 30		
West I-84 terminus	4,890	8 feet
Pendleton urban area	18,710	8 feet
East I-84 terminus	3,125	8 feet
US 395 (Pendleton-John Day Hwy.)		
Pendleton – I-84 undercrossing	28,250	8 feet
Pendleton – south city limits	8,450	8 feet
Between OR 74 and OR 244 junctions	1,250	
US 395 (Umatilla-Stanfield Hwy.)		
Hermiston – 0.01 miles south of Jennie Avenue	34,540	8 feet
Stanfield – north city limits	13,660	8 feet
0.50 miles north of I-84	13,760	8 feet
US 730 (Columbia River Hwy.)		
Umatilla/Morrow Co. line	9,300	8 feet
0.50 miles east of I-82 (Umatilla urban area)	15,825	8 feet
Umatilla east city limits	4,760	8 feet
OR/WA border	2,805	8 feet
OR 207 (Hermiston Hwy.)		
0.06 miles south of US 730	6,930	8 feet
Hermiston Avenue – 0.01 miles south of Orchard Avenue W.	10,890	8 feet
Hermiston south city limits to I-84 junction	4,890	8 feet
0.1 miles north of OR 207 (Lexington-Echo Hwy.)	6,125	8 feet
Lexington-Echo Highway		
Umatilla/Morrow Co. line to Hermiston Hwy. Junction	1,385	6-8 feet
Hermiston Hwy. junction to Echo	610	4-6 feet
Echo urban area	1,385	6-8 feet
Echo east city limits	735	4-6 feet

TABLE 7-11, Cont.
RECOMMENDED MINIMUM SHOULDER WIDTHS ON STATE HIGHWAYS

Location	2018 ADT (vehicles/day)	Recommended Shoulder Width
OR 37 (Pendleton-Cold Springs Hwy.)		
Pendleton north city limits	2,625	8 feet
Pendleton – 0.01 miles north of US 30	5,400	8 feet
0.01 miles west of Athena-Holdman Hwy.	190	4 feet
OR 74 (Heppner Hwy.)		
Umatilla/Morrow Co. line	155	4 feet
0.1 miles west of US 395 (Pendleton-John Day Hwy.)	310	4 feet
OR 11 (OR-WA Hwy.)		
Pendleton – 0.4 miles north of I-84	11,190	8 feet
0.01 miles northeast of Havana-Helix Hwy.	6,075	8 feet
Adams – east city limits	5,550	8 feet
Milton-Freewater – south city limits	6,865	8 feet
Milton-Freewater – north city limits	14,705	8 feet
Milton-Freewater – 0.01 miles N. of Sunnyside-Umapine Hwy	21,500	8 feet
OR/WA border	20,800	8 feet
OR 204 (Westin-Elgin Hwy.)		
ODOT automatic recorder near Weston	1,175	6-8 feet
Umatilla/Union Co. line	905	6-8 feet
0.2 miles east of Pendleton to US 395 junction	1,070	6-8 feet
0.01 miles east of Camas Street (Ukiah)	1,305	6-8 feet
At Umatilla National Forest Boundary (MP 10.0)	510	4-6 feet
Umatilla-Mission Highway (Hwy. 331)		
OR 11 junction	3,055	8 feet
I-84 junction	8,695	8 feet
Athena-Holdman Highway (Hwy. 334)		
OR 37 to Havana-Helix Hwy.	225	4 feet
Athena – 0.01 miles east of 3rd Street	3,525	8 feet
Athena – east city limits	2,610	8 feet
Havana-Helix Highway (Hwy. 335)		
Helix to OR 11 junction	765	4-6 feet
Freewater Highway (Hwy. 339)		
OR/WA border	2,015	8 feet
Milton-Freewater – north city limits	2,800	8 feet
Milton-Freewater – 0.01 miles E. of W. Main St. on Broadway St.	6,950	8 feet
Sunnyside-Umapine Highway (Hwy. 332)		
OR/WA border	810	6-8 feet
0.01 miles west of OR 11 (Milton-Freewater urban area)	3,765	8 feet

Transportation Demand Management Plan

Through transportation demand management (TDM) strategies, peak travel demands can be reduced or spread over time to more efficiently use the existing transportation system, rather than building new or wider roadways. Techniques that have been successful and could be initiated to help alleviate some traffic congestion include rideshare programs (i.e. carpooling and vanpooling), alternative work schedules, creating or improving bicycle and pedestrian facilities, and programs focused on high density employment areas.

According to the 1997 Oregon Public Transportation Plan (OPTP), rideshare programs should be available in communities of 5,000 or more where there are large employers with a base of 500 employees who are not covered by a regional plan. Over the next several years there will be a number of large employers particularly in the western section of Umatilla County, that will be close to or over a base of 500 employees. They include Walmart, Simplot, Hinkle Railyards, the Umatilla Chemical Agent Disposal Center, and the Two Rivers Correctional Institution. Although some of these businesses may not meet the criterion of the OPTP, it is recommended that the county work together with all incorporated cities and these large employers to establish an employee rideshare program.

It was concluded in the *Umatilla County Public Transportation Needs Assessment*, produced by Nelson\Nygaard in August, that intercity work travel between Hermiston and Pendleton will increase due to anticipated job market growth. In addition to recommending the establishment of a rideshare service between Hermiston and Pendleton, this report also recommends establishing park and ride facilities at the I-84 interchanges near Pendleton and Hermiston. The Umatilla County TSP supports the idea of potentially developing park and ride facilities at these two locations.

Other TDM strategies that can be employed within the county include sidewalk and bicycle improvements. Many projects have been previously identified in the Pedestrian and Bicycle Plans. By providing these facilities, Umatilla County is encouraging people to travel by modes other than the automobile.

As part of the US 395 North Corridor Plan, currently being conducted by OTAK, Inc. and Kittelson and Associates, Inc., the development of a Transportation Management Association (TMA) is recommended. The TMA would consist of representatives from businesses along the US 395 corridor, from I-84 to US 730. The purpose of the association is to increase public involvement to improve mobility through the corridor by identifying, evaluating and ultimately implementing TDM strategies

Development of a TMA is encouraged as the cities of Echo, Stanfield, Hermiston and Umatilla, which lie along this corridor, strive to find alternative means of travel other than the automobiles.

Public Transportation Plan

The Umatilla County Public Transportation Plan supports the recommendations made in the *Umatilla County Public Transportation Needs Assessment*. In the conclusions section of this report, there are two key recommendations pertaining to public transportation in the county;

- Coordination - create a brokerage responsible for facilitating a county-wide public transportation service
- Intercity Service - create an intercity bus service

The first recommendation is for the current providers of general transit, the county, and its jurisdictions to consider establishing a brokerage to support coordination and cooperation among both transit and social service trip providers. A brokerage is an entity that can either coordinate rides and then dispatch individual service providers or provide the service itself. A brokerage offers the advantage of being able to maximize

the use of vehicles by coordinating riders by destinations. It might also allow services to be expanded to include the transportation disadvantaged. No specific costs were identified in the report to establish this type of service. Potential funding sources include Federal Transit Administration (FTA) Section 5310 funds, Department of Labor Welfare-to-Work Program, and the Umatilla County Special Transportation Fund (STF).

The second recommendation is for Umatilla County to take the lead in establishing an intercity bus service. This service should connect the CTUIR to Pendleton, Milton-Freewater to Walla-Walla, and Hermiston to the Tri-Cities. The county may wish to coordinate with the CTUIR, which is considering developing such a service in the eastern part of the county. The estimated cost for providing weekday service for eight hours a day for two routes would be about \$140,000 a year. Each route would need a bus, the cost of which would be about \$120,000 each. At this point, requirements for new programs are unclear and the amount of funding is unknown. Even with federal funding sources, such as an FTA Section 5311(F) grant, State of Oregon Surface Transportation Program (STP) funds, or Welfare-to-Work funds, Umatilla County and its communities will need to support these programs with local funding from general fund revenues, local option levies, or some sort of payroll or business tax.

Rail Service Plan

Passenger Service

With the termination of Amtrak's service from Portland to Salt Lake City and Denver back in May 1997, passenger rail service is no longer provided in Hermiston or Pendleton. The closest rail passenger service is now located in Pasco, Washington along the Portland-to-Chicago line. There is one departure daily to Portland and Chicago from the Pasco station. Access to the station is difficult for many Umatilla County residents, particularly those who live in the southern portions of the county, as the station is located 25 miles north of the Oregon-Washington border.

Although Greyhound Bus Lines provides an alternative means for Umatilla County residents to travel to Portland, Salt Lake City, or Denver from terminal locations in Hermiston and Pendleton, this plan supports the efforts that are still underway to restore Amtrak's service in Hermiston and Pendleton.

Freight Service

With the recent merger of the Southern Pacific and Union Pacific Railroads, rail traffic is expected to increase by 43 percent at the Hinkle Yard south of Hermiston. In addition, the rail yard was recently precertified to receive Enterprise Zone benefits in order to attract a maintenance facility. The facility is expected to add up to 200 new jobs to the Hinkle Yard in the near future. Assuming rail activity will increase by 43 percent in this area, rail traffic through the cities of Stanfield and Echo is expected to reach around 30 to 37 trains per day. Rail traffic along the Spokane line through Hermiston is estimated to reach around 14 trains per day. Rail traffic along the Umatilla branch line through Hermiston is expected to remain constant at around one train per day. Other than the planned expansion of the Hinkle Railyards, there are no plans for future expansion of the freight rail system in Umatilla County. There are also no plans at this time for increasing rail activity along the UPRR line between Pendleton and Pilot Rock and along the Blue Mountain Line serving Weston.

Air Service Plan

At this time, the Master Plan for the Hermiston Municipal Airport is being updated by Alan Fagre and Associates. The Master Plan for the Eastern Oregon Regional Airport at Pendleton was prepared by Bucher, Willis, & Ratcliff in December 1996. The primary objectives of each plan are to determine long-range needs, assess development alternatives, and to produce airport development/improvement plans that will yield safe, efficient, economical, and environmentally acceptable facilities with capacity for future air transport needs.

Because both airports are governed by their own master plans, recommendations for future improvements are not within the scope of this Transportation Plan.

This plan does support, however, maintaining the Airport Hazard Overlay zones established by Umatilla County around both airports, to preserve airspace. Maintaining these zone boundaries should not affect recommended future roadway improvements around these areas.

Pipeline Service

There are no plans at this time for expanding the natural gas service provided to many of the cities in Umatilla County by Cascade Natural Gas.

There are no plans for expanding the Salt Lake Pipeline, running northwest to southeast through Umatilla County.

Water Transportation

As mentioned in the Existing Conditions section, the Port of Umatilla, located on the Columbia River, provides waterborne transportation services to the Port of Portland and other Pacific Rim locations. The Port of Umatilla has two marine facilities capable of accommodating future expansion that are expected to continue to grow with the surrounding community. No formal plans have been identified at this time for future expansion of the port facilities.

TRANSPORTATION SYSTEM PLAN IMPLEMENTATION PROGRAM

Implementation of the Umatilla County TSP will require changes to both the county comprehensive plan and the zoning code and preparation of a 20-year Capital Improvement Plan (CIP). These actions will enable Umatilla County to address both existing and emerging transportation issues throughout the county in a timely and cost-effective manner.

One part of the implementation program is the formulation of a 20-year CIP. The purpose of the CIP is to provide an organized list of the transportation system improvements that are needed over the next 20 years, and to provide a process to fund and implement these improvements. It is expected that the county may implement the CIP in a parallel process with other city CIPs and the ODOT STIP. This parallel process is important since the TSP proposes that city, county, and state governmental agencies participate in the funding for transportation improvement projects.

The Umatilla County Board of Commissioners has decided to separate the CIP from the TSP to be implemented by a separate resolution. This was done so that the projects identified in the CIP for the county could be updated and prioritized on a yearly basis, rather than being limited to a five-year interval when a TSP is typically updated. The Board of Commissioners believes this will create a more flexible and proactive implementation program capable of responding to the needs of the five transportation districts in the county. This will, however, require the county to adopt an annual CIP update process by resolution. (See the Umatilla County Capital Improvement Plan.)

Model policy and ordinance language that conforms to the requirements of the Transportation Planning Rule is included in Chapter 9. The proposed ordinance amendments will require approval by the City Council and those that affect the unincorporated urban area will also require approval by the Board of County Commissioners.

CHAPTER 8: FUNDING OPTIONS AND FINANCIAL PLAN

The Transportation Planning Rule requires Transportation System Plans to evaluate the funding environment for recommended improvements. This evaluation must include a listing of all recommended improvements, estimated costs to implement those improvements, a review of potential funding mechanisms, and an analysis of existing sources' ability to fund proposed transportation improvement projects. The Umatilla County TSP identifies a total of 137 specific recommendations that address deficiencies, safety issues, or access concerns in addition to revisions to the development ordinance and the development transportation demand management strategies. This section of the TSP provides an overview of Umatilla County's revenue outlook and a review of some funding and financing options that may be available to Umatilla County to fund the improvements.

Pressures from increasing growth throughout much of Oregon have created disparity between needed improvements and available funding. Umatilla County will need to work with its incorporated cities, the CTUIR, and ODOT to finance new transportation projects over the 20-year planning horizon. The actual timing of these projects will be determined by the rate of population and employment growth actually experienced by the communities. This TSP assumes Umatilla County will grow at a rate slightly higher than the rate forecasted by the State Office of Economic Analysis. If population growth exceeds this rate, the improvements may need to be accelerated. Slower than expected growth will relax the improvement schedule.

HISTORICAL ROAD IMPROVEMENT FUNDING SOURCES

In Oregon, state, county, and city jurisdictions work together to coordinate transportation improvements. In addition to this overlapping jurisdiction of the road network, transportation improvements are funded through a combination of federal, state, county, and city sources.

Table 8-1 shows the distribution of road revenues for the different levels of government within the state by jurisdiction level. Although these numbers were collected and tallied in 1991, ODOT estimates that these figures accurately represent the current revenue structure for transportation-related needs.

**TABLE 8-1
SOURCES OF ROAD REVENUES BY JURISDICTION LEVEL**

Revenue Source	Jurisdiction Level			All Funds
	State	County	City	
State Road Trust	58%	38%	41%	48%
Local	0%	22%	55%	17%
Federal Road	34%	40%	4%	30%
Other	9%	0%	0%	4%
Total	100%	100%	100%	100%

Source: ODOT 1993 Oregon Road Finance Study.

At the state level, nearly half (48 percent in Fiscal Year 1991) of all road-related revenues are attributable to the State Highway Fund (State Road Trust), whose sources of revenue include fuel taxes, weight-mile taxes on trucks, and vehicle registration fees. As shown in the table, the state road trust is a considerable source of revenue for all levels of government. Federal sources (generally the federal highway trust account and federal forest revenues) comprise another 30 percent of all road-related revenue. The remaining sources of road-related revenues are generated locally, including property taxes, LIDs, bonds, traffic impact fees, road user taxes, general fund transfers, receipts from other local governments, and other sources.

As a state, Oregon generates 94 percent of its highway revenues from user fees, compared to an average of 78 percent among all states. This fee system, including fuel taxes, weight distance charges, and registration fees,

is regarded as equitable because it places the greatest financial burden upon those who create the greatest need for road maintenance and improvements. Unlike many states that have indexed user fees to inflation, Oregon has static road-revenue sources. For example, rather than assessing fuel taxes as a percentage of price per gallon, Oregon’s fuel tax is a fixed amount (currently 24 cents) per gallon.

Transportation Funding in Umatilla County

Historically, sources of road revenues for Umatilla County have included federal grants, state revenues, intergovernmental transfers, interest from the working fund balance, and other sources. Transportation revenues and expenditures for Umatilla County are shown in Table 8-2 and Table 8-3.

**TABLE 8-2
UMATILLA COUNTY TRANSPORTATION-RELATED REVENUES**

	1992-1993	1993-1994	1994-1995	1995-1996	1996-1997	1997-1998
	Actual	Actual	Actual	Actual	Budget	Budget
Beginning Balance	\$1,187,957	\$992,044	\$903,997	\$1,762,230	\$1,600,000	\$1,300,000
DMV License & Gas Tax Fees	\$2,956,777	\$3,145,649	\$3,258,762	\$3,356,616	\$3,400,000	\$3,400,000
Misc. State Receipts			\$635,655	\$222,990	\$209,000	\$219,000
National Forest Rental	\$1,061,341	\$589,248	\$534,150	\$189,902	\$180,000	\$180,000
Mineral Leasing 75%				\$125		
Misc. Federal Receipts	\$1,968	\$1,670	\$1,208	\$77,681		
Interest on Invested Funds	\$72,834	\$38,672	\$77,885	\$92,220	\$75,000	\$75,000
Refunds & Reimbursements		\$75		\$338		
Sale of Public Lands	\$20,144	\$14,363	\$5,443	\$102	\$15,000	\$5,000
Rentals/Sale of Supplies	\$15,318	\$16,565	\$51,748	\$74,498	\$45,000	\$27,000
BLM Maintenance Agreement		\$2,000				
Misc. Receipts-Local	\$26,662	\$102,916	\$143,691	\$48,997		
Service Center	\$46,996	\$55,961	\$53,361	\$61,189	\$58,500	\$64,000
Rural Address fund					\$30,000	
	\$5,389,996	\$4,959,163	\$5,665,900	\$5,886,887	\$5,612,500	\$5,270,000

Source: Umatilla County.

As shown in Table 8-2, revenues remained relatively stable (between a low of just under \$5 million in 1993-1994 to a high of nearly \$5.9 million in 1995-1996). Approximately \$3 million of the annual revenues come from the State Highway Fund, rising slightly from \$3 million in 1992-1993 to an estimated \$3.4 million in 1996-1997. A declining amount has come from federal apportionment (mostly federal forest receipts). Twenty-five percent of federal forest revenue (the 25-percent fund) is returned to the counties based on their share of the total acreage of federal forests. Westside National Forests in Oregon and Washington are subject to the Spotted Owl Guarantee, which limits the decline of revenues from these forests to three percent annually. Oregon Forests under the Owl Guarantee include the Deschutes, Mount Hood, Rogue River, Siskiyou, Siuslaw, Umpqua, and Willamette National Forests. Forest revenues distributed to Umatilla County are from the Umatilla and Whitman forests, not subject to the Owl Guarantee and, therefore, are more difficult to predict. With a healthy working capital balance, the county has also been able to generate between \$40,000 and \$90,000 annually in interest on its invested funds.

TABLE 8-3
UMATILLA COUNTY TRANSPORTATION-RELATED EXPENDITURES

	1992-1993	1993-1994	1994-1995	1995-1996	1996-1997	1997-1998
	Actual	Actual	Actual	Actual	Budget	Budget
Personal Services	\$1,908,211	\$1,878,969	\$1,956,968	\$2,077,603	\$2,260,676	\$2,304,704
Materials and Services	\$1,897,273	\$1,961,106	\$1,564,591	\$1,735,853	\$2,131,925	\$1,972,800
Capital Outlay	\$601,846	\$225,074	\$385,176	\$404,357	\$400,000	\$400,000
Contingency					\$568,840	\$334,224
Transfer to Road Improvement Fund					\$11,555	
Transfer to General Fund						\$58,272
	4,407,330	\$4,065,149	\$3,906,735	\$4,217,813	\$5,372,996	\$5,070,000

Source: Umatilla County.

As shown in Table 8-3, Umatilla County has spent between \$225,000 and \$600,000 annually in capital improvements. The county also transfers money to a road improvement fund for larger-scale capital improvements. The bulk of expenditures in the road fund are for personal services and materials and services relating to maintenance.

In addition to the Road Department Fund, Umatilla County has a separate Bicycle Path Fund. Its revenues and expenditure history are shown below in Table 8-4. Like the road fund, the Bicycle Path Fund is developing a healthy working capital balance, supporting additional interest income, thereby reducing its dependence on the gas taxes collected through the State Highway Fund.

TABLE 8-4
UMATILLA COUNTY BICYCLE PATH FUND REVENUES AND EXPENDITURES

	1994-1995	1995-1996	1996-1997	1997-1998
	Actual	Actual	Budget	Budget
Beginning Fund Balance	\$230,059	\$260,652	\$299,775	\$349,775
Resources				
DMV License & Gas Tax Fees	\$32,917	\$32,946	\$34,000	\$34,000
Interest	\$13,073	\$16,251	\$16,000	\$18,000
	\$45,989	\$49,197	\$50,000	\$52,000
Expenditures				
Materials & Services	\$15,396		\$150,000	\$100,000
Capital Outlay				
	\$15,396	\$-	\$150,000	\$100,000

Source: Umatilla County.

Transportation Revenue Outlook in Umatilla County

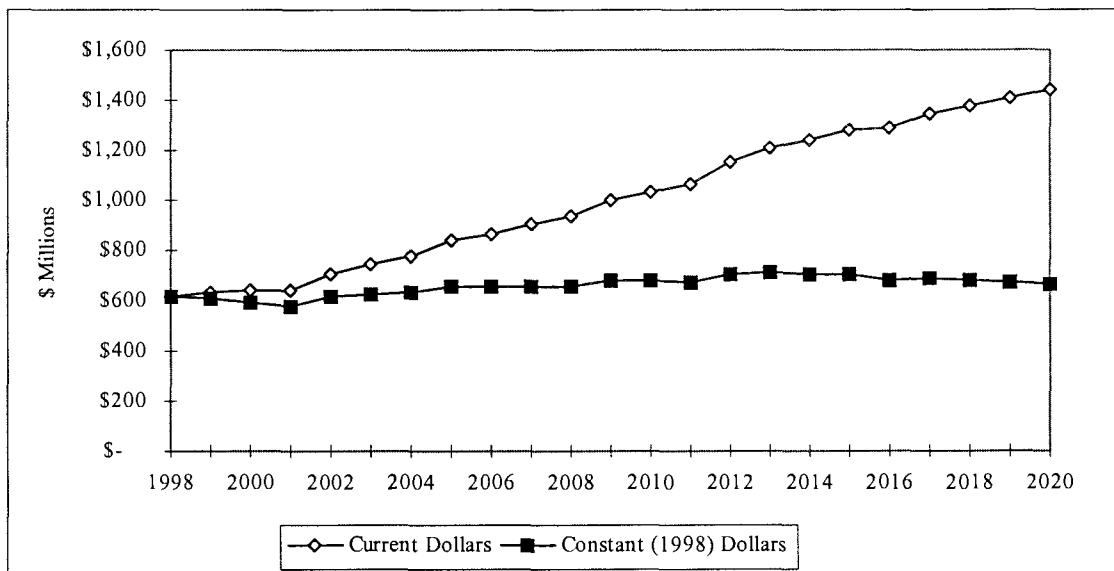
ODOT's policy section recommends certain assumptions in the preparation of transportation plans. In its Financial Assumptions document prepared in May 1998, ODOT projected the revenue of the State Highway Fund through year 2020. The estimates are based on not only the political climate, but also the economic structure and conditions, population and demographics, and patterns of land use. The latter is particularly important for state-imposed fees because of the goals in place under Oregon's Transportation Planning Rule (TPR) requiring a 10-percent reduction in per-capita vehicle miles of travel (VMT) in Metropolitan Planning

Organization (MPO) planning areas by year 2015, and a 20-percent reduction by year 2025. This requirement will affect the 20-year revenue forecast from the fuel tax. ODOT recommends the following assumptions:

- Fuel tax increases of 1 cent per gallon per year (beginning in year 2002), with an additional 1 cent per gallon every fourth year;
- Vehicle registration fees would be increased by \$10 per year in 2002, and by \$15 per year in year 2012;
- Revenues will fall halfway between the revenue-level generated without TPR and the revenue level if TPR goals were fully met; and
- The revenues will be shared among the state, counties, and cities on a “50-30-20 percent” basis rather than the previous “60.05-24.38-15.17 percent” basis;
- Inflation occurs at an average annual rate of 3.6 percent.

Figure 8-1 shows the forecast in both current-dollar and inflation-deflated constant (1998) dollars. As highlighted by the constant-dollar data, the highway fund is expected to grow slower than inflation early in the planning horizon until fuel-tax and vehicle-registration fee increases occur in year 2002, increasing to a rate somewhat faster than inflation through year 2015, continuing a slight decline through the remainder of the planning horizon.

**FIGURE 8-1
STATE HIGHWAY FUND RECOMMENDED SCENARIO**



Source: ODOT Financial Assumptions

As the State Highway Fund is expected to remain a significant source of funding for Umatilla County’s road operations, the county is highly susceptible to changes in the State Highway Fund. In recent years, the State Highway Fund has supplied over one-quarter of Umatilla County’s total road fund revenue.

In order to analyze the county’s ability to fund the recommended improvements from current sources, DEA applied the following assumptions:

- The State Highway Fund will continue to account for a significant portion of the county’s Street Fund;
- Federal disbursements will remain stable, secured by measures like the Owl Guarantee;
- Interest and other local sources continue to provide stable revenue streams; and
- The proportion of revenues available for capital expenditures for road improvements will be a small, but stable, proportion of overall road expenditures.

Applying these assumptions to the estimated level of the State Highway Fund resources, as recommended by ODOT, resources available to Umatilla County for all operations, maintenance, and capital outlay purposes are estimated at between \$3.1 and \$3.8 million annually (in current 1999 dollars), as shown in Table 8-5.

**TABLE 8-5
ESTIMATED RESOURCES AVAILABLE TO UMATILLA COUNTY
FROM STATE HIGHWAY FUND, 1999 DOLLARS**

Year	Total Estimated Resources from State Highway Fund	Estimated Funds Available for Capital Outlay
1999	\$3,230,000	\$347,000
2000	\$3,150,000	\$339,000
2001	\$3,080,000	\$331,000
2002	\$3,260,000	\$351,000
2003	\$3,310,000	\$356,000
2004	\$3,350,000	\$361,000
2005	\$3,500,000	\$376,000
2006	\$3,470,000	\$373,000
2007	\$3,490,000	\$375,000
2008	\$3,500,000	\$377,000
2009	\$3,600,000	\$388,000
2010	\$3,600,000	\$388,000
2011	\$3,590,000	\$386,000
2012	\$3,730,000	\$401,000
2013	\$3,790,000	\$408,000
2014	\$3,760,000	\$404,000
2015	\$3,720,000	\$401,000
2016	\$3,620,000	\$389,000
2017	\$3,650,000	\$393,000
2018	\$3,610,000	\$388,000
2019	\$3,560,000	\$383,000

The amount actually received from the State Highway Fund will depend on a number of factors, including:

- the actual revenue generated by state gasoline taxes, vehicle registration fees, and other sources; and
- the population growth in Umatilla County (since the distribution of state highway funds is based on an allocation formula which includes population).

Based on the amount of resources historically available to fund capital improvements this analysis suggests that Umatilla County will have between \$330,000 and \$410,000 available annually for capital improvements.

REVENUE SOURCES

In order to finance the recommended transportation system improvements requiring expenditure of capital resources, it will be important to consider a range of funding sources. Although the property tax has traditionally served as the primary revenue source for local governments, property tax revenue goes into general fund operations, and is typically not available for road improvements or maintenance. Despite this limitation, the use of alternative revenue funding has been a trend throughout Oregon as the full implementation of Measures 5 and 47 have significantly reduced property tax revenues (see below). The alternative revenue sources described in this section may not all be appropriate in Umatilla County; however, this overview is being provided to illustrate the range of options currently available to finance transportation improvements during the next 20 years.

Property Taxes

Property taxes have historically been the primary revenue source for local governments. However, property tax revenue goes into general fund operations, and is not typically available for road improvements or maintenance. The dependence of local governments on this revenue source is due, in large part, to the fact that property taxes are easy to implement and enforce. Property taxes are based on real property (i.e., land and buildings) which have a predictable value and appreciation to base taxes upon. This is as opposed to income or sales taxes which can fluctuate with economic trends or unforeseen events.

Property taxes can be levied through: 1) tax base levies, 2) serial levies, and 3) bond levies. The most common method uses tax base levies which do not expire and are allowed to increase by six percent per annum. Serial levies are limited by amount and time they can be imposed. Bond levies are for specific projects and are limited by time based on the debt load of the local government or the project.

The historic dependence on property taxes is changing with the passage of Ballot Measure 5 in the early 1990s. Ballot Measure 5 limits the property tax rate for purposes other than payment of certain voter-approved general obligation indebtedness. Under full implementation, the tax rate for all local taxing authorities is limited to \$15 per \$1,000 of assessed valuation. As a group, all non-school taxing authorities are limited to \$10 per \$1,000 of assessed valuation. All tax base, serial, and special levies are subject to the tax rate limitation. Ballot Measure 5 requires that all non-school taxing districts' property tax rate be reduced if together they exceed \$10 per \$1,000 per assessed valuation by the county. If the non-debt tax rate exceeds the constitutional limit of \$10 per \$1,000 of assessed valuation, then all of the taxing districts' tax rates are reduced on a proportional basis. The proportional reduction in the tax rate is commonly referred to as compression of the tax rate.

Measure 47, an initiative petition, was passed by Oregon voters in November 1996. It is a constitutional amendment that reduces and limits property taxes and limits local revenues and replacement fees. The measure limits 1997-98 property taxes to the lesser of the 1995-96 tax minus 10 percent, or the 1994-95 tax. It limits future annual property tax increases to three percent, with exceptions. Local governments' lost revenue may be replaced only with state income tax, unless voters approve replacement fees or charges. Tax levy approvals in certain elections require 50 percent voter participation.

The state legislature created Measure 50, which retains the tax relief of Measure 47 but clarifies some legal issues. This revised tax measure was approved by voters in May 1997.

The League of Oregon Cities (LOC) estimated that direct revenue losses to local governments, including school districts, will total \$467 million in fiscal year 1998, \$553 million in 1999, and increase thereafter. The actual revenue losses to local governments will depend on actions of the Oregon Legislature. LOC also estimates that the state will have revenue gains of \$23 million in 1998, \$27 million in 1999, and increase thereafter because of increased personal and corporate tax receipts due to lower property tax deduction.

Measure 50 adds another layer of restrictions to those which govern the adoption of tax bases and levies outside the tax base, as well as Measure 5's tax rate limits for schools and non-schools and tax rate exceptions for voter approved debt. Each new levy and the imposition of a property tax must be tested against a longer series of criteria before the collectible tax amount on a parcel of property can be determined.

System Development Charges

System Development Charges (SDCs) are becoming increasingly popular in funding public works infrastructure needed for new local development. Generally, the objective of systems development charges is to allocate portions of the costs associated with capital improvements upon the developments which increase demand on transportation, sewer or other infrastructure systems.

Local governments have the legal authority to charge property owners and/or developers fees for improving the local public works infrastructure based on projected demand resulting from their development. The charges are most often targeted towards improving community water, sewer, or transportation systems. Cities and counties must have specific infrastructure plans in place that comply with state guidelines in order to collect SDCs.

SDCs are collected when new building permits are issued. Transportation SDCs are based on trip generation of the proposed development. Residential calculations would be based on the assumption that a typical household will generate a given number of vehicle trips per day. Nonresidential use calculations are based on employee ratios for the type of business or industrial uses. The SDC revenues would help fund the construction of transportation facilities necessitated by new development.

State Highway Fund

Gas tax revenues received from the state of Oregon are used by all counties and cities to fund road and road construction and maintenance. In Oregon, the state collects gas taxes, vehicle registration fees, overweight/overheight fines and weight/mile taxes and returns a portion of the revenues to cities and counties through an allocation formula.

Local Gas Taxes

The Oregon Constitution permits counties and incorporated cities to levy additional local gas taxes with the stipulation that the moneys generated from the taxes will be dedicated to road-related improvements and maintenance within the jurisdiction. At present, only a few local governments (including the cities of Woodburn and The Dalles and Multnomah and Washington counties) levy a local gas tax. Umatilla County may consider raising its local gas tax as a way to generate additional road improvement funds. However, with relatively few jurisdictions exercising this tax, an increase in the cost differential between gas purchased in Umatilla County and gas purchased in neighboring communities may encourage drivers to seek less expensive fuel elsewhere. Any action will need to be supported by careful analysis to minimize the unintended consequences of such an action.

Vehicle Registration Fees

The Oregon Vehicle Registration Fee is allocated to the state, counties and cities for road funding. Oregon counties are granted authority to impose a vehicle registration fee covering the entire county. The Oregon Revised Statutes would allow Umatilla County to impose a biannual registration fee for all passenger cars licensed within the county. Although both counties and special districts have this legal authority, vehicle registration fees have not been imposed by local jurisdictions. In order for a local vehicle registration fee program to be viable in Umatilla County, all the incorporated cities and the county would need to formulate an agreement which would detail how the fees would be spent on future road construction and maintenance.

Local Improvement Districts

The Oregon Revised Statutes allow local governments to form Local Improvement Districts (LIDs) to construct public improvements. LIDs are most often used by cities to construct localized projects such as streets, sidewalks or bikeways. The statutes allow formation of a district by either the city government or property owners. Cities that use LIDs are required to have a local LID ordinance that provides a process for district formation and payback provisions. Through the LID process, the cost of local improvements are generally spread out among a group of property owners within a specified area. The cost can be allocated based on property frontage or other methods such as traffic trip generation. The types of allocation methods are only limited by the Local Improvement Ordinance. The cost of LID participation is considered an assessment against the property which is a lien equivalent to a tax lien. Individual property owners typically have the option of paying the assessment in cash or applying for assessment financing through the city. Since the passage of Ballot Measure 5, cities have most often funded local improvement districts through the sale of special assessment bonds.

GRANTS AND LOANS

There are a variety of grant and loan programs available, most with specific requirements relating to economic development or specific transportation issues, rather than for the general construction of new streets. Many programs require a match from the local jurisdiction as a condition of approval. Because grant and loan programs are subject to change and statewide competition, they should not be considered a secure long-term

funding source . Most of the programs available for transportation projects are funded and administered through ODOT and/or the Oregon Economic Development Department (OEDD). Some programs which may be appropriate for the Umatilla County are described below. The primary contact for information on the following programs is ODOT Region 5 which can be reached at (541) 963-3177.

Bike-Pedestrian Grants

By law (ORS 366.514), all road, street or highway construction or reconstruction projects must include facilities for pedestrians and bicyclists, with some exceptions. ODOT's Bike and Pedestrian Program administers two programs to assist in the development of walking and bicycling improvements: local grants, and Small-Scale Urban Projects. Cities and counties with projects on local streets are eligible for local grant funds. An 80 percent state/20 percent local match ratio is required. Eligible projects include curb extensions, pedestrian crossings and intersection improvements, shoulder widening and restriping for bike lanes. Projects on urban state highways with little or no right of way taking and few environmental impacts are eligible for Small-Scale Urban Project Funds. Both programs are limited to projects costing up to \$100,000. Projects that cost more than \$100,000, require the acquisition of ROW, or have environmental impacts should be submitted to ODOT for inclusion in the STIP.

Access Management

The Access Management Program sets aside approximately \$500,000 a year to address access management issues. One primary component of this program is an evaluation of existing approach roads to state highways. These funds are not committed to specific projects, and priorities and projects are established by an evaluation process.

Enhancement Program

This federally-funded program earmarks \$8 million annually for projects in Oregon. Projects must demonstrate a link to the intermodal transportation system, compatibility with approved plans, and local financial support. A 10.27 percent local match is required for eligibility. Each proposed project is evaluated against all other proposed projects in its region. Within the five Oregon regions, the funds are distributed on a formula based on population, vehicle miles traveled, number of vehicles registered and other transportation-related criteria. The solicitation for applications was mailed to cities and counties the last week of October 1998. Local jurisdictions have until January 1999 to complete and file their applications for funding available during the 2000-2003 fiscal years which begin October 1999.

Highway Bridge Rehabilitation or Replacement Program

The Highway Bridge Rehabilitation or Replacement Program (HBRR) provides federal funding for the replacement and rehabilitation of bridges of all functional classifications. A portion of the HBRR funding is allocated for the improvement of bridges under local jurisdiction. A quantitative ranking system is applied to the proposed projects based on sufficiency rating, cost factor, and load capacity. They are ranked against other projects statewide, and require state and local matches of 10 percent each. It includes the Local Bridge Inspection Program and the Bridge Load Rating Program.

Transportation Safety Grant Program

Managed by ODOT's Transportation Safety Section (TSS), this program's objective is to reduce the number of transportation-related accidents and fatalities by coordination a number of statewide programs. These funds are intended to be used as seed money, funding a program for three years. Eligible programs include programs

in impaired driving, occupant protection, youth, pedestrian, speed, enforcement, bicycle and motorcycle safety. Every year, TSS produces a Highway Safety Plan that identifies the major safety programs, suggests countermeasures to existing safety problems, and lists successful projects selected for funding, rather than granting funds through an application process.

Federal Transit Administration (FTA) Section 5311-Non-urbanized Area Formula Program

Section 5311 is a federally sponsored program for general public transit services in small urban and rural areas. It supports both capital and operation needs. The ODOT Public Transit Division distributes these funds. In FY00, the cities of Pendleton and Milton-Freewater received these funds to support transportation programs for the general public. Umatilla County would be eligible for these funds if it implemented intercity service or intracity services open to the general public. The recipient of these funds must provide matching funds of up to 50 percent for operating uses and up to 20 percent for capital expenses.

Section 5311(f) – Part of 5311 funds is allocated to intercity services. Intercity transit services connect communities to rail, bus and air hubs. These funds can be used for both capital and operating expenses. Local revenues must match these funds. Match requirements are the same as those for 5311 funds.

Surface Transportation Program (STP) Funds

TEA-21, the Federal Transportation Efficiency Act for the 21st Century, that funds programs for highways and transit, permits surface transportation program funding flexibility between modes. This gives the state more latitude in selecting the modal alternatives that would best address local congestion problems. STP funds are generally limited to capital projects with a few exceptions. In non-urbanized areas ODOT has the responsibility of allocating these funds. In Umatilla County, ODOT Region 5 makes funding decisions with public input.

Department of Labor Welfare-to-Work Program

The US Department of Labor provides grants to communities to give transitional assistance to move welfare recipients into unsubsidized employment. One of the areas applicants are encouraged to consider is the development of responsive transportation systems to move people to work or to career training. These grants must serve at least 100 welfare recipients. The Department of Labor expects the grants to range from one million to five million dollars over a period of three years. Applications must be a coordinated effort between transportation providers and Oregon Adult and Family Services. The funding can be used for capital and operating expenses and will cover up to 50 percent of the cost of a program.

ODOT has submitted a grant application for funding for Oregon programs. ODOT identified the Bend/Redmond area as the first demonstration program. Other areas of the state may be eligible after that. To be eligible for this funding, it is essential that communities bring together local ODOT staff, transit providers and AFS staff to begin the coordination process.

FTA Section 5310 Discretionary Grants

This program funds vehicles and other capital projects for programs that serve elderly and disabled people. In FY99 the city of Pendleton received \$36,000 to purchase a new vehicle.

Special Transportation Fund

The Special Transportation Fund (STF) awards funds to maintain, develop, and improve transportation services for people with disabilities and people over 60 years of age. Financed by a two-cent tax on each pack of cigarettes sold in the state, the annual distribution is approximately \$5 million. Three-quarters of these funds are distributed on a per-capita formula to mass transit districts, transportation districts, where such districts do not exist, and counties. The remaining funds are distributed on a discretionary basis.

County Allotment Program

The County Allotment Program distributes funds to counties on an annual basis; the funds distributed in this program are in addition to the regular disbursement of State Highway Fund resources. The program determines the amount of total revenue available for roads in each county and the number of road miles (but not lane miles) of collectors and arterials under each county's jurisdiction. Using these two benchmarks, a "resource-per-equivalent" ratio is calculated for each county. Resources from the \$750,000 program are provided to the county with the lowest resource-per-equivalent road-mile ratio until they are funded to the level of the next-lowest county. The next-lowest county is then provided resources until they are funded to the level of the third-lowest county, and so on, until the fund is exhausted.

Immediate Opportunity Grant Program

The Oregon Economic Development Department (OEDD) and ODOT collaborate to administer a grant program designed to assist local and regional economic development efforts. The program is funded to a level of approximately \$7 million per year through state gas tax revenues. The following are primary factors in determining eligible projects:

- Improvement of public roads;
- Inclusion of an economic development-related project of regional significance;
- Creation or retention of primary employment;
- Ability to provide local funds (50/50) to match grant; and
- Improvement to the quality of the community.

The maximum amount of any grant under the program is \$500,000. Local governments which have received grants under the program include Washington County, Multnomah County, Douglas County, the city of Hermiston, Port of St. Helens, and the city of Newport.

Oregon Special Public Works Fund

The Special Public Works Fund (SPWF) program was created by the 1995 State Legislature as one of several programs for the distribution of funds from the Oregon Lottery to economic development projects in communities throughout the state. The program provides grant and loan assistance to eligible municipalities primarily for the construction of public infrastructure which support commercial and industrial development that result in permanent job creation or job retention. To be awarded funds, each infrastructure project must support businesses wishing to locate, expand, or remain in Oregon. SPWF awards can be used for improvement, expansion, and new construction of public sewage treatment plants, water supply works, public roads, and transportation facilities.

While SPWF program assistance is provided in the form of both loans and grants, the program emphasizes loans in order to assure that funds will return to the state over time for reinvestment in local economic

development infrastructure projects. Jurisdictions that have received SPWF funding for projects that include some type of transportation-related improvement include the Cities of Baker City, Bend, Cornelius, Forest Grove, Madras, Portland, Redmond, Reedsport, Toledo, Wilsonville, Woodburn, and Douglas County.

Oregon Transportation Infrastructure Bank

The Oregon Transportation Infrastructure Bank (OTIB) program is a revolving loan fund administered by ODOT to provide loans to local jurisdictions (including cities, counties, special districts, transit districts, tribal governments, ports, and state agencies). Eligible projects include construction of federal-aid highways, bridges, roads, streets, bikeways, pedestrian accesses, and right of way costs. Capital Outlays such as buses, light-rail cars and lines, maintenance yards and passenger facilities are also eligible.

ODOT FUNDING OPTIONS

The state of Oregon provides funding for all highway related transportation projects through the Statewide Transportation Improvement Program (STIP) administered by the Oregon Department of Transportation. The STIP outlines the schedule for ODOT projects throughout the state. The STIP, which identifies projects for a three-year funding cycle, is updated on an annual basis. Starting with the 2000 budget year, ODOT will then identify projects for a four-year funding cycle. In developing this funding program, ODOT must verify that the identified projects comply with the Oregon Transportation Plan (OTP), ODOT Modal Plans, Corridor Plans, local comprehensive plans, and TEA-21 Planning Requirements. The STIP must fulfill ISTEA planning requirements for a staged, multi-year, statewide, intermodal program of transportation projects. Specific transportation projects are prioritized based on a review of the ISTEA planning requirements and the different state plans. ODOT consults with local jurisdictions before highway related projects are added to the STIP.

The highway-related projects identified in Umatilla County's TSP will be considered for future inclusion on the STIP. The timing of including specific projects will be determined by ODOT based on an analysis of all the project needs within Region 5. Umatilla County, its incorporated cities, and ODOT will need to communicate on an annual basis to review the status of the STIP and the prioritization of individual projects within the project area. Ongoing communication will be important for the city, county, and ODOT to coordinate the construction of both local and state transportation projects.

ODOT also has the option of making some highway improvements as part of their ongoing highway maintenance program. Types of road construction projects that can be included within the ODOT maintenance programs are intersection realignments, additional turn lanes, and striping for bike lanes. Maintenance related construction projects are usually done by ODOT field crews using state equipment. The maintenance crews do not have the staff or specialized road equipment needed for large construction projects.

An ODOT funding technique that will likely have future application to Umatilla County's TSP is the use of state and federal transportation dollars for off-system improvements. Until the passage and implementation of ISTEA, state and federal funds were limited to transportation improvements within highway corridors. ODOT now has the authority and ability to fund transportation projects that are located outside the boundaries of the highway corridors. The criteria for determining what off-system improvements can be funded has not yet been clearly established. It is expected that this new funding technique will be used to finance local system improvements that reduce traffic on state highways or reduce the number of access points for future development along state highways.

FINANCING TOOLS

In addition to funding options, the recommended improvements listed in this plan may benefit from a variety of financing options. Although often used interchangeably, the words financing and funding are not the same. Funding is the actual generation of revenue by which a jurisdiction pays for improvements, some examples include the sources discussed above: property taxes, SDCs, fuel taxes, vehicle registration fees, LIDs, and various grant programs. In contrast, financing refers to the collecting of funds through debt obligations.

There are a number of debt financing options available to Umatilla County. The use of debt to finance capital improvements must be balanced with the ability to make future debt service payments and to deal with the impact on its overall debt capacity and underlying credit rating. Again, debt financing should be viewed not as a source of funding, but as a time shifting of funds. The use of debt to finance these transportation-system improvements is appropriate since the benefits from the transportation improvements will extend over the period of years. If such improvements were to be tax financed immediately, a large short-term increase in the tax rate would be required. By utilizing debt financing, local governments are essentially spreading the burden of the costs of these improvements to more of the people who are likely to benefit from the improvements and lowering immediate payments.

General Obligation Bonds

General obligation (GO) bonds are voter-approved bond issues which represent the least expensive borrowing mechanism available to municipalities. GO bonds are typically supported by a separate property tax levy specifically approved for the purposes of retiring debt. The levy does not terminate until all debt is paid off. The property tax levy is distributed equally throughout the taxing jurisdiction according to assessed value of property. General obligation debts are typically used to make public improvement projects that will benefit the entire community.

State statutes require that the general obligation indebtedness of a city not exceed three percent of the real market value of all taxable property in the city. Since general obligation bonds would be issued subsequent to voter approval, they would not be restricted to the limitations set forth in Ballot Measures 5, 47, and 50. Although new bonds must be specifically voter approved, Measure 47 and 50 provisions are not applicable to outstanding bonds, unissued voter-approved bonds, or refunding bonds.

Limited Tax Bonds

Limited tax general obligation bonds (LTGOs) are similar to general obligation bonds in that they represent an obligation of the municipality. However, a municipality's obligation is limited to its current revenue sources and is not secured by the public entity's ability to raise taxes. As a result, LTGOs do not require voter approval. However, since the LTGOs are not secured by the full taxing power of the issuer, the limited tax bond represents a higher borrowing cost than general obligation bonds. The municipality must pledge to levy the maximum amount under constitutional and statutory limits, but not the unlimited taxing authority pledged with GO bonds. Because LTGOs are not voter approved, they are subject to the limitations of Ballot Measures 5, 47, and 50.

Bancroft Bonds

Under Oregon Statute, municipalities are allowed to issue Bancroft bonds which pledge the city's full faith and credit to assessment bonds. As a result, the bonds become general obligations of the city but are paid with assessments. Historically, these bonds provided a city with the ability to pledge its full faith and credit in order to obtain a lower borrowing cost without requiring voter approval. However, since Bancroft bonds

are not voter approved, taxes levied to pay debt service on them are subject to the limitations of Ballot Measures 5, 47, and 50. As a result, since 1991, Bancroft bonds have not been used by municipalities who were required to compress their tax rates.

FUNDING REQUIREMENTS

Umatilla County's TSP identifies both capital improvements and strategic efforts recommended during the next 20 years to address safety and access problems and to expand the transportation system to support a growing population and economy. They have been classified into five transportation districts. Within each transportation district, the projects are prioritized into two phases:

- Phase I: within the next five years; and
- Phase II: within the next 6 to 20 years.

Estimated project costs by transportation district and prioritization phase are shown in Table 8-6. Costs are also distributed to the various parties that are financially responsible.

**TABLE 8-6
ESTIMATED COSTS OF RECOMMENDED PROJECTS BY
TRANSPORTATION DISTRICT AND PHASE**

	Costs (\$ X 1,000)				
	City	County	State	Private	Total
<i>District I</i>					
Phase I	\$2,977.1	\$5,116.5	\$1,300.1	\$0.0	\$24,193.7 ¹
Phase II	\$18,721.5	\$14,360.3	\$7,171.9	\$200.0	\$40,453.7
District I Subtotal	\$21,698.6	\$19,476.8	\$8,472.0	\$200.0	\$64,647.4 ¹
<i>District II</i>					
Phase I	\$2,703.0	\$35.5	\$0.0	\$0.0	\$2,738.5
Phase II	\$3,231.0	\$2,161.2	\$1,375.5	\$0.0	\$6,767.7
District II Subtotal	\$5,934.0	\$2,196.7	\$1,375.5	\$0.0	\$9,506.2
<i>District III</i>					
Phase I	\$40.0	\$3,611.6	\$104.0	\$0.0	\$3,755.6
Phase II	\$0.0	\$2,111.3	\$1,200.9	\$0.0	\$3,312.2
District III Subtotal	\$40.0	\$5,722.9	\$1,304.9	\$0.0	\$7,067.8
<i>District IV</i>					
Phase I	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Phase II	\$0.0	\$9.3	\$84.1	\$0.0	\$93.4
District IV Subtotal	\$0.0	\$9.3	\$84.1	\$0.0	\$93.4
<i>District V</i>					
Phase I Total	\$0.0	\$1,400.0	\$0.0	\$0.0	\$1,400.0
Phase II Total	\$0.0	\$3,393.1	\$240.6	\$0.0	\$3,633.7
District V Subtotal	\$0.0	\$4,793.1	\$240.6	\$0.0	\$5,033.7
All Districts - Phase I Total	\$5,720.1	\$10,163.6	\$1,404.1	\$0.0	\$32,087.8
All Districts - Phase II Total	\$21,952.5	\$22,035.2	\$10,073.0	\$200.0	\$54,260.7
All Districts - Grand Total	\$27,672.6	\$32,198.8	\$11,477.1	\$200.0	\$86,348.5

Note: 1. Includes a \$14.8 million Umatilla River bridge not included in the jurisdiction subtotals.

Of the 137 projects identified in the CIP, there are a total of 70 projects identified in District 1 (Western County). Eleven of those projects, estimated to cost nearly \$24.2 million, are classified as Phase I projects, to be implemented within the next five years. One of these projects is a proposed bridge over the Umatilla River. Estimated to cost \$14.8 million, no party has been identified as the financial leader at this time for this project. It is estimated that the county will have a financial commitment of \$5.1 million towards the Phase I projects.

In District 2 (Central County), there are a total of 23 projects identified. Six of these are classified under the Phase 1 category with a total cost estimate of \$2.7 million. It is estimated that the county will have a financial commitment of \$35,500 towards the Phase I projects.

In District 3 (Eastern County), there are a total of 30 projects identified. There are eleven projects classified under the Phase 1 category with a total cost estimate of \$3.8 million. It is estimated that the county will have a financial commitment of \$3.6 million towards the Phase I projects.

In District 4 (Southern County), there are a total of two projects identified, none of which are listed under the Phase 1 category.

In District 5 (Umatilla Indian Reservation), there are a total of 12 projects identified, one of which is listed under the Phase 1 category. The total cost for this project is \$1.4 million with funding provided by the county.

In all five transportation districts, the total cost for the 29 Phase I projects is estimated at \$32.1 million, with the level of county financial support estimated at \$10.2 million. Phase II projects are estimated to cost a total of \$54.2 million, with the county identified as providing \$22.0 million.

Based on the resources available as estimated in Table 8-6 and the cost estimates provided in this Transportation System Plan, Umatilla County is expected to experience a severe budget shortfall, as shown in Table 8-7.

TABLE 8-7
ESTIMATED CAPITAL FUNDING BALANCE

	Cost (\$x1,000)	
	Years 0-5	Years 6-20
Available	\$2,085.0	\$5,830.0
Needed for county-funded projects	\$10,163.6	\$22,035.2
Surplus (Deficit)	\$(8,078.6)	\$(13,411.8)
Cumulative Surplus (Deficit)	\$(8,078.6)	\$(16,205.2)

Given the existing cost estimates, the resources available as estimated in Table 8-7, and financial partners currently identified, Umatilla County is expected to experience a funding deficit of over \$16.2 million over the 20-year planning period. However, some of the projects may be eligible for alternative funding sources. For example, several of the projects may serve to improve the overall operation of state highways. Where they do, such projects may qualify for off-system funds. Another example is the projects that include the provision of bicycle and pedestrian routes. Where such projects serve to improve the pedestrian and bicycle connectivity of the community, they may be eligible for grant funding. Finally, some of the projects may be necessitated by new development, thereby making them eligible for SDC funding. Such alternative funds would allow Umatilla County to implement additional projects within the 20-year planning horizon. Additional analysis will be required to evaluate the feasibility of these alternative funding sources.

Umatilla County will need to work with its incorporated cities and ODOT explore alternative funding sources, including the Federal Enhancement Program, bike and pedestrian grants, and other programs described in this chapter to implement the recommended improvements.

CHAPTER 9: RECOMMENDED POLICIES AND ORDINANCES

In 1991, the Oregon Transportation Planning Rule was adopted to implement State Planning Goal 12 — Transportation (amended in May and September 1995 and). The Transportation Planning Rule requires counties and cities to complete a Transportation System Plan (TSP) that includes policies and ordinances to implement that plan. Umatilla County's Land Use Plan was adopted in 1983 and amended in 1987. The County's Development Ordinance was also adopted in 1983 and last updated in 1991. In 1997, the Ordinance was recodified and given a new title: *Chapter 152: Development Code*. It is apparent that the transportation sections of these documents have not been significantly updated since the implementation of the Transportation Planning Rule. Therefore, this chapter provides language that can be adopted in order for these documents to meet the requirements of the Transportation Planning Rule and this TSP.

ELEMENTS REQUIRED BY THE TRANSPORTATION PLANNING RULE

The applicable portion of the Transportation Planning Rule is found in Section 660-12-045: Implementation of the Transportation System Plan. In summary, the Transportation Planning Rule requires that local governments revise their land use regulations to implement the TSP in the following manner:

- Amend land use regulations to reflect and implement the Transportation System Plan.
- Clearly identify which transportation facilities, services, and improvements are allowed outright, and which will be conditionally permitted or permitted through other procedures.
- Adopt land use or subdivision ordinance measures, consistent with applicable federal and state requirements, to protect transportation facilities, corridors and sites for their identified functions, that include the following topics:
 - ⇒ access management and control;
 - ⇒ protection of public use airports;
 - ⇒ coordinated review of land use decisions potentially affecting transportation facilities;
 - ⇒ conditions to minimize development impacts to transportation facilities;
 - ⇒ regulations to provide notice to public agencies providing transportation facilities and services of land use applications that potentially affect transportation facilities; and
 - ⇒ regulations assuring that amendments to land use applications, densities, and design standards are consistent with the Transportation System Plan.
- Adopt land use or subdivision regulations for urban areas and rural communities to provide safe and convenient pedestrian and bicycle circulation, and to ensure that new development provides on-site roads and accessways that provide reasonably direct routes for pedestrian and bicycle travel.
- Establish road standards that minimize pavement width and total right of way.

These elements are discussed in the following sections, where they are grouped by similarity in terms of appropriate policy and ordinance.

APPROVAL PROCESSES FOR TRANSPORTATION FACILITIES

Section 660-12-045(1) of the Transportation Planning Rule requires that cities and counties amend their land use regulations to conform with the jurisdiction's adopted Transportation System Plan. This section of the Transportation Planning Rule is intended to clarify the approval process for transportation-related projects.

Recommended Policies for Approval Process

The Umatilla County Comprehensive Plan transportation section (Chapter 15) lists findings and policies to address the findings. Many of the policies listed call for the development of a transportation master plan to address the issues raised. The TSP acts as the transportation master plan discussed in the comprehensive plan. Therefore, Policies 1, 2, 5, 7, 9, and 15 should be updated to reflect the fact that the TSP has been adopted. Furthermore, policies should clarify the approval process for different types of projects. The following policies are recommended to be adopted and added in the transportation section of the Umatilla County Comprehensive Plan:

- The Transportation System Plan is an element of the Umatilla County comprehensive plan. It identifies the general location of transportation improvements. Changes in the specific alignment of proposed public road and highway projects shall be permitted without plan amendment if the new alignment falls within a transportation corridor identified in the Transportation System Plan.
- Operation, maintenance, repair, and preservation of existing transportation facilities shall be allowed without land use review, except where specifically regulated.
- Dedication of right of way, authorization of construction, and the construction of facilities and improvements for projects authorized in the Transportation System Plan, the classification of the roadway and approved road standards shall be allowed without land use review.
- For state projects that require an Environmental Impact Statement (EIS) or Environmental Assessment (EA), the draft EIS or EA shall serve as the documentation for local land use review, if local review is required.
- Umatilla County and the Oregon Department of Transportation will coordinate the planning and design of future transportation system improvement projects within the county.

Recommended Ordinances for Approval Process

Projects that are specifically identified in the Transportation System Plan and for which the jurisdiction has made all the required land use and goal compliance findings are permitted outright, subject only to the standards established by the Plan.

However, a jurisdiction may not allow outright an improvement that is included in the Transportation System Plan but for which no site-specific decisions have been made. Therefore, it is recommended that Umatilla County review these transportation projects as regulated land use actions, using conditional use process. This following process is recommended for inclusion in the supplementary provisions section or as a new section within the development code. Chapter 152 of the *Umatilla County Development Code* should be amended to include the following sections:

152.800 *STANDARDS FOR TRANSPORTATION IMPROVEMENTS*

152.801 *Uses Permitted Outright. Except where otherwise specifically regulated by this ordinance, the following improvements are permitted outright:*

- (A) *Normal operation, maintenance, repair, and preservation activities of existing transportation facilities.*
- (B) *Installation of culverts, pathways, medians, fencing, guardrails, lighting, and similar types of improvements within the existing right of way.*

- (C) *Projects specifically identified in the Transportation System Plan as not requiring further land use regulation.*
- (D) *Landscaping as part of a transportation facility.*
- (E) *Emergency measures necessary for the safety and protection of property.*
- (F) *Acquisition of right of way for public roads, highways, and other transportation improvements designated in the Transportation System Plan except for those that are located in exclusive farm use or forest zones.*
- (G) *Construction of a street or road as part of an approved subdivision or land partition that is consistent with the applicable land division ordinance.*

152.802 Conditional Uses Permitted

- (A) *Construction, reconstruction, or widening of highways, roads, bridges or other transportation projects that are: (1) not improvements designated in the Transportation System Plan or (2) not designed and constructed as part of a subdivision or planned development subject to site plan and/or conditional use review, shall comply with the Transportation System Plan and applicable standards, and shall address the following criteria. For state projects that require an Environmental Impact Statement (EIS) or Environmental Assessment (EA), the draft EIS or EA shall be reviewed and used as the basis of findings for compliance with the following criteria:*
 - (1) *The project is designed to be compatible with existing land use and social patterns, including noise generation, safety, and zoning.*
 - (2) *The project is designed to minimize avoidable environmental impacts to identified wetlands, wildlife habitat, air and water quality, cultural resources, and scenic qualities.*
 - (3) *The project preserves or improves the safety and function of the facility through access management, traffic calming, or other design features.*
 - (4) *The project includes provision for bicycle and pedestrian circulation as consistent with the comprehensive plan and other requirements of this ordinance.*
- (B) *Construction of rest areas, weigh stations, temporary storage, and processing sites.*
- (C) *If review under this section indicates that the use or activity is inconsistent with the Transportation System Plan, the procedure for a plan amendment shall be undertaken prior to or in conjunction with the conditional permit review.*

152.803 Time Limitation on Transportation-Related Conditional Use Permits

- (A) *Authorization of a conditional use shall be void after a period specified by the County as reasonable and necessary based on season, right of way acquisition, and other pertinent factors. This period shall not exceed three years.*

In addition, the section on conditional uses will need to be amended to reflect the conditional uses permitted in Section 152.08. This section should be amended as follows:

- *Section 152.610 Definition to be amended as Section 152.609.*
- *Section 152.610 Roads and Transportation Improvements: Many roadway projects require a conditional use permit. These projects are described in Section 152.08: Conditional Uses Permitted.*

PROTECTING EXISTING AND FUTURE OPERATION OF FACILITIES

Umatilla County has ordinances in place to protect its airports with two separate Airport Overlay Zones. Additional protection of existing and planned transportation systems can be provided by ongoing coordination with other relevant agencies, adhering to the road standards, and to the access management policies and ordinances suggested below.

Section 60-12-045(2) of the Transportation Planning Rule requires that jurisdictions protect future operation of transportation corridors. For example, an important arterial for through-traffic should be protected in order to meet the community's identified needs. In addition, the proposed function of a future roadway must be protected from incompatible land uses. It is also important to preserve the operation of existing and proposed transportation facilities, such as airports, that are vulnerable to the encroachment of incompatible land uses.

Recommended Policies for Protection of Transportation Facilities

It is recommended that the following policies be added to the Transportation Section of the Umatilla County Comprehensive Plan.

- *Umatilla County shall protect the function of existing and planned roadways as identified in the Transportation System Plan.*
- *Umatilla County shall include a consideration of a proposal's impact on existing or planned transportation facilities in all land use decisions.*
- *Umatilla County shall protect the function of existing or planned roadways or roadway corridors through the application of appropriate land use regulations.*
- *Umatilla County shall consider the potential to establish or maintain accessways, paths, or trails prior to the vacation of any public easement or right of way.*
- *Umatilla County shall preserve right of way for planned transportation facilities through exactions, voluntary dedication, or setbacks.*
- *The function of airports shall be protected through the application of appropriate land use designations to assure future land uses are compatible with continued operation of the airport.*

Recommended Access Control Ordinances

The addition of a new section in the *Umatilla County Development Code* containing the following provisions is recommended to support the access management standards.

152.900 ACCESS MANAGEMENT

(A) General

The intent of this ordinance is to manage access to land development to preserve the transportation system in terms of safety, capacity, and function. This ordinance shall apply to all arterials and collectors within Umatilla County (under County jurisdiction) and to all properties that abut these roadways. This ordinance is

adopted to implement the access management policies of Umatilla County as set forth in the Transportation System Plan.

(B) Access to a State Highway

Access to state highways is regulated by the Oregon Department of Transportation (ODOT) as described in the Oregon Highway Plan and ORS 374.305. ORS 374.305 assigns ODOT the responsibility of managing access on the state highway system. Where access is proposed to a state highway, ODOT's access review under ORS 374.305 is exclusive, but will be coordinated with the cities and counties.

(C) Corner Clearance

- (1) Corner clearance for connections shall meet or exceed the minimum connection spacing requirements for that roadway.*
- (2) New connections shall not be permitted within the functional area of an intersection or interchange as defined by the connection spacing standards of this ordinance, unless no other reasonable access to the property is available.*
- (3) Where no other alternatives exist, the County may allow construction of an access connection along the property line farthest from the intersection. In such cases, directional connections (i.e., right-in/out, right-in only, or right-out only) may be required.*

(D) Joint and Cross Access

- (1) Adjacent commercial or office properties classified as major traffic generators (i.e., shopping plazas, office parks), shall provide a cross-access drive and pedestrian access to allow circulation between sites.*
- (2) A system of joint use driveways and cross access easements shall be established wherever feasible and shall incorporate the following:*
 - a) A continuous service drive or cross-access corridor extending the entire length of each block served shall have driveway separation consistent with the access management classification system and standards;*
 - b) A design speed of 10 mph and a maximum width of 20 feet to accommodate two-way travel aisles designated to accommodate automobiles, service vehicles, and loading vehicles;*
 - c) Stub-outs and other design features to make it visually obvious that the abutting properties may be tied-in to provide cross-access via a service drive;*
 - d) A unified access and circulation system plan for coordinated or shared parking areas is encouraged.*

- (3) *Businesses with shared parking areas shall be permitted a reduction in required parking spaces if peak demands do not occur at the same time periods.*
- (4) *Pursuant to this section, property owners shall:*
 - a) *Record an easement with the deed allowing cross-access to and from other properties served by the joint-use driveways and cross-access or service drive;*
 - b) *Record an agreement with the deed that remaining access rights along the roadway will be dedicated to the County and pre-existing driveways will be closed and eliminated after construction of the joint-use driveway;*
 - c) *Record a joint maintenance agreement with the deed defining maintenance responsibilities of property owners.*
- (5) *The County may reduce required separation distance of access points where they prove impractical, provided all of the following requirements are met:*
 - a) *Joint-access driveways and cross-access easements are provided in accordance with this section.*
 - b) *The site plan incorporates a unified access and circulation system in accordance with this section.*
 - c) *The property owner enters into a written agreement with the County, recorded with the deed, that pre-existing connections on the site will be closed and eliminated after construction of each side of the joint-use driveway.*
- (6) *The County may modify or waive the requirements of this section where the characteristics or layout of abutting properties would make a development of a unified or shared access and circulation system impractical.*

(E) Access Connection and Driveway Design

- (1) *Driveways shall meet the following standards:*
 - a) *If the driveway is a one-way in or one-way out drive, then the driveway shall be a minimum width of 10 feet and a maximum width of 12 feet, and shall have appropriate signage designating the driveway as a one-way connection.*
 - b) *For two-way access, each lane shall have a minimum width of 10 feet and a maximum width of 12 feet.*
- (2) *Driveway approaches must be designed and located to provide an exiting vehicle with an unobstructed view. Construction of driveways along acceleration or deceleration lanes and tapers shall be avoided due to the*

potential for vehicular weaving conflicts.

- (3) *The length of driveways shall be designed in accordance with the anticipated storage length for entering and exiting vehicles to prevent vehicles from backing into the flow of traffic on the public road or causing unsafe conflicts with on-site circulation.*

Section 152.01(A) pertaining to access shall be incorporated into this section as (E)(4). Section 152.010(B) pertaining to driveways shall be incorporated into this section as (E)(5).

(F) Requirements for Phased Development Plans

- (1) *In the interest of promoting unified access and circulation systems, development sites under the same ownership or consolidated for the purposes of development and comprised of more than one building site shall be reviewed as single properties in relation to the access standards of this ordinance. The number of access points permitted shall be the minimum number necessary to provide reasonable access to these properties, not the maximum available for that frontage. All necessary easements, agreements, and stipulations shall be met. This shall also apply to phased development plans. The owner and all lessees within the affected area are responsible for compliance with the requirements of this ordinance and both shall be cited for any violation.*
- (2) *All access must be internalized using the shared circulation system of the principal development or retail center. Driveways shall be designed to avoid queuing across surrounding parking and driving aisles.*

(G) Nonconforming Access Features

- (1) *Legal access connections in place as of (date of adoption) that do not conform with the standards herein are considered nonconforming features and shall be brought into compliance with applicable standards under the following conditions:*
 - a) *When new access connection permits are requested; or*
 - b) *Change in use or enlargements or improvements that will increase trip generation.*

(H) Reverse Frontage

- (1) *Lots that front on more than one road shall be required to locate motor vehicle accesses on the road with the lower functional classification.*
- (2) *When a residential subdivision is proposed that would abut an arterial, it shall be designed to provide through-lots along the arterial with access from a frontage road or interior local road. Access rights of these lots to the arterial shall be dedicated to Umatilla County and recorded with the deed. A berm or buffer yard may be required at the rear of through-lots to buffer residences from traffic on the arterial. The berm or buffer yard shall not be located with the public right of way.*

(I) Flag Lot Standards

- (1) Flag lots shall not be permitted when the result would be to increase the number of properties requiring direct and individual access connections to the State Highway System or other arterials.*
- (2) Flag lots may be permitted for residential development when necessary to achieve planning objectives, such as reducing direct access to roadways, providing internal platted lots with access to a residential road, or preserving natural or historic resources, under the following conditions:*
 - a) Flag lot driveways shall be separated by at least twice the minimum frontage requirement of that zoning district.*
 - b) The flag driveway shall have a minimum width of 20 feet and maximum width of 30 feet.*
 - c) In no instance shall flag lots constitute more than 10 percent of the total number of building sites in a recorded or unrecorded plat, or three lots or more, whichever is greater.*
 - d) The lot area occupied by the flag driveway shall not be counted as part of the required minimum lot area of that zoning district.*
 - e) No more than one flag lot shall be permitted per private right of way or access easement.*

(J) Lot Width-to-Depth Ratios

- (1) To provide for proper site design and prevent the creation of irregularly shaped parcels, the depth of any lot or parcel shall not exceed three times its width (or four times its width in rural areas) unless there is a topographical or environmental constraint or an existing man-made feature.*

(K) Shared Access

- (1) Subdivisions with frontage on the state highway system shall be designed to have shared access points to and from the highway. Normally a maximum of two accesses shall be allowed regardless of the number of lots or businesses served. If access off a secondary road is possible, then access should not be allowed onto the state highway. If access off a secondary road becomes available, then conversion to that access is encouraged, along with closing the state highway access.*

(L) Connectivity

- (1) The road system of proposed subdivisions shall be designed to connect with existing, proposed, and planned roads outside of the subdivision, as provided in this section.*
- (2) Wherever a proposed development abuts unplatted land or a future*

development phase of the same development, road stubs shall be provided to provide access to abutting properties or to logically extend the road system into the surrounding area. All road stubs shall be provided with a temporary turn-around unless specifically exempted by the Public Works Director, and the restoration and extension of the road shall be the responsibility of any future developer of the abutting land.

- (3) Minor collector and local residential access roads shall connect with surrounding roads to permit the convenient movement of traffic between residential neighborhoods or facilitate emergency access and evacuation. Connections shall be designed to avoid or minimize through-traffic on local roads. Appropriate design and traffic control such as four-way stops and traffic calming measures are the preferred means of discouraging through traffic.*

(M) Variances to Access Management Standards

- (1) The granting of the variance shall meet the purpose and intent of these regulations and shall not be considered until every feasible option for meeting access standards is explored.*
- (2) Applicants for a variance from these standards must provide proof of unique or special conditions that make strict application of the provisions impractical. Applicants shall include proof that:*
- a) Indirect or restricted access cannot be obtained;*
 - b) No engineering or construction solutions can be applied to mitigate the condition; and*
 - c) No alternative access is available from a road with a lower functional classification than the primary roadway.*
- (3) No variance shall be granted where such hardship is self-created.*

Recommended Ordinances to Protect Public Use Airports

The Oregon Airport Land Use Compatibility Guidelines (November 1994), which have been distributed to all county and city planning departments, provide examples for ordinance development. While the Umatilla County Development Code contains guidelines for development in the Airport Overlay zones for the Hermiston and Pendleton Airport, these standards could be made more clear with the addition of definitions and a more detailed list of what is and is not permissible in the districts.

More recently, the Oregon Land Conservation and Development Department has adopted new Administrative Rules 660-013 to implement ORS 836.600 through 836.630 and Statewide Planning Goal 12. These Rules are intended to promote a convenient and economic system of airports and for land use planning to reduce risks to aircraft operations and nearby land uses. Counties and Cities are required to adopt comprehensive plan and land use regulations for airports consistent with the requirements of the ORS and OAR cited above and which are to be coordinated with transportation system plans.

Several model ordinances have been developed for local governments to use as a guide in implementing the Administrative Rule. It is recommended that these model ordinances be used to update Section 152.390

through 152.394 (AH-H, Hermiston Airport Hazard Overlay Zone), Sections 152.405 through 152.409 (AH-P, Pendleton Airport Hazard Overlay) and a new section to establish an overlay zone for the Buttercreek Airport which has not been previously addressed but qualifies for protection under the new ORS and OAR.

PROCESS FOR COORDINATED REVIEW OF LAND USE DECISIONS

A lack of coordination between state and local decision processes can result in costly delays and changes in public road and highway projects, as well as some maintenance and operation activities. Section 660-12-045(2)(d) of the Transportation Planning Rule requires that jurisdictions develop a process for the coordinated review of land use decisions affecting transportation facilities. The following recommended policies will establish coordinated review. These should be included in the Umatilla County Comprehensive Plan Transportation Element.

Recommended Policies for Coordinated Review

- *Umatilla County shall coordinate with the Oregon Department of Transportation (ODOT) to implement the highway improvements listed in the Statewide Transportation Improvement Program (STIP) that are consistent with the Transportation System Plan and County comprehensive plan.*
- *Umatilla County shall provide notice to ODOT of land use applications and development permits for properties that have frontage or access onto a state highway.*
- *Umatilla County shall consider the findings of ODOT's draft Environmental Impact Statements and Environmental Assessments as integral parts of the land use decision-making procedures. Other actions required, such as a goal exception or plan amendment, will be combined with review of the draft EA or EIS and land use approval process.*

Recommended Process for Applying Conditions to Development Proposals

Section 660-12-045(2)(e) of the Transportation Planning Rule requires that jurisdictions develop a process to apply conditions to development proposals in order to minimize impacts on transportation facilities.

The site plan review process is a useful tool for a small jurisdiction. Umatilla County may want to amend its site plan review process (Umatilla County Development Code Section 152.647(G) so that applicants are required to provide data on the potential traffic impacts of a project through a traffic impact study or, at least an estimation of the number of trips expected to be generated. Recommended language to be included under site plan criteria is as follows:

- *The proposed use shall not impose an undue burden on the public transportation system. For developments that are not likely to generate more than 400 average daily motor vehicle trips (ADTs), the applicant shall provide adequate information, such as a traffic impact study or traffic counts, to demonstrate the level of impact to the surrounding road system. The developer shall be required to mitigate impacts attributable to the project.*
- *The determination of impact or effect and the scope of the impact study should be coordinated with the provider of the affected transportation facility.*

Section 152.647(G) contains conditions to be applied in the event that a proposed project is demonstrated to have potentially adverse effects on the transportation system. It is suggested that following be added Section 152.642(G)(3).

- *These improvements include paving, curbing, installation or contribution to traffic signals, construction of sidewalks, bikeways, accessways, paths, or roads that serve the proposed use where the existing transportation system may be burdened by the proposed use.*

Recommended Regulations to Provide Notice to Public Agencies

Review of land use actions is typically initiated by a notice. This process is usually defined by a procedures ordinance or noticing policy. Section 152.770 Public Notices of the Umatilla County Development Code requires notice for Type I through IV land use processes. Section 152.770(C) states:

The County will also send the notice to, and request comments from, all local, state, and federal agencies which staff can determine might or would be affected by the request, including but not limited to: irrigation districts, rural fire districts or fire service providers, nearby municipalities, utility companies with known easements or facilities on the property, the county road department, the Watermaster, and the county assessor.

This section should be expanded to include the following language:

ODOT should receive timely notice of any land use action on or adjacent to a state facility. Similarly, all actions by the County potentially affecting a city street should provide notice to that jurisdiction.

Information that should be conveyed to reviewers includes:

- *Project location.*
- *Proposed land use action.*
- *Location of project access point(s).*

Additional information to be supplied upon request (provided the information is available) includes a site plan showing the following:

- *Distances to neighboring constructed access points, median openings, traffic signals, intersections, and other transportation features on both sides of the property;*
- *Number and direction of lanes to be constructed on the driveway, plus striping plans;*
- *All planned transportation features (lanes, signals, bikeways, walkways, crosswalks, etc.);*
- *Trip generation data or appropriate traffic studies;*
- *Parking and internal circulation plans for vehicles and pedestrians;*
- *Plat map showing property lines, right of way, and ownership of abutting properties;*
- *A detailed description of any requested variance; and*
- *If airport-related, proximity to nearest runway.*

Recommended Regulations to Assure that Amendments are Consistent with the Transportation System Plan

Section 660-12-045(2)(g) of the Transportation Planning Rule requires that jurisdictions develop regulations to assure that all development proposals, plan amendments, or zone changes conform with the Transportation System Plan. This requirement can be addressed by adding a policy to the Comprehensive Plan, as follows:

- *All development proposals, plan amendments, or zone changes shall conform with the adopted Transportation System Plan.*

Within the development code, development proposals can be addressed through site plan review, discussed above. Applicants for zone changes and plan amendments need to demonstrate that these changes will be

consistent with the Comprehensive Plan (including the Transportation System Plan which comprises part of that document). The Development Code does address the need to comply with the Comprehensive Plan in Section 152.751 governing zone changes and plan amendments. However, additional statements should be added to the ordinance:

(A) A plan or land use regulation amendment significantly affects a transportation facility if it:

- (1) Changes the functional classification of an existing or planned transportation facility;*
- (2) Changes standards implementing a functional classification system;*
- (3) Allows types or levels of land use that would result in levels of travel or access that are inconsistent with the functional classification of a transportation facility; or*
- (4) Would reduce the level of service of the facility below the minimum acceptable level identified in the Transportation System Plan.*

(B) Amendments to the comprehensive plan and land use regulations which significantly affect a transportation facility shall assure that allowed land uses are consistent with the function, capacity, and level of service of the facility identified in the Transportation System Plan. This shall be accomplished by one of the following:

- (1) Limiting allowed land uses to be consistent with the planned function of the transportation facility;*
- (2) Amending the Transportation System Plan to ensure that existing, improved, or new transportation facilities are adequate to support the proposed land uses consistent with the requirement of the Transportation Planning Rule; or,*
- (3) Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes.*

SAFE AND CONVENIENT PEDESTRIAN AND BICYCLE CIRCULATION

Bicycling and walking are often the most appropriate mode for short trips. Especially in small cities where the downtown area is compact, walking and bicycling can replace short auto trips, reducing the need for construction and maintenance of new roads. However, the lack of safe and convenient bikeways and walkways can be a strong discouragement to using these mode choices. The Transportation Planning Rule (660-12-045(3)) requires that urban areas and rural communities plan for bicycling and walking as part of the overall transportation system.

Recommended Ordinances for Bicycle and Pedestrian Circulation and Access

Sections 660-12-045(3)(b), (c), and (d) of the Transportation Planning Rule deals with providing facilities for safe and convenient pedestrian and bicycle circulation and access, both within new residential and commercial development, and on public roads. In order for walking and bicycling to be viable forms of transportation, especially in smaller cities where they can constitute a significant portion of local trips, the proper facilities must be supplied. In addition, certain development design patterns, such as orienting commercial uses to the road and placing parking behind the building, make a commercial district more accessible to non-motorized transportation and to existing or future transit.

The Transportation Planning Rule specifies that, at a minimum, sidewalks and bikeways be provided along arterials and collectors in urban areas. Separate bicycle and pedestrian facilities should be provided where these would safely minimize trips distances by providing a “short cut.” Small cities should enhance existing ordinances by including the following recommended, additions and recommendations. The recommendations should be placed within the appropriate section of the Development Code. Definitions should be placed in Section 152.003 of the of the Umatilla County Development Code.

Definitions:

Accessway. A walkway that provides pedestrian and bicycle passage either between roads or from a road to a building or other destination such as a school, park, or transit stop. Accessways generally include a walkway and additional land on either side of the walkway, often in the form of an easement or right of way, to provide clearance and separation between the walkway and adjacent uses. Accessways through parking lots are generally physically separated from adjacent vehicle parking or parallel vehicle traffic by curbs or similar devices and include landscaping, trees, and lighting. Where accessways cross driveways, they are generally raised, paved, or marked in a manner that provides convenient access for pedestrians.

Bicycle. A vehicle designed to operate on the ground on wheels, propelled solely by human power, upon which any person or persons may ride, and with two tandem wheels at least 14 inches in diameter. An adult tricycle is considered a bicycle.

Bicycle Facilities. A general term denoting improvements and provisions made to accommodate or encourage bicycling, including parking facilities and all bikeways.

Bikeway. Any road, path, or way that is some manner specifically open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are shared with other transportation modes.

Pedestrian Facilities (also Walkway). A general term denoting improvements and provisions made to accommodate or encourage walking, including sidewalks, accessways, crosswalks, ramps, paths, and trails.

Neighborhood Activity Center. An attractor or destination for residents of surrounding residential areas. Includes, but is not limited to existing or planned schools, parks, shopping areas, transit stops, and employment areas.

Reasonably direct. A route that does not deviate unnecessarily from a straight line or a route that does not involve a significant amount of out-of-direction travel for likely users.

Safe and convenient. Bicycle and pedestrian routes that are:

Reasonably free from hazards, and

Provide a reasonably direct route of travel between destinations, considering that the optimum travel distance is one-half mile for pedestrians and three miles for bicyclists.

Walkway. A hard-surfaced area intended and suitable for pedestrians, including sidewalks and the surfaced portions of accessways.

Umatilla County’s land division review process should include a requirement to show the design and location of bicycle parking and bicycle and pedestrian circulation elements such as accessways and walkways. It is recommended that the following language be added to the land use regulations in Section 152.648 Creation of Streets, Easements and Private Streets and Right of way; Minimum Standards; Bicycle and Pedestrian Circulation Access:

(D) Bicycle Parking. The development shall include the number and type of bicycle parking facilities required in the Off-Road Parking and Loading section of this Title. The location and design of bicycle parking facilities shall be indicated on the site plan.

(E) Pedestrian Access and Circulation.

(1) Internal pedestrian circulation shall be provided in new commercial, office, and multi-family residential developments through the clustering of buildings, construction of hard surface walkways, landscaping, accessways, or similar techniques.

(F) Commercial Development Standards.

(1) New commercial buildings, particularly retail shopping and offices, shall be oriented to the road, near or at the setback line. A main entrance shall be oriented to the road. For lots with more than two front yards, the building(s) shall be oriented to the two busiest roads.

(2) Off-road motor vehicle parking for new commercial developments shall be located at the side or behind the building(s).

(G) All site plans (industrial and commercial) shall clearly show how the site's internal pedestrian and bicycle facilities connect with external existing or planned facilities or systems.

The County Development Code should reflect the intent of the Transportation Planning Rule by adding the following provision to Section 152.647 Improvement Agreements.

(H) Approval of Subdivision Tentative Plans and Final Plats. Information required shall include the location and design of all proposed pedestrian and bicycle facilities, including accessways.

The County Development Code should amend Section 152.648(C) Minimum Standards to incorporate the following language into the existing requirements for cul-de-sac design.

(3b) Cul-de-sacs or permanent dead-end roads may be used as part of a development plan; however, through-roads are encouraged except where topographical, environmental, or existing adjacent land use constraints make connecting roads infeasible. Cul-de-sac lengths in excess of 300 feet are prohibited. Where cul-de-sacs are planned, accessways shall be provided connecting the ends of cul-de-sacs to each other, to other roads, or to neighborhood activity centers.

(3c) Accessways for pedestrians and bicyclists shall be 10 feet wide and located within a 20-foot-wide right of way or easement. If the roads within the subdivision are lighted, the accessways shall also be lighted. Stairs or switchback paths may be used where grades are steep.

(3d) Accessways for pedestrians and bicyclists shall be provided at mid-block where the block is longer than 600 feet.

(3e) The Hearings Body or Planning Director may determine, based upon evidence in the record, that an accessway is impracticable. Such evidence may include but is not limited to:

a) Physical or topographic conditions make an accessway connection impractical. Such conditions include but are not limited to extremely steep slopes, wetlands, or other bodies of water where a connection cannot reasonably be provided.

b) Buildings or other existing development on adjacent lands physically preclude a connection now or in the future.

c) Where accessways would violate provisions of leases, easements, covenants, restrictions, or other agreements existing as of May 1, 1995 that preclude a required accessway connection.

APPENDIX A: REVIEW OF CITY PLANS AND POLICIES

APPENDIX A

REVIEW OF EXISTING PLANS AND POLICIES UMATILLA COUNTY

At the beginning stages of developing the Umatilla County TSP, several planning documents were reviewed to establish the history of planning in the county, and a comparison was made of the information in the existing plans with the requirements of the Oregon Transportation Planning Rule (TPR). These plans included the Umatilla County Comprehensive Plan, The Umatilla County Development Code, the Milton-Freewater/Stateline Highway 11 Corridor Land Use and Transportation Plan, the US Highway 395 North (Umatilla ~ Stanfield) Draft Corridor Strategy, the US Highway 395 South (Pendleton – California) Corridor Strategy, the 1986 Hermiston Municipal Airport Master Plan Update, and the Master Plan Update for the Eastern Oregon Regional Airport at Pendleton. A description of the information in the plans is provided followed by comments in italics.

UMATILLA COUNTY COMPREHENSIVE PLAN

The Umatilla County Comprehensive Plan was written in 1983, to meet the statewide requirements for planning. It was last amended in 1987.

The plan is broken into three sections: the introduction; Plan Elements - Findings, Recommended Policies; and the Plan Map. The introduction gives a general description of Umatilla County (historical and current) and explains the need for a Comprehensive Plan. The Plan Elements section is broken into sections dealing with the fourteen goals. This includes a Transportation Element with findings and recommended policies. The Plan Map section breaks the County into land use classifications. It maps and discusses the unique characteristics of the different regions of Umatilla County. It also describes and maps exception areas.

The overall transportation goal for the County is:

To provide and encourage a safe, convenient and economic transportation system.

The plan lists 25 findings and 25 associated recommended policies to address the findings.

Some Important Findings and Policies Include:

1. There is a lack of coordinated planning which addresses the specific relationships of all modes of transportation (e.g., air, water, rail, bicycle, road, footpaths, etc.)

Policy 1. Develop a Transportation Master Plan which integrates the cities' and regional system.

2. Transportation planning within urban growth boundaries is important to ensure adequate transportation facilities in the County.

Policy 2. Plans within UGBs shall be coordinated with during the formulation of the Transportation Master Plan.

3. Large expanses of vacant and agricultural land to the south of Hermiston lie near the Hinkle Rail Yard, I-84, the Hermiston Airport, and agricultural market roads.

Policy 3. Designate the Hinkle-Feedville area for industrial and agribusiness uses to compliment its existing uses and its unique transportation opportunities.

5. A major cost in development of freeways, highways and county roads is the purchase of right-of-way and displacement of existing uses along the right-of-way.

Policy 5. As part of the Transportation Master Plan, develop a Future Road Zone to be applied between the time a road location is determined and the right-of-way is acquired.

Policy 6. Encourage timely reconstruction of Highway 395 (including a potential Stanfield bypass) while designating adjacent lands for low traffic generating uses, and developing additional north-south through routes east of Highway 395.

7. An important airport industrial complex lies in the northeast corner of the city of Pendleton's UGB where topography and location require a well-planned transportation system to ensure its full and efficient development.

Policy 7. When developing and finalizing the Transportation Master Plan, consider designating an arterial road from Barnhart Interchange on I-84 to the west side of this industrial park, to provide a level and more energy efficient route for business and manufacture-related traffic.

Policy 8. Access onto state highways shall be limited, consolidated, and otherwise be controlled as much as feasible. Access control shall emphasize coordination of traffic and land use patterns through the use of frontage roads and access collection points.

12. The Port of Umatilla transportation facilities are assets to the county and expansion is needed to support the rapidly growing local economy.

Policy 12. Promote development of additional facilities at the Port and seek to improve transportation linkages to that river are through policies in the Transportation Master Plan.

17. Branch rail lines are a continuing factor in the economic health of smaller towns.

Policy 17. Encourage preservation and expansion of existing lines and rail company service.

Rail service in the County has been cut substantially in the last few years. Although, the Hinkle-Feedville freight line is still running strong, Amtrak has discontinued its service through the County.

Other important findings and policies have to do with specific areas of the County. For instance, Diagonal Road, OR 11 north of Milton-Freewater, the area south of Pendleton, and Westland areas are recognized as needing special attention when creating the County Transportation Plan. Also, the plan calls for supporting the continued growth and maintenance of the Pendleton and Hermiston airports. The Plan also recommends that subdivision of land only be approved if roads are constructed to County standards; that impacts to the transportation system will be considered when determining land use designations; that more equitable ICC and PUC freight regulations be encouraged; and that existing public transit and opportunities for more public transit should be supported.

The county proposes to determine need, means and appropriate bridge locations (over Umatilla River in Hermiston in particular); to seek notification of special hazardous materials shipments for county review, comment and possible control; and encourage larger businesses to consider sponsoring carpooling programs.

Also there are issues along OR 204. Development is constructed right up to the right-of-way making snow plowing difficult. OR 204 runs through the Tollgate Mountain area which is the most extensively developed and used recreational region in the county. The Tollgate Mountain area needs to find a balance between recreation and resource use (timber). Two-thirds of the areas residents are seasonal. The area is a near solid

corridor of cabins, recreational trailers, and supporting commercial facilities on private property extending nine plus miles on both sides of OR 204.

Policies to deal with OR 204 and the Tollgate area include:

- Setbacks along OR 204 shall be a minimum of 130 feet from centerline of highway, and vegetation should be retained wherever possible to allow for snowplowing without damage to dwellings.
- Umatilla County should encourage the location of new off-highway parking along OR 204 in the Tollgate area preferably on Umatilla National Forest Service land east of Langdon Lake.

The Urbanization Element of the Plan calls for the strong coordination between the County and cities in respect to transportation planning and land use decisions that will impact transportation systems.

UMATILLA COUNTY DEVELOPMENT CODE

The Umatilla County Development Ordinance was adopted in 1983, with its last amendment in November of 1991. Then in 1997, this document was recodified and retitled The Umatilla County Development Code (Chapter 152).

The intent and purpose of the Development Code is as follows:

to promote the public health, safety and general welfare and to carry out the Umatilla County Comprehensive Plan, the provision of ORS Chapters 92 and 215 and the Statewide Planning Goals adopted pursuant to ORS Chapter 197. This Ordinance is to establish use zones and regulation governing the development and use of land within portions of Umatilla County...

The portions of the ordinance most relevant to the Transportation System Plan include sections on off-street parking requirements, driveways, and street standards. Amendments to the ordinance include street standards for county roads which were updated in July 1997.

MILTON-FREEWATER STATELINE HIGHWAY 11 CORRIDOR LAND USE AND TRANSPORTATION PLAN

The Highway 11 Corridor Land Use and Transportation Plan was a cooperative effort of Umatilla County, the city of Milton-Freewater, the Oregon Department of Transportation. It was developed by planning consultants at David Evans and Associates, Inc., with input from these jurisdictions, the local residents, Walla Walla County, and the Washington Department of Transportation. The plan was completed in 1997.

The plan evaluated existing and projected conditions within the corridor regarding basic layout and connectivity; conditions of transportation facilities, land use, and population and employment. It analyzed existing deficiencies and proposed strategies for addressing them.

The primary deficiencies in the corridor were physical design of facilities, insufficient access control, and inadequate or nonexistent facilities for pedestrians and bicyclists.. Recommended actions to improve these conditions can be broken into policy and ordinance amendments and transportation system improvements.

Policy and Ordinance Amendments

1. Umatilla County and the city of Milton-Freewater should adopt access management standards consistent with ODOT Guidelines.

2. Umatilla County and the city of Milton-Freewater should adopt or amend conditional use and site review procedures, whereby it is clear which types of actions can result in approvals with conditions attached.
3. Umatilla County and the city of Milton-Freewater should adopt provisions to notify ODOT of development and land use applications for properties within the planning corridor.

The coordinated review process will allow the county and ODOT to hold land use development along state facilities to the applicable access management standards. Enacting general access control standards, and incorporating them into other county land use plans, will help create a process whereby a land use application is reviewed for its land use and transportation impacts to the area. Specific access control standards and policies are listed in the Access Management section of this report under Access Control Policies. It is recommended that these comprehensive plan and zoning code amendments be formulated and adopted as part of the TSP planning process for Umatilla County and the city of Milton-Freewater.

Transportation System Improvements

A. OR 11 Improvements

1. Highway Improvements
 - Traffic Signals: Install signals at the Sunnyside-Umapine Highway intersection and the Ferndale Road intersection. The first traffic signal should be installed at the Sunnyside-Umapine Highway intersection. The schedule for signal installations will depend on meeting traffic warrants and state funding.
 - Intersection Grade and Radius Improvements: Improve intersections with Sunnyside-Umapine Highway, Ballou Road, Crockett Road, and Locust Road, level county road and widen approaches.
 - Intersection Radius Improvements: Improve intersections with Ferndale Road, Tum-a-Lum Road, Appleton Road, and Cobb Road, widen county road approaches to the highway.
 - Paving: Repave OR 11 from the south end of Milton-Freewater to the Oregon/Washington State line. ODOT plans to repave this section of OR 11 during 1997.
 - Signs: Replace highway directional signs within the corridor as part of the paving project.
 - Parking: Investigate parking restrictions along congested segments of OR 11. Priority should be given to the north side of OR 11 west of the Sunnyside-Umapine Highway intersection.
2. Pedestrian Improvements
 - Umatilla County should adopt sidewalk/driveway standards for properties fronting OR 11, with the requirement that sidewalks and driveway approaches be installed when fronting properties are developed or a change of use occurs.
 - Umatilla County and ODOT should investigate installing portions of sidewalks and

handicap ramps when county/state intersections are improved.

- ODOT should add striped crosswalks across OR 11 when traffic signals are installed.

B. Freewater Highway (339) and Sunnyside-Umapine Highway (332) Improvements

1. Highway Improvements

- Shoulders: Add four- to six-foot-wide shoulders on both sides of the highways through the entire corridor. This would require relocating the drainage ditches which are located adjacent to both of these facilities.
- Left-turn Lanes: Add 12-foot-wide left-turn lanes at the north and south approaches of Freewater Highway to the intersection with Stateline Road.
- Intersection Stop Control: Evaluate changing the two-way stop at the intersection of Freewater Highway and Sunnyside-Umapine Highway to a four-way stop.
- Replace school zone signs near Ferndale School.

2. Pedestrian Improvements

- Evaluate pedestrian pathways and signage in the vicinity of Ferndale School.
- Investigate the opportunity for a pedestrian and bikeway along the abandoned Walla Walla Valley Railway line.

3. Interagency Coordination

Umatilla County and the city of Milton-Freewater should adopt interagency coordination provisions with the following agencies:

Oregon Department of Transportation (ODOT)

Oregon State Police (OSP)

Washington Department of Transportation (WSDOT)

Walla Walla County

Umatilla County, the city of Milton-Freewater and ODOT should continue to work with OSP to implement the traffic safety and education recommendations of the OSP Tactical Safety Plan.

US HIGHWAY 395 NORTH (UMATILLA ~ STANFIELD) DRAFT CORRIDOR STRATEGY and US HIGHWAY 395 SOUTH (PENDLETON – CALIFORNIA BORDER) CORRIDOR STRATEGY

The US Highway 395 North (Umatilla ~ Stanfield) Draft Corridor Strategy and the US Highway 395 South (Pendleton – California) Corridor Strategy were prepared by the Oregon Department of Transportation (ODOT).

The current document for the US Highway 395 North (Umatilla ~ Stanfield) Corridor Strategy is still a

draft, and was prepared in November 1997. The US Highway 395 South (Pendleton ~ California Border) Corridor Strategy is a final document endorsed by the OTC and local jurisdictions along the corridor. The report was prepared in 1996.

The Corridor Strategies were developed to identify projects for the Oregon State Transportation Improvement Program (STIP). Development of the US 395 Corridor Strategies is the first step in the corridor planning process. Corridor planning is intended to implement the goals and policies set for the by the 1992 Oregon Transportation Plan (OTP), the 1991 Highway Plan, and the recent modal plans for rail, freight, bike/pedestrian, aviation, and public transportation plus the safety action plan.

Generally, the Corridor Strategies translate the policies of the OTP into specific actions; describe the functions of each transportation mode, consider trade-offs, and show how they will be managed; identify and prioritize improvements for all modes of travel; indicate where improvements should be made; resolve any conflicts with local land use ordinances and plans; and establish guidelines for how transportation plans will be implemented.

The US 395 Corridor Strategies contain a corridor overview, which includes population and employment forecasts, highway data such as traffic volumes and pavement conditions and descriptions of other modes of travel (air, rail, bicycle, etc.). The overall corridor strategy is to accommodate efficient movement of through travel, while maintaining environmental integrity, enhancing travel safety and supporting economic development. The reports set forth objectives which are intended to embody this overall strategy for the corridor, and to set direction and provide guidance for corridor-wide transportation plans and improvements.

The Highway 395 Corridor Strategies will be followed-up by Highway 395 Corridor Plans which will build upon objectives developed in the Strategies to identify, refine, and facilitate the acceptance of specific decisions related to corridor transportation management, capital improvements and service improvements. The Corridor Plans will identify and discuss the decisions considered to meet each objective, technical analysis of alternatives, and recommendations for action.

1986 HERMISTON MUNICIPAL AIRPORT MASTER PLAN UPDATE

The Municipal Airport Master Plan Update provides a comprehensive analysis of the Hermiston Airport including an inventory of facilities, a discussion of use for a twenty year planning period (ending in 2006), and recommendations for facility improvements. The introduction of the plan also provides a good overview of all the major transportation facilities serving Hermiston and Northeast Oregon.

Although the plan does not address the need to control the surrounding land-uses, this may be attributable to the fact that the city and airport management acquired land around the airport during the planning process. This action was seen as success fully preventing conflicting land use and infringement upon airport facilities within the twenty-year planning period.

According to the plan, the airport is a General Utility Facility serving itinerant and fixed base aircraft. It is showing signs of a reemerging trade in itinerant multi-engined GUII aircraft, despite a decrease in use in the early 1980s. This reflected the importance of the airport to large agricultural and industrial companies as well as the Department of Army Depot (the largest in the Northwest). Estimated total operations were 23,100 for 1985 and projected to be 49,140 for 1995 and 76,020 for 2005.

To meet projected use, the Plan recommends extending the runway and taxiway to 4500 feet, expanding tie-down and T-hanger facilities, improving the auto parking area and the access road from Highland Avenue, obtaining a weather reporting system or personnel (NAV Aids), and improving the approach to the runway for larger aircraft. Upgrading the facility to a Transport Category was not recommended, but keeping that option open was encouraged. Noise was not considered to be a concern within the planning period.

The ODOT 1996 Transportation Volume Tables, published in June 1997, lists estimates of operations at Hermiston Municipal Airport at 12,380 for the year 1995, significantly lower than the projection of 49,140 in the Airport Master Plan, and half the level reported for 1985 in the Master Plan.

MASTER PLAN UPDATE FOR EASTERN OREGON REGIONAL AIRPORT AT PENDLETON

The Master Plan Update for Eastern Oregon Regional Airport at Pendleton was prepared by Bucher, Willis & Ratliff in December 1996.

The primary objective of the Master Plan program was to re-evaluate the recommendations of previous airport planning studies, to determine the long-range requirements for airport development, to identify and assess development alternatives, and to produce an airport development/improvement plan that will yield a safe, efficient, economical, and environmentally acceptable public facility with capacity for future air transport needs of the Eastern Oregon area. When approved by the various local, regional, state, and federal agencies, the Airport Master Plan represents the long-term intentions of all agencies regarding the location and extent of airport improvements. This permits long-range programming and budgeting, reduces lengthy review periods for each project, and provides for orderly and timely development.

The following objectives were identified as significant to the study:

- Provide airport facilities and services for all users in a manner that maximizes safety, efficiency, and opportunity for use.
- Consider safety as a primary factor in all decision making situations in the development of the airport.
- Develop Eastern Oregon Regional Airport in a manner that meets acceptable physical development standards promoted by federal, state, and local agencies.
- Develop a plan for the airport that maximizes the effective use of available land.
- Coordinate off airport development needs with on airport landside and airside requirements.
- Identify improvements necessary to ensure adequate surface access both on and off the airport.
- Enhance the opportunities for local economic development and improved employment opportunities.
- Plan for future terminal facilities that reflect community values and standards.
- Ensure compatibility with local land use patterns and plans.
- Develop a coordinated plan that logically locates airport facilities.
- Provide an effective graphic presentation for further development of the airport and anticipated land uses in the vicinity of the airport.
- Identify priorities for allocation of financial resources and establish a realistic schedule for the implementation of proposed development.
- Develop a public awareness of the airport planning and development process.

- Encourage and utilize comments from all sectors of the aviation community in developing an updated airport master plan that can be adopted, endorsed, and implemented.
- Ensure that the public, along with federal, state, and local officials, has an opportunity to participate in the decision making process during the development of the plan.

CONFEDERATED TRIBES OF UMATILLA INDIAN RESERVATION LAND DEVELOPMENT CODE

The Land Development Code for the Confederated Tribes of the Umatilla Indian Reservation was adopted in 1983.

The purported intent and purpose of the Zoning Ordinance is as follows:

to protect the physical character of the reservation; to insure, conserve and enhance vegetation, soils, air, water, fish and wildlife resources of the Reservation. Further, it is the intent of this Code to regulate building and construction activities to insure that standards are met to protect the public health, safety and welfare of the residents of the Umatilla Indian Reservation, and to promote orderly development of the Umatilla Indian Reservation, and to implement the provision of the Comprehensive Plan.

The Ordinance contains 19 chapters covering each land use zone, supplementary development standards, and administration. The only sections that directly apply to the transportation system is the sections on off-street parking.

TRAFFIC IMPACT ANALYSIS REPORT DC 37 COOK SITE (WAL-MART DISTRIBUTION CENTER)

The Traffic Impact Analysis for the Wal-Mart Distribution Center was prepared by John Chambers, PD, at Bovay Northwest, Inc. in October 1994, and revised in August 1995. The project includes a distribution center with approximately 1.2 million square feet of floor area and paved parking, receiving and shipping areas. Traffic generated is estimated at about 700 trucks per day and about 300 passenger vehicles per day.

The center is located on 220 acres in rural Umatilla County, approximately 1 1/2 miles north of Stanfield, and 2 miles south of Hermiston. The purpose of the study was to assess the traffic impact of the proposed development on the nearby street system and to recommend any required mitigative measures. Primary roadways impacted by the development include: Feedville Road, US 395, US 730, I-82, and I-84.

Conclusions and recommendations developed in the study are as follows:

- The following improvements and upgrades should be made to the existing roads and intersections: truck access intersection improvements to US 395 and Feedville Road, and upgrade improvements to Feedville Road including widening the roadway and adding paved shoulders.
- No improvements are required to the I-84/US-395 interchange.
- No improvements are required to US-395 through Stanfield for volume capacity and/or structural performance.
- The total construction costs for the improvements is estimated to be \$550,500. Partial funding for the improvements is from the Oregon Department of Economic Development and ODOT.

- Acceptable levels of service at the study intersections are expected for each phase of the proposed development, and no mitigations are recommended.
- Since one of the three traffic signal warrants studied was only marginally satisfied and operation of the intersection is expected to be acceptable, no traffic signals are recommended. After build-out of the proposed development, the study intersections should be evaluated for operational performance and safety. If unforeseen growth occurs in the area or if trip generation is higher than expected, mitigation may be warranted.
- Accident analysis shows that the intersections are operating safely, and no safety mitigations are proposed.
- Traffic projections to US 395, including project-generated truck and passenger vehicle traffic, was estimated to the year 2014. The projected volumes generated were well below lane capacity. For northbound lanes, traffic was projected to be up to 1,120 vehicles per hour (vph) with a lane capacity of 2,000 vph. Average daily traffic projections for the southbound lanes were up to 1,070 vph with a lane capacity of 2,000 vph.

APPENDIX B

THE STATE HIGHWAY SYSTEM

EXISTING INVENTORY AND CONDITIONS, IDENTIFIED NEEDS, AND ACCESS

MANAGEMENT PLANS

DISCUSSION AND INVENTORY OF THE STATE HIGHWAY SYSTEM

State Highways

State highways often function as major arterial streets, forming the primary roadway network within and through a region. They provide a continuous road system that distributes traffic between cities. Generally, major arterial streets are high capacity roadways that carry high traffic volumes with minimal localized activity. In Umatilla County, the state highways/major arterial streets often serve statewide, regional, and local traffic demands.

Discussion of the Umatilla County street system must include the state highways that traverse the planning area. Although Umatilla County has no direct control over the state highways, adjacent development as well as traffic patterns are heavily influenced by the highways. Umatilla County is served by two interstate highways and 16 state highways as listed below.

State Highway Number (Name)	ODOT Highway Number
I-84	6
I-82	70
US 30	67
US 395 (Pendleton-John Day Hwy)	28
US 395 (Umatilla-Stanfield Hwy)	54
US 730	2
Oregon Highway 11	8
Oregon Highway 37	36
Oregon Highway 74	52
Oregon Highway 204	330
Oregon Highway 207 (Hermiston Hwy)	333
Lexington-Echo Hwy	320
Oregon Highway 244	341
Umatilla-Mission Highway	331
Athena-Holdman Highway	334
Havana-Helix Highway	335
Freewater Highway	339
Sunnyside-Umapine Highway	332

These highways serve as the major routes through the county with commercial and industrial development focused along the corridors.

The 1991 Oregon Highway Plan (OHP) classifies the state highway system into four levels of importance (LOI): Interstate, Statewide, Regional, and District. ODOT has established primary and secondary functions for each type of highway and objectives for managing the operations for each one.

Umatilla County has two highways of Interstate importance: I-82 and I-84; two highways of Statewide importance: US 395 (Pendleton-John Day Highway and Umatilla-Stanfield Highway) and OR 11; five highways of Regional importance: US 730, OR 207 (north of Lexington-Echo Highway), OR 207 (south of Lexington-Echo Highway), and OR 204; and nine highways of District importance: OR 37, OR 74, OR 244,

Umatilla-Mission Highway, Athena-Holdman Highway, Havena-Helix Highway, Freewater Highway, and the Sunnyside-Umapine Highway.

According to the OHP, the primary function of an interstate highway is to “provide connections and links to major cities, regions of the state, and other states.” The management objective for interstate highways is to “provide for safe and efficient high-speed, continuous-flow operation in urban and rural areas.”

The primary function of a statewide highway is to “provide connections and links to larger urban areas, ports, and major recreation areas that are not directly served by interstate highways.” The management objective for statewide highways is to provide for safe and efficient high-speed, continuous flow operation in rural areas and high- to moderate-speed operations with limited interruptions of flow in urban and urbanizing areas.

The primary function of a regional highway is to “provide connections and links to areas within regions of the state, between small urbanized areas and larger population centers, and to higher level facilities.” The management objective for regional highways is to provide for safe and efficient high-speed, continuous-flow operation in rural areas, except where there are significant environmental constraints, and moderate- to low-speed operation in urban and urbanizing areas with moderate interruptions to flow.

The primary function of a district highway is to “serve local traffic and land access.” The management objective for highways of district significance is to “provide for safe and efficient moderate- to high-speed, continuous-flow operation in rural areas reflecting the surrounding environment, and moderate- to low-speed operation in urban or urbanizing areas with a moderate to high level of interruptions to flow.” This means that design factors such as controlling access and providing passing lanes are of primary importance.

I-82

I-82 (McNary Highway) is a highway of Interstate importance. Beginning at the Washington State line, it extends south to the junction of I-84. I-82 is a four-lane divided highway with two lanes operating in each direction. The highway crosses the Columbia River from Washington State into Oregon on two bridges (each with two lanes heading in one direction). The speed limit is 65 mph for passenger vehicles and 55 mph for large trucks.

I-84

I-84 (Old Oregon Trail) is a highway of Interstate importance. Crossing the Morrow/Umatilla County line and extending southeast through the Umatilla National Forest, it continues beyond the eastern Umatilla County line into Union County. Throughout Umatilla County, I-84 is a four-lane divided highway with two lanes operating in each direction. The speed limit is 65 mph for passenger vehicles and 55 mph for large trucks.

US 30

Highway 30 (Pendleton Highway) is of District importance and serves as one of the primary east-west arterials within the Pendleton urban area. Highway 30 is approximately six miles long and connects to I-84 with a full interchange at the west terminus and a partial interchange at the east terminus. Within the Pendleton urban area, US 30 (Eastgate and Westgate) is a two-lane road except in the downtown area where US 30 transitions into a one-way couplet (Court Avenue westbound and Dorion Avenue eastbound) with two to three travel lanes in each direction.

US 395

The stretch of US 395 known as the Pendleton-John Day Highway is of Statewide importance. Beginning in Pendleton and extending through Pilot Rock, it continues beyond Umatilla County south to California. The highway is primarily a two-lane roadway throughout the rural sections, however there is one northbound (begin MP 39.58) and one southbound (begin MP 5.68) passing lane; each slightly over one mile long. Within the Pendleton urban section, a 1.5-mile segment of the highway operates as a couplet with two travel lanes in each direction. The remainder of the highway is two-way and varies from three to five lanes. Within the Pilot Rock urban section, the highway varies from two to four lanes. A short segment of roadway (nearly three miles) is bordered by a striped bikeway within the Pendleton city limits. The highway speed limit is 55 mph, except within the Pendleton and Pilot Rock city limits where posted speed varies between 25 and 40 mph.

The stretch of US 395 known as the Umatilla-Stanfield Highway is currently classified in the 1991 OHP as a highway of District importance. Beginning in the city of Umatilla and extending through Hermiston and Stanfield, it ends at the Interstate-84 junction. This stretch of highway is primarily five lanes with a speed limit of 55 mph, except within the Hermiston and Stanfield city limits where traffic is subject to lower speeds varying between 25 and 40 mph. US 395 is designated as a safety corridor from its junction with US 730 to the Hermiston north city limits.

In June 1995, the *Hermiston-Umatilla Highway 395 Corridor Land Use/Transportation Plan* was developed. This plan includes an overall corridor strategy and objectives for managing, operating, and improving the transportation corridor between Umatilla and Stanfield over the next 20 years. The Corridor Strategy was developed to identify projects for the Oregon State Transportation Improvement Program (STIP). Development of the US 395 North Corridor Strategy is the first step in the corridor planning process. Corridor planning is intended to implement the goals and policies set for the by the 1992 Oregon Transportation Plan (OTP), the *1991 Oregon Highway Plan*, and the recent modal plans for rail, freight, bike/pedestrian, aviation, and public transportation plus the safety action plan.

Generally, the corridor strategies translate the policies of the OTP into specific actions; describe the functions of each transportation mode, consider trade-offs, and show how they will be managed; identify and prioritize improvements for all modes of travel; indicate where improvements should be made; resolve any conflicts with local land use ordinances and plans; and establish guidelines for how transportation plans will be implemented.

The US 395 Corridor Strategies contain a corridor overview, which includes population and employment forecasts, highway data such as traffic volumes and pavement conditions and descriptions of other modes of travel (air, rail, bicycle, etc.). The overall corridor strategy is to accommodate efficient movement of through travel, while maintaining environmental integrity, enhancing travel safety and supporting economic development. The reports set forth objectives which are intended to embody this overall strategy for the corridor, and set direction and provide guidance for corridor-wide transportation plans and improvements.

The US 395 Corridor Strategies will be followed up by the US 395 Corridor Plans which will build upon objectives developed in the strategies to identify, refine, and facilitate the acceptance of specific decisions related to corridor transportation management, capital improvements and service improvements. The corridor plans will identify and discuss the decisions considered to meet each objective, technical analysis of alternatives, and recommendations for action.

US 730

Highway 730 (Columbia River Highway) is a highway of Regional importance. Crossing the Umatilla/Morrow County line and extending through the city of Umatilla, it continues northeast across the

Oregon/Washington border. Primarily a two-lane road, the highway varies between two and five lanes within the Umatilla city limits. The speed limit is 55 mph, except within the Umatilla city limits where traffic is subject to lower speeds varying between 25 and 45 mph. This highway is designated as a safety corridor from the Junction with US 730 to the Hermiston northern city limits.

OR 207

The stretch of Highway 207 known as the Hermiston Highway is of Regional importance. Beginning at the US 730 junction and extending through Hermiston, it continues southwest to the Lexington-Echo Highway (also OR 207) junction. Primarily two-lanes, the roadway varies from two lanes along the rural sections to five lanes within the Hermiston city limits where Highway 207 and US 395 share common alignment (MP 7.24 to MP 7.30). The speed limit varies between 25 mph within the Hermiston city limits and 55 mph beyond the southern city limits.

The stretch of Highway 207 known as the Lexington-Echo Highway is of Regional importance. Crossing the Umatilla/Morrow County line and extending through the city of Echo, it continues northeast to the Interstate-84 junction. This stretch of highway is a two-lane roadway with a speed limit of 55 mph, except within the Echo city limits where traffic is subject to a lower speed limit of 25 mph.

OR 37

Highway 37 (Pendleton-Cold Springs Highway) is a highway of District importance. Beginning at US 730, the highway extends to the Pendleton highway junction within the Pendleton city limits. Approximately the first mile of highway extending from US 730 is a narrow unpaved gravel roadway. The remainder of the highway is a paved two-lane roadway with a speed limit of 55 mph, except within the Pendleton city limits where the speed limit is reduced to 45 mph. The final one-half mile of the highway in Pendleton has a painted bike lane on both sides of the roadway. The first 20 to 25 miles of highway is comprised of moderate to sharp curves, narrow road width, and moderate grade changes. The remainder of the highway is comprised of generally flat, straight, and open terrain.

OR 74

Highway 74 (Heppner Highway) is a highway of District importance. Crossing the Umatilla/Morrow County line and extending through the rural community of Vinson, it continues northeast to the US 395 junction. It is a two-lane roadway with a speed limit of 55 mph. The route is comprised of numerous curves and moderate grade changes resulting in localized speed reductions ranging from 35 to 45 mph.

OR 244

Highway 244 (Ukiah-Hilgard Highway) is a highway of District importance. Beginning at the US 395 junction, the highway extends through the city of Ukiah beyond the Union County line. It is a two-lane roadway with a speed limit of 55 mph. Within the Ukiah city limits, the speed limit is briefly reduced to 35 mph. The route is comprised of numerous curves and moderate grade changes resulting in localized speed reductions to 40 mph.

OR 11

Highway 11 (Oregon-Washington Highway) is a highway of Statewide importance. Beginning at the Interstate-84 junction, the highway extends through Pendleton and Milton-Freewater ending at the Oregon/Washington border. Primarily a two-lane road, the highway varies between two and five lanes within city limits. The highway has five northbound and five southbound passing lane segments. These passing lanes are generally offset in each direction except for a short segment around Athena (MP 19.07 to

MP 20.57) where the passing lanes are adjacent resulting in a four-lane facility. The posted speed limit is 55 mph but varies between 25 and 50 mph within city limits. OR 11 is designated as a safety corridor between the Milton-Freewater city limits and the Oregon/Washington state line.

OR 204

Highway 204 (Weston-Elgin Highway) is a highway of Regional importance. Beginning at the OR 11 junction, Highway 204 extends through the Umatilla National Forest and crosses into Union County. It is primarily a two-lane roadway with a speed limit of 55 mph. The route through the Umatilla National Forest consists of numerous curves, moderate grade changes, and a nearly 5.5-mile southbound climbing lane that extends through the steeper part of the forest.

Umatilla-Mission Highway

The Umatilla-Mission Highway is of District importance. It begins at the OR 11 junction and extends for just under five miles to the Interstate-84 junction. It is a two-lane roadway with a speed limit of 55 mph. The highway undergoes moderate grade changes along its length.

Athena-Holdman Highway

The Athena-Holdman Highway is of District importance. It begins at the OR 37 junction and extends to the OR 11 junction. It is a two-lane roadway with a speed limit of 55 mph, except within the Athena city limits where traffic is subject to speeds ranging from 20 to 25 mph. The highway undergoes moderate grade changes along its length as it crosses generally rolling terrain.

Havana-Helix Highway

The Havana-Helix Highway is of District importance. It begins at the Helix city limits and extends to the OR 11 junction. It is a two-lane roadway with a speed limit of 55 mph.

Freewater Highway

The Freewater Highway is of District importance. Beginning at the Oregon/Washington border, it extends through the communities of Ferndale, Sunnyside, and Milton-Freewater and continues south to the OR 11 junction. Freewater Highway is primarily two lanes with some four lane segments within the Milton-Freewater city limits. The speed limit along the rural residential segment of the highway is 40 mph. Within the Milton-Freewater city limits, traffic is subject to lower speeds varying between 20 and 25 mph.

Sunnyside-Umapine Highway

The Sunnyside-Umapine Highway is of District importance. Beginning at the Oregon/Washington border, it extends through the rural communities of Umapine and Sunnyside, and continues to the OR 11 junction. It is a two-lane road with a speed limit of 55 mph, except within Umapine where the speed limit is briefly reduced to 25 mph.

State Highway Pavement Conditions

All Oregon state highways are surveyed and assessed annually to determine current pavement conditions. The five pavement condition categories used include: *Very Good*, *Good*, *Fair*, *Poor*, and *Very Poor*. A brief definition of the pavement condition categories used by ODOT for both asphalt and Portland cement concrete pavements is provided.

Very Good

Asphalt pavements in this category are stable, display no cracking, patching or deformation and provide excellent riding qualities. Nothing would improve the roadway at this time.

Concrete pavements in this category provide good ride quality, display original surface texture and show no signs of faulting (vertical displacement of one slab in relation to another). Jointed reinforced pavements display no mid-slab cracks and continuously reinforced pavements may have tight transverse cracks with no evidence of spalling (or chipping away).

Good

Asphalt pavements in this category are stable and may display minor cracking (generally hairline and hard to detect), minor patching and possibly some minor deformation. These pavements appear dry or light colored, provide good ride quality and display rutting less than 1/2 inch deep.

Concrete pavements in this category provide good ride quality. Original surface texture is worn in wheel tracks exposing coarse aggregate. Jointed reinforced pavements may display tight mid-slab transverse cracks and continuously reinforced pavements may show evidence of minor spalling. Pavements may have an occasional longitudinal crack but no faulting is evident.

Fair

Asphalt pavements in this category are generally stable displaying minor areas of structural weakness. Cracking is easier to detect, patching is more evident (although not excessive) and deformation is more pronounced and easily noticed. Ride quality is good to acceptable.

Concrete pavements in this category provide good ride quality. Jointed reinforced pavements may display some spalling at cracks and joint edges with longitudinal cracks appearing at less than 20 percent of the joints. A few areas may require a minor level of repair. Continuously reinforced pavements may show evidence of spalling with longitudinal cracks appearing in the wheel paths on less than 20 percent of the rated section. Shoulder joints may show evidence of deterioration and loss of slab support and faulting may be evident.

Poor

Asphalt pavements in this category are marked by areas of instability, structural deficiency, large crack patterns (alligatoring), heavy and numerous patches, and visible deformation. Ride quality ranges from acceptable to poor.

Concrete pavements in this category may continue to provide acceptable ride quality. Both jointed and continually reinforced pavements display cracking patterns with longitudinal cracks connecting joints and transverse cracks occurring more frequently. Occasional punchout (or pothole) repair is evident. Some joints and cracks show loss of base support.

Very Poor

Asphalt pavements in this category are in extremely deteriorated condition marked by numerous areas of instability and structural deficiency. Ride quality is unacceptable.

Concrete pavements in this category display a rate of deterioration that is rapidly accelerating.

Pavement conditions along the two interstate and 15 state highways within Umatilla County vary in both the rural and urban areas. Approximately 60 percent of the highways have pavement in *Good* or *Very Good* condition while 20 percent have pavement in *Fair* condition. Another 20 percent have pavement in *Poor* condition. Roughly, one-half of the *Poor* condition pavement lies along US 395 (Pendleton-John Day Highway) between the White Eagle Grange and Harney/Grant County line and along US 395 (Umatilla-Stanfield Highway) between Umatilla and East 4th Street in Hermiston. Another one-quarter lies along OR 37 between Cold Springs Creek and Miller Road. The final one-quarter of *Poor* condition pavement lies along OR 11 within the Pendleton and Milton-Freewater city limits and along OR 204 between Blue Mountain Summit and Basket Mountain Road. Table B-1 summarizes the state highway pavement conditions as of 1997.

**TABLE B-1
STATE HIGHWAY PAVEMENT CONDITIONS**

Highway	Milepost	Section Description	Pavement Condition
I-82	0.40 – 11.21	Columbia River to I-84 (SB)	Good
	10.78 – 0.40	I-84 to Columbia River (NB)	Good
I-84 Eastbound	177.36 – 188.04	Umatilla/Morrow Co. line to Stanfield Interchange	Very Good
	188.04 – 218.00	Stanfield Interchange to E. Pendleton Int.	Good
	218.00 – 225.70	E. Pendleton Interchange to Poverty Flats (E)	Very Good ⁽¹⁾
	225.70 – 243.82	Poverty Flats to Umatilla/Union Co. line	Good
I-84 Westbound	243.82 – 237.79	Hilgard to Meacham	Good
	237.79 – 225.77	Meacham to Poverty Flats	Very Good
	225.77 – 218.00	Poverty flats to E. Pendleton Interchange	Very Good ⁽¹⁾
	218.00 – 188.04	E. Pendleton Interchange to Stanfield Interchange	Good
US 30	188.04 – 177.36	Stanfield Interchange to Umatilla/Morrow Co. line	Good
	-0.03 – 2.57	I-84 Jct. at Airport Rd. to Court Avenue	Poor
	2.57 – 3.80	Court Avenue to OR 11 junction	Good
	3.80 – 5.98	OR 11 junction to Theater Rd.	Poor
US 730	5.98 – 6.49	Theater Rd. to I-84 junction	Very Good
	178.70 – 182.56	Umatilla/Morrow Co. line to Umatilla Bridge	Fair
	182.60 – 186.00	Umatilla Bridge to McNary Dam	Good
	186.00 – 203.28	McNary Dam to WA State line	Fair
US 395 <i>(Pendleton-John Day Hwy)</i>	1.69 – 0.05	I-84 junction to Pendleton Highway junction (NB)	Good
	0.03 – 1.50	Pendleton Highway junction to MP 1.50 (SB)	Good
	1.50 – 2.75	MP 1.50 to Montee Drive	Poor
	2.75 – 11.17	Pendleton to White Eagle Grange	Good
	11.17 – 32.70	White Eagle Grange to Gurdune	Fair
	32.70 – 41.96	Gurdune to Albee Road junction	Poor
	41.96 – 56.21	Albee Road to Fivemile Creek	Very Good
56.21 – 63.96	Fivemile Creek to Umatilla/Grant Co. line	Poor	
US 395 <i>(Umatilla-Stanfield Hwy)</i>	0.04 – 6.03	US 730 junction (Umatilla) to E. 4th Street (Hermiston)	Poor ⁽²⁾
	6.03 – 12.63	E. 4th Street (Hermiston) to I-84 junction	Good
OR 11	-1.77 – 0.00	S. Pendleton Interchange to Pendleton Highway	Poor
	0.00 – 0.77	Pendleton Highway to Pendleton East City Limits	Fair
	0.77 – 11.01	Pendleton East City Limits to Adams	Good
	11.01 – 16.34	Athena section	Poor ⁽²⁾
	16.34 – 26.84	Athena to Milton-Freewater	Good
	26.84 – 35.32	Milton-Freewater to OR/WA State line	Very Good ⁽¹⁾
OR 37	0.88 – 1.19	US 730 undercrossing to Union Pacific RR overcrossing	Fair
	1.19 – 6.90	Union Pacific RR overcrossing to Cold Springs Creek	Good
	6.90 – 15.30	Cold Springs Creek to MP 15.30	Poor
	15.30 – 16.30	MP 15.30 to MP 16.30	Good
	16.30 – 27.87	MP 16.30 to Miller Road	Poor
	27.87 – 30.75	Miller Road to Pendleton Highway junction	Good
OR 74	72.70 – 83.15	Umatilla/Morrow Co. line to US 395 junction	Fair

**TABLE B-1
STATE HIGHWAY PAVEMENT CONDITIONS**

Highway	Milepost	Section Description	Pavement Condition
OR 204	-1.36 – 6.00	OR 11 to end of climbing lane	Fair
	6.00 – 10.69	Weston Mountain to Blue Mountain Summit	Good
	10.69 – 20.90	Blue Mountain Summit to Basket Mountain Road	Poor
	20.90 – 21.15	Basket Mountain Road to Summit	Fair
OR 207 (Lex.-Echo Hwy)	19.88 – 27.20	Umatilla/Morrow Co. line to Madison Cor.	Very Good
	27.20 – 35.46	Madison Cor. to Echo	Good
	35.46 – 40.25	Echo City Limits to I-84 junction	Fair
OR 207 (Hermiston Hwy)	0.02 – 7.30	US 730 junction to US 395 junction	Good
	7.30 – 8.30	US 395 junction to Butter Creek Road	Poor
OR 244	8.30 – 10.84	Butter Creek Road to Feedville Road	Very Good
	10.84 – 12.88	Feedville Road to I-84	Fair
	12.88 – 17.81	I-84 to Madison Cor.	Very Good
	0.00 – 2.45	US 395 junction to Camas Creek Road	Good
	2.45 – 20.16	Camas Creek Road to Camas Creek	Fair
	20.16 – 23.54	Camas Creek to Umatilla/Union Co. line	Poor
Umatilla- Mission Hwy	0.00 – 4.18	OR 11 junction to Mission Street	Fair
	4.18 – 4.84	Mission Street to I-84 junction	Very Good
Athena- Holdman Hwy	0.00 – 8.44	OR 37 junction to Highway 335	Good
	8.44 – 17.14	Highway 335 to Waterman Gulch	Fair
	17.14 – 18.16	Waterman Gulch to OR 11 junction	Poor
Havana- Helix Hwy	0.00 – 9.79	Helix to OR 11 junction	Fair
Freewater Hwy	0.00 – 4.43	OR/WA State line to N. Main Street	Good
	4.43 – 5.25	N. Main Street to OR 11 junction	Poor
Sunnyside-Umapine Hwy	0.00 – 7.93	OR/WA State line to OR 11 junction	Good

Notes:

⁽¹⁾ Currently under construction. Will be Very Good.

⁽²⁾ Will be repaved by Summer 1998. Will be Very Good.

UC – Under Construction, NB – Northbound, SB – Southbound.

Source: Oregon Department of Transportation – 1997 Pavement Conditions Statewide.

US State Highway Bridge Inventory

The state has 244 bridges located on state highways in Umatilla County. Bridge inventory data as of August 1997 was obtained from ODOT and was reviewed. Three mutually exclusive elements are used to rate bridge conditions: structural deficiency, functional obsolescence and sufficiency rating. Structural deficiency is determined based on the condition rating for the deck, superstructure, substructure, or culvert and retaining walls. It may also be based on the appraisal rating of the structural condition or waterway adequacy. Functional obsolescence is determined based on the appraisal rating for the deck geometry, underclearances, approach roadway alignment, structural condition, or waterway adequacy. The sufficiency rating is a complex formula which takes into account four separate factors to obtain a numeric value rating the ability of a bridge to service demand. The scale ranges from 0 to 100 with higher ratings indicating optimal conditions and lower ratings indicating insufficiency. Sufficiency ratings of 55 or less indicate a

insufficiency. Bridges with ratings under 50 may be nearing a structurally deficient condition. A summary of the ODOT bridge inventory data is shown in Table B-2.

**TABLE B-2
STATE HIGHWAY BRIDGE INVENTORY SUMMARY**

Highway	Number of Bridges			
	Total	Structurally Deficient	Functionally Obsolete	Sufficiency Rating < 55
I 82	17	0	0	0
I 84	75	0	8	0
US 30	6	0	2	0
US 730	8	0	1	1
US 395 (Umatilla-Stanfield Hwy)	10	0	0	0
US 395 (Pendleton-John Day Hwy)	29	0	0	3
OR 11	21	0	1	0
OR 37	18	0	0	0
OR 74	6	1	1	0
OR 204	4	0	0	0
OR 207 (Hermiston Hwy)	6	0	1	0
OR 207 (Lex.-Echo Hwy)	7	0	1	0
OR 244	10	0	0	0
Umatilla-Mission Hwy	3	0	0	0
Athena-Holdman Hwy	10	0	0	0
Havana-Helix Hwy	5	0	0	0
Freewater Hwy	5	0	0	0
Sunnyside-Umapine Hwy	4	0	0	0
Total	244	1	15	59

Source: Oregon Department of Transportation Bridge Inventory Database.

Currently, there is one bridge rated as structurally deficient on the state highways in Umatilla County:

- Bridge #005002 on OR 74 over Wildhorse Creek

There are 15 bridges rated as functionally obsolete:

- Bridge #00447 on IRR Emig. Frt. Road over Meacham
- Bridge #01165 on OR 320 over the Umatilla River
- Bridge #01637 on US 395/730 over Cold Spring
- Bridge #02117 on US 30 over the Umatilla River
- Bridge #02167 on US 30/OR 11 over Pendleton Eastgate
- Bridge #02318A on OR 207 over the Umatilla River
- Bridge #05203A on I-84/US 30 over Westland Irrigation
- Bridge #08498E on US 30 over Meacham
- Bridge #08498W on US 30 over Meacham
- Bridge #08595E on US 30 over Meacham
- Bridge #08595W on US 30 over Meacham
- Bridge #08612 on IRR Conn. Fr. Road over East Emigrant

- Bridge #08929 on OR 11 over Weston
- Bridge #09520 on I-84/US 395 over Highway and Union Pacific Railroad
- Bridge #09520A on I-84/US 395 over Highway and Union Pacific Railroad

There are four bridges which have sufficiency ratings less than 55 which were not identified as either being structurally deficient or functionally obsolete:

- Bridge #00624A on US 730 over the Umatilla River
- Bridge #04728 on US 395 (Umatilla-Stanfield Hwy) over Camas Creek
- Bridge #04729 on US 395 (Umatilla-Stanfield Hwy) over North Fork John Day River
- Bridge #04713 on US 395 (Umatilla-Stanfield Hwy) over the Webb Slough

Two of the bridges rated as functionally obsolete (#01165 and #01637A) have been identified for replacement under ODOT's final 1998-2001 Statewide Transportation Improvement Program (STIP). Bridge #01637A is scheduled as a federal fiscal year 2001 project, at a cost of \$130,000, and Bridge #01165 is listed as a federal fiscal year 1998 project. The individual project cost for this bridge is not listed within the STIP but is combined with another bridge replacement along the Lexington-Echo Highway (#4757). The combined cost for the two bridges is \$1,796,000.

One of the bridges with a sufficiency rating below 55 (#00624A) has been identified for bridge rail replacement in the final 1998-2001 STIP scheduled as a federal fiscal year 2000 project, at a cost of \$124,000.

State Highways Traffic Volumes

The 1996 Average Daily Traffic (ADT) volumes on the state highways in Umatilla County are shown in Figure B-1. Traffic volumes are highest in the cities and drop off significantly in the rural sections.

Table B-3 lists the 1996 ADT volumes for various rural and urban sections and individual locations along the state highways within Umatilla County. The volumes listed in this table and shown in Figure B- are average volumes for the year. Summer is the season when volumes are highest. ODOT data on I-84 just west of Pendleton indicated that during the 1996 summer season, volumes were about 30 to 40 percent higher than average volumes. ODOT data from other permanent traffic volume recorder sites generally indicate that summer season ADT volumes are 10 to 30 percent higher than average volumes. Other rural highway sections in Umatilla County are assumed to follow the same pattern, with smaller increases in the urban areas.

**TABLE B-3
1996 STATE HIGHWAY ADT VOLUMES IN UMATILLA COUNTY**

Location	1996 ADT Volume (vehicles/day)
I-82	
OR/WA border	12,700
0.30 miles south of US 730	6,300

TABLE B-3
1996 STATE HIGHWAY ADT VOLUMES IN UMATILLA COUNTY

Location	1996 ADT Volume (vehicles/day)
0.30 miles north of I-84	7,400
I-84	
West of I-82	7,700
Stanfield to Pendleton	11,500
East of the Umatilla-Mission Hwy	7,300
US 30	
West I-84 terminus	4,100
Pendleton urban area	15,700
East I-84 terminus	1,600
US 395 (Pendleton-John Day Hwy)	
Pendleton – I-84 undercrossing	22,400
Pendleton – south city limits	6,700
between OR 74 and OR 244 junctions	800
US 395 (Umatilla-Stanfield Hwy)	
Hermiston – 0.01 miles south of Jennie Avenue	20,500
Stanfield – north city limits	8,540 ⁽¹⁾
Stanfield – north I-84	8,600 ⁽¹⁾
US 730	
Umatilla/Morrow Co. line	5,700
0.50 miles east of I-82 (Umatilla urban area)	9,700
Umatilla east city limits	3,900
OR/WA border	2,300
OR 207 (Hermiston Highway)	
0.06 miles south of US 730	3,300
Hermiston Avenue – 0.01 miles south of Orchard Avenue W.	9,800
Hermiston south city limits to I-84 junction	4,400
0.10 miles north of OR 207 (Lexington-Echo Hwy)	1,300
OR 207 (Lexington-Echo Highway)	
Umatilla/Morrow Co. line to Hermiston Hwy junction	1,250
Hermiston Hwy junction to Echo	550
Echo urban area	1,110
Echo east city limits	590
OR 37	
Pendleton north city limits	1,700
Pendleton – 0.01 miles north of US 30	3,500
0.01 miles west of Athena-Holdman Hwy	180
OR 74	
Umatilla/Morrow Co. line	100
0.10 miles west of US 395 (Pendleton-John Day Hwy)	200
OR 11	
Pendleton – 0.40 miles north of I-84	6,500
0.01 miles northeast of Havana-Helix Hwy	4,600
Adams – east city limits	4,000
Milton-Freewater – south city limits	6,300
Milton-Freewater – north city limits	13,500
Milton-Freewater – 0.01 miles north of Sunnyside-Umapine Hwy	14,700
OR/WA border	14,200

TABLE B-3
1996 STATE HIGHWAY ADT VOLUMES IN UMATILLA COUNTY

Location	1996 ADT Volume (vehicles/day)
OR 204	
ODOT automatic recorder near Weston	1,200
Umatilla/Union Co. line	620
OR 244	
0.2 miles east of US 395 junction	650
0.01 miles east of Camas Street (Ukiah)	900
At Umatilla National Forest Boundary (MP 10.0)	320
Umatilla-Mission Highway	
OR 11 junction	1,300 ⁽²⁾
I-84 junction	3,700 ⁽²⁾
Athena-Holdman Highway	
OR 37 to Havana-Helix Hwy	140
Athena – 0.01 miles east of 3rd Street	2,700
Athena – east city limits	2,000
Havana-Helix Highway	
Helix to OR 11 junction	430
Freewater Highway	
OR/WA border	1,400
Milton-Freewater – north city limits	2,500
Milton-Freewater – 0.01 miles E. of W. Main St. on Broadway St.	6,200
Sunnyside-Umapine Highway	
OR/WA border	440
0.01 miles west of OR 11 (Milton-Freewater urban area)	2,100

⁽¹⁾ ADT volumes shown are taken from June 1998 counts performed by ODOT.

⁽²⁾ It is expected that volumes along the Umatilla-Mission Highway will increase substantially after the cultural center and related development is completed in spring 1998.

Source: ODOT 1996 Transportation Volume Tables

State Highway Traffic Analyses

The Oregon Department of Transportation (ODOT) collects detailed accident information on an annual basis along the two Interstate and 16 State Highways in Umatilla County. The accident information data shows overall accident rates for the routes and accident locations. The accident rate for a stretch of roadway is typically calculated as the number of accidents per million vehicle miles (mvm) traveled along that segment of roadway.

Historic

Table B-4 shows the accident rates for the two Interstates and 16 State Highways in Umatilla County as well as the Oregon statewide average for rural and urban non-freeway segments of primary and secondary state highways from January 1, 1994 to December 31, 1996.

TABLE B-4
HISTORIC ACCIDENT RATES FOR STATE HIGHWAYS
(ACCIDENTS PER MILLION VEHICLE MILES TRAVELED)

PRIMARY HIGHWAYS	1996	1995	1994
<i>I-84 (Old Oregon Trail)</i>			

**TABLE B-4
HISTORIC ACCIDENT RATES FOR STATE HIGHWAYS
(ACCIDENTS PER MILLION VEHICLE MILES TRAVELED)**

PRIMARY HIGHWAYS	1996	1995	1994
Umatilla/Morrow Co. line to Pendleton urban area	0.28	0.22	0.29
Pendleton urban area	0.39	0.22	0.29
Pendleton east city limits to Umatilla/Union Co. line	0.52	0.46	0.52
<i>I-82 (McNary Hwy)</i>			
OR/WA border to Umatilla north city limits	0.89	NA	NA
Umatilla – urban area	0.61	NA	0.23
Umatilla south city limits to Westlund-Ordinance Rd. u-xing	0.11	0.23	0.07
Westlund-Ordinance Rd. u-xing to I-84 junction	0.51	0.34	0.68
<i>US 395 (Pendleton-John Day Hwy)</i>			
US 30 junction to Pendleton south city limits	4.23	3.95	3.78
Pendleton south city limits to Pilot Rock city limits	0.96	0.81	0.61
Pilot Rock – urban area	3.64	0.71	1.42
Pilot Rock end city limits to Umatilla/Grant Co. line	0.48	0.61	0.69
<i>US 395 (Umatilla-Stanfield Hwy)</i>			
US 730 junction to Hermiston city limits	1.32	0.98	0.79
Hermiston urban area	3.47	3.54	2.95
Hermiston south city limits to Stanfield city limits	0.31	0.33	1.01
Stanfield urban area	0.77	0.25	0.34
Stanfield end city limits to I-84 junction	3.00	NA	NA
<i>US 730 (Columbia River Hwy)</i>			
Umatilla/Morrow Co. line to Umatilla city limits	0.96	0.21	0.54
Umatilla urban area	1.97	0.49	1.47
Umatilla end city limits to OR/WA border	0.44	0.61	0.33
<i>US 30 (Pendleton Hwy)</i>			
I-84 west terminus to Pendleton west city limits	NA	NA	NA
Pendleton urban area	2.92	2.16	2.56
Pendleton end east city limits to I-84 east terminus	NA	NA	NA
<i>OR 11 (Oregon-Washington Hwy)</i>			
I-84 junction to Pendleton end city limits	0.34	1.35	0.67
Pendleton end city limits to Adams city limits	0.34	0.39	0.62
Adams urban area	NA	NA	NA
Adams end city limits to Milton-Freewater south city limits	.035	0.19	0.34
Milton-Freewater urban area	2.10	1.24	0.94
Milton-Freewater end city limits to OR/WA border	0.93	0.88	0.60
<i>OR 37 (Pendleton-Cold Springs Hwy)</i>			
Columbia River boat landing to US 30 junction	0.81	0.51	NA
<i>OR 74 (Heppner Hwy)</i>			
No accidents coded	NA	NA	NA
Average for all Rural Non-freeway Primary State Highways	0.89	0.89	0.81
Average for all Urban Non-freeway Primary State Highways	3.63	3.98	3.45

**TABLE B-4
HISTORIC ACCIDENT RATES FOR STATE HIGHWAYS
(ACCIDENTS PER MILLION VEHICLE MILES TRAVELED)**

SECONDARY HIGHWAYS	1996	1995	1994
OR 207 (Lexington-Echo Hwy)			
Umatilla/Morrow Co. line to Echo city limits	0.52	0.35	0.73
Echo urban area	3.96	NA	NA
Echo end city limits to I-84 junction	1.15	NA	1.13
OR 207 (Hermiston Hwy)			
US 730 junction to Hermiston city limits	1.28	1.31	0.98
Hermiston – urban area	2.58	4.04	4.17
Hermiston end urban area to Lexington-Echo Hwy junction	0.84	1.04	0.69
OR 244 (Ukiah-Hilgard Hwy)			
US 395 junction to Ukiah city limits	NA	NA	NA
Ukiah urban area	NA	NA	NA
Ukiah end urban area to Umatilla/Union Co. line	0.76	0.70	0.35
OR 204 (Weston-Elgin Hwy)			
OR 11 junction to Umatilla/Union Co. line	1.94	1.22	1.71
Umatilla-Mission Hwy			
OR 11 junction to I-84 junction	1.87	1.07	0.75
Athena-Holman Hwy			
OR 37 junction to Athena city limits	1.36	NA	1.36
Athena urban area	2.83	2.83	NA
Athena end city limits to OR 11 junction	NA	NA	NA
Havana-Helix			
OR/WA border to OR 11 junction	0.74	1.48	0.74
Freewater Highway			
OR/WA border to Milton-Freewater city limits	2.34	3.75	4.22
Milton-Freewater urban area	2.15	1.44	1.80
Sunnyside-Umapine Highway			
OR/WA border to OR 11 junction	0.86	2.36	1.47
Average for all Rural Non-freeway Secondary State Highways	1.26	1.11	1.10
Average for all Urban Non-freeway Secondary State Highways	3.10	3.27	2.79

Source: Oregon Department of Transportation Accident Rate Tables.

In a limited number of cases, the accident rates for select rural and urban segments of Highways 395, 730, 207, and 11 slightly exceed the statewide average for similar highways; however, for the most part, accident rates along rural and urban portions of all highways tend to be lower than the statewide average.

US 395 accident rates are significantly higher than the statewide average from the US 30 Junction to the South Pendleton city limits. This stretch of highway is entirely within Pendleton's city limits. Accident rates on this stretch of highway averaged 3.99 accidents per million vehicle miles traveled from 1994-1996. The statewide average for similar roadways was 3.05 accidents per million vehicle miles traveled from 1994-1996. The Lexington-Echo Highway also exceeded statewide averages for 1996 within the Echo urban area. It had an accident rate of 3.96 versus the statewide rate of 3.10 for that year. There was no available data for that stretch of highway for 1995 or 1994. OR 207 from the US 730 junction to the Hermiston city limits exceeded the statewide average significantly in 1995 and 1994, but was under the average in 1996. Finally, Freewater Highway from the Oregon-Washington border to the OR 11 junction exceeded the statewide average for the last three years. The rate has declined each year but is still much higher than the statewide average for similar highways. The rates were 2.34 in 1996, 3.75 in 1995, and 4.22 in 1994, versus statewide averages of 1.26 in 1996, 1.11 in 1995, and 1.10 in 1994.

Table B-5 contains detailed accident information on the two Interstates and 15 of the 16 State Highways in Umatilla County from January 1, 1994 to December 31, 1996. No accidents were coded for Highway 74 during this three-year period. The table shows the number of fatalities and injuries, property damage only

accidents, the total number of accidents, and the overall accident frequencies and rates for the segments of these roadways in Umatilla County.

**TABLE B-5
ACCIDENT SUMMARIES FOR HIGHWAYS IN UMATILLA COUNTY
(JANUARY 1, 1994 TO DECEMBER 31, 1996)**

Location	Fatalities	Injuries	Property Damage Only	Total Accidents	Accident Frequency (acc/mi/yr)	Accident Rate (acc/mvm)
I-84 (Old Oregon Trail)						
(MP 177.36 to MP 207.27)	4	72	46	89	0.99	0.26
(MP 207.27 to MP 211.10)	0	11	7	15	1.31	0.30
(MP 211.10 to MP 243.82)	3	60	92	135	1.38	0.50
I-82 (McNary Hwy)						
(MP 0.00 to MP 0.48)	0	0	2	2	1.39	0.89
(MP 0.48 to MP 2.07)	0	3	3	5	1.05	0.42
(MP 2.07 to MP 11.21)	1	12	8	15	0.55	0.21
US 395						
(Pendleton-John Day Hwy)						
(MP 0.00 to MP 2.74)	1	68	95	151	18.36	3.99
(MP 2.74 to MP 14.64)	0	13	26	37	1.04	0.79
(MP 14.64 to MP 16.19)	1	4	4	8	1.72	1.92
(MP 16.19 to MP 63.96)	5	9	14	25	0.17	0.59
US 395 (Umatilla-Stanfield Hwy)						
(MP 0.04 to MP 4.26)	5	60	34	65	5.13	1.03
(MP 4.26 to MP 8.45)	1	138	121	201	15.99	3.32
(MP 8.45 to MP 9.25)	0	4	4	6	2.50	0.58
(MP 9.25 to MP 12.44)	1	15	5	8	0.84	0.45
US 730						
(MP 178.70 to MP 182.60)	0	8	10	15	1.28	0.57
(MP 182.60 to MP 186.08)	2	36	22	45	4.31	1.31
(MP 186.08 to MP 203.24)	2	21	8	22	0.43	0.46
US 30						
(MP -0.03 to MP 6.60)	0	59	114	154	7.74	2.33
OR 11						
(MP -1.77 to MP 11.78)	1	23	18	31	0.76	0.45
(MP 11.78 to MP 26.59)	2	12	10	23	0.52	0.29
(MP 26.59 to MP 31.64)	0	20	20	35	2.31	0.54
(MP 31.64 to MP 35.32)	1	41	22	45	4.08	0.78
OR 37						
(MP 0.35 to MP 30.75)	0	6	1	5	0.05	0.66
OR 74						
No accidents coded						
OR 204						
(MP -1.34 to MP 21.15)	1	18	17	27	0.40	1.62
OR 207 (Lexington-Echo Hwy)						
(MP 19.88 to MP 35.38)	1	4	1	3	0.07	0.53
(MP 35.28 to MP 36.24)	1	4	1	3	0.07	3.96
(MP 36.24 to MP 40.25)	0	1	1	3	0.17	1.14
OR 207 (Hermiston Hwy)						
(MP 0.02 to MP 6.15)	0	34	15	33	1.79	1.19
(MP 6.15 to MP 9.04)	0	42	50	79	9.11	3.60
(MP 9.04 to MP 17.81)	2	14	13	22	0.84	0.86
OR 244						
(MP 0.00 to MP 23.54)	0	4	2	5	0.07	0.60

TABLE B-5
ACCIDENT SUMMARIES FOR HIGHWAYS IN UMATILLA COUNTY
(JANUARY 1, 1994 TO DECEMBER 31, 1996)

Location	Fatalities	Injuries	Property Damage Only	Total Accidents	Accident Frequency (acc/mi/yr)	Accident Rate (acc/mvm)
Umatilla-Mission Hwy (MP 0.00 to MP 4.84)	0	4	11	14	0.96	1.23
Athena-Holdman Hwy (MP 0.00 to MP 18.16)	0	4	2	6	0.11	2.52
Havana-Helix Hwy (MP 0.00 to MP 9.79)	0	1	3	4	0.14	0.99
Freewater Hwy (MP 0.00 to MP 3.43)	0	29	6	22	2.14	3.44
(MP 3.43 to MP 5.25)	0	7	9	15	2.75	1.80
Sunnyside-Umapine Hwy (MP 0.00 to MP 7.93)	1	29	5	16	0.67	1.56

Source: Oregon Department of Transportation Accident Summary Database Investigative Report.

I-84

On the one urban and two rural segments of I-84 within Umatilla County during the three-year period, there was a total of 239 accidents, 145 of which were reported as resulting in property damage only. There were seven fatalities and 143 injuries on these roadway segments during the period. Three of the accidents occurred at intersections and 124 occurred on icy pavement. The accidents were generally scattered along the roadway segments. There were five locations with six or more accidents during the three years at mileposts 204.00, 221.00, 222.00, 226.00, and 238.00. Of the 33 total accidents at these locations, nearly 75 percent occurred under icy roadway conditions. The most common driver error was "driving too fast for roadway conditions." This error does not necessarily imply speeding, but failure to adjust speed to prevailing roadway conditions. The accident rates on all three of the segments are well below the statewide average, indicating that these segments do not have any significant safety problems.

I-82

On the one urban and two rural segments of I-82 within Umatilla County during the three-year period, there was a total of 22 accidents, 13 of which were reported as resulting in property damage only. There was one fatality and 15 injuries on these roadway segments during the period. Four of the accidents occurred at intersections and 13 occurred under wet or icy pavement conditions. The accidents were generally scattered along the roadway segments and there were no particular locations which showed a consistent accident pattern. The accident rates on all three of the segments are at or below the statewide average, indicating that these segments do not have any significant safety problems.

US 730

A total of 82 accidents occurred along the one urban and two rural segments of US 730 within Umatilla County during the three-year period, 30 of which were reported as resulting in property damage only. There were four fatalities and 65 injuries on these roadway segments during the period. Thirty-five of the accidents occurred at intersections and 20 occurred under wet or icy pavement conditions. The accidents were generally scattered along the roadway segments and there were no particular locations which showed a consistent accident pattern. The accident rates on all three of the segments are below the statewide average for 1994 and 1995, indicating that these segments do not have any significant safety problems. During 1996, the accident rate for the rural segment between the Umatilla/Morrow county line and the Umatilla city limits was slightly higher than the statewide average but not enough to indicate that a safety concern exists.

US 395 (Pendleton-John Day Highway)

A total of 221 accidents occurred along the two urban and two rural segments of US 395 within Umatilla County during the three-year period, 139 of which were reported as resulting in property damage only. There were seven fatalities and 94 injuries on these roadway segments during the period. Fifty-four of the accidents occurred under wet or icy pavement conditions and 124 occurred at intersections. The accidents were generally scattered along the roadway segments and there were no particular locations which showed a consistent accident pattern. The accident rates on all three of the segments are below the statewide average for 1994 and 1995, indicating that these segments do not have any significant safety problems. During 1996, the accident rate for the rural segment between the Umatilla/Morrow county line and the Umatilla city limits was slightly higher than the statewide average but not enough to indicate that a safety concern exists.

The intersection of US 395 with Tutuilla Creek Road (MP 1.77) had 15 accidents during the period. Nine of accidents involved vehicle turning maneuvers, but no definitive accident cause was found. Most accidents (10) occurred during daylight hours and approximately half occurred under wet or icy road conditions.

US 395 (Umatilla-Stanfield Highway)

A total of 280 accidents occurred along the two urban and two rural segments of US 395 within Umatilla County during the three-year period, 164 of which were reported as resulting in property damage only. There were seven fatalities and 217 injuries on these roadway segments during the period. Sixty-three of the accidents occurred under wet or icy pavement conditions and 147 occurred at intersections. The accidents were generally scattered along the roadway segments and there were no particular locations which showed a consistent accident pattern. The 1996 accident rate for the rural segment from the US 730 junction to the Hermiston south city limits (MP 0.04 to MP 4.26) was 50 percent higher than the statewide average. The accident rates for the other three segments are below the statewide average, indicating that these segments do not have any significant safety problems. Four locations had 10 or more accidents during the period and are discussed in more detail next.

The intersection of US 395 with 4th Street (MP 6.03) in Hermiston had 11 accidents during the period. No single accident type comprised a majority of the accidents, and no definitive accident cause was found. Most accidents (eight) occurred during daylight hours and three occurred under wet or icy road conditions. Eight of the accidents involved drivers that failed to properly yield the right-of-way or disregarded the traffic signal. There is no evidence to suggest that intersection operations (signals, signing, striping, etc.) were a contributing factor in any of the accidents.

The intersection of US 395 with SE Highland Avenue (MP 5.87) in Hermiston had 15 accidents during the period. No single accident type comprised a majority of the accidents, and no definitive accident cause was found. Most accidents (10) occurred during daylight hours and four occurred under wet or icy road conditions. Nine of the accidents involved drivers that failed to properly yield the right-of-way or disregarded the traffic signal. There is no evidence to suggest that intersection operations (signals, signing, striping, etc.) were a contributing factor in any of the accidents.

The intersection of US 395 with OR 207 (Hermiston Highway) at milepost 5.40 in Hermiston had 17 accidents during the period. No single accident type comprised a majority of the accidents, and no definitive accident cause was found. Most accidents (13) occurred during daylight hours and all but one occurred under dry road conditions. Eight of the accidents involved drivers that failed to properly yield the right-of-way or disregarded the traffic signal and four involved improper turning maneuvers. There is no evidence to suggest that intersection operations (signals, signing, striping, etc.) were a contributing factor in any of the accidents.

The segment of US 395 (North 1st Street) approximately 50 feet south of the intersection of Elm Avenue (MP 4.84) in Hermiston had 23 accidents during the period. No single accident type comprised a majority of the accidents, and no definitive accident cause was found. Most accidents (20) occurred during daylight hours and seven occurred under wet or icy road conditions. Nine of the accidents involved drivers that failed to properly yield the right-of-way or disregarded the traffic signal and four involved improper turning maneuvers. There is no evidence to suggest that intersection operations (signals, signing, striping, etc.) were a contributing factor in any of the accidents.

US 30

A total of 154 accidents occurred along the urban and rural segments of US 30 within Umatilla County during the three-year period, resulting in 59 injuries and no fatalities. Twenty-seven of the accidents occurred under wet or icy pavement conditions and 110 occurred at intersections within the Pendleton urban area. The accidents were scattered along the roadway segments and there were no particular locations which showed a consistent accident pattern. The accident rate for the rural highway segment was zero for the three-year period, indicating that no accidents were coded by ODOT during the period. The accident rate for the urban segment (3.24) was below the state-wide average for each of the three years investigated, indicating that these segments do not have any significant safety problems. One location, the intersection of US 30 and the I-84 connection, was identified as a high Safety Priority Index System (SPIS) location by ODOT. This location's SPIS score of 45.36 slightly exceeded the 1997 cutoff value of 42.67, indicating that this location may present a safety concern. A total of seven accidents occurred at this location during the three-year period involving four angle, two turning, and one rear-end maneuver. No consistent accident pattern was evident, nor was it evident that current intersection operations (signing, striping, etc.) contributed to any of the accidents.

OR 11

A total of 134 accidents occurred along the three urban and three rural segments of OR 11 within Umatilla County during the three-year period, 70 of which were reported as resulting in property damage only. There were four fatalities and 96 injuries on these roadway segments during the period. Thirty-three of the accidents occurred under wet or icy pavement conditions and 51 occurred at intersections. The accidents were scattered along the roadway segments and there were no particular locations which showed a consistent accident pattern. The accident rates for the six highway segments were lower than the statewide averages indicating that these segments do not have any significant safety problems.

OR 37

On the rural segment of OR 37 within Umatilla County during the three-year period, there was a total of five accidents, one of which was reported as resulting in property damage only. There were no fatalities and six injuries on these roadway segments during the period. Two of the accidents occurred under wet or icy pavement conditions. The accidents were generally scattered along the roadway segment and no particular location showed a consistent accident pattern. The driver error cited in each accident was "driving too fast for roadway conditions." This error does not necessarily imply speeding, but failure to adjust speed to prevailing roadway conditions. The three-year accident rates for this highway segment are below the statewide average, indicating no significant safety problems.

Lexington-Echo Highway

On the one urban and two rural segments of OR 207 within Umatilla County during the three-year period, there was a total of nine accidents, three of which were reported as resulting in property damage only. There were two fatalities and nine injuries on these roadway segments during the period. One of the accidents occurred under wet or icy pavement conditions. Overall, there were no patterns to the accident

locations, types, or causes. The 1996 accident rate for the segment from the Umatilla County line to the Echo city limits was slightly above the statewide average.

OR 207

On the one urban and two rural segments of OR 207 within Umatilla County during the three-year period, there was a total of 134 accidents, 78 of which were reported as resulting in property damage only. There were two fatalities and 90 injuries on these roadway segments during the period. Twenty-nine of the accidents occurred under wet or icy pavement conditions. Overall, there were no definitive patterns in the accident locations, types or causes.

OR 244 (Ukiah-Hilgard Highway)

On the one urban and two rural segments of OR 244 within Umatilla County during the three-year period, there was a total of five accidents, two of which were reported as resulting in property damage only. There were no fatalities and four injuries on these roadway segments during the period. Three of the accidents occurred under wet or icy pavement conditions. Overall, there were no consistent patterns in the accident locations, types, or causes. The three-year accident rates for the segments were all below the statewide average, indicating no significant roadway safety problems.

OR 204 (Weston-Elgin Highway)

On the rural segment of OR 204 within Umatilla County during the three-year period, there was a total of 27 accidents, 17 of which were reported as resulting in property damage only. There was one fatality and 18 injuries on this roadway segment during the period. Over 70 percent of the accidents (19) occurred under icy pavement conditions. Overall, there were no definitive patterns in the accident locations or types, but road conditions appear to be a significant factor in roadway safety along this highway segment. Most accidents involved drivers hitting animals or fixed objects, and the cited driver error in 13 of the accidents was, "driving too fast for roadway conditions." This error does not necessarily imply speeding, but failure to adjust speed to prevailing roadway conditions. The accident rates for the highway segment have exceeded the statewide average since 1994, suggesting that safety concerns may need to be addressed.

Umatilla-Mission Highway

A total of 14 accidents occurred along the rural segment of the highway within Umatilla County during the three-year period, 11 of which were reported as resulting in property damage only. There were no fatalities and four injuries on the roadway segment during the period. Two of the accidents occurred under wet or icy pavement conditions and five occurred at intersections. The accidents were scattered along the roadway segments and overall, there were no consistent patterns in the accident locations, types or causes. The accident rate for the highway segment exceeded the statewide average in 1996.

Athena-Holdman Highway

A total of six accidents occurred along the rural and urban segments of the highway within Umatilla County during the three-year period, two of which were reported as resulting in property damage only. There were no fatalities and four injuries on the roadway segment during the period. All of the accidents occurred under dry pavement conditions and three occurred at intersections. The accidents were scattered along the roadway segments and overall, there were no definitive patterns in the accident locations, types or causes. The accident rate for the rural highway segment has slightly exceeded the statewide average since 1994, whereas the urban segment has remained below the statewide average since 1994.

Havana-Helix Highway

A total of four accidents occurred along the rural segment of the highway within Umatilla County during the three-year period, three of which were reported as resulting in property damage only. There were no fatalities and one injury on the roadway segment during the period. All of the accidents occurred under dry pavement conditions and two occurred at intersections. The accidents were scattered along the roadway segments and overall, there were no consistent patterns in the accident locations, types or causes. The accident rate for the highway exceeded the statewide average in 1995 but was below the statewide average in 1994 and 1996.

Freewater Highway

A total of 37 accidents occurred along the rural and urban segments of the highway within Umatilla County during the three-year period, 15 of which were reported as resulting in property damage only. There were no fatalities and 35 injuries on the roadway segment during the period. Two of the accidents occurred under wet or icy pavement conditions and 15 occurred at intersections. The accidents were scattered along the roadway segments and overall, there were no definitive patterns in the accident locations, types or causes. The accident rate for the rural highway segment from the Oregon/Washington border to the Milton-Freewater city limits has exceeded the statewide average since 1994 by nearly two to three times, whereas the urban segment has remained well below the statewide average since 1994.

Sunnyside-Umapine Highway

A total of 16 accidents occurred along the rural segment of the highway within Umatilla County during the three-year period, five of which were reported as resulting in property damage only. There was one fatality and 29 injuries on the roadway segment during the period. Three of the accidents occurred under wet or icy pavement conditions and 10 occurred at intersections. The accidents were scattered along the roadway segments and overall, there were no definitive patterns in the accident locations, types or causes. The accident rate for the rural highway segment exceeded the statewide average in 1994 and 1995 but was below the statewide average in 1996.

State Needs Assessment Program Projects

This section summarizes the assessment of all modernization, preservation, safety, interstate maintenance, and bicycle/pedestrian needs along the state highway in Umatilla County. Details of each project need include the location, type of improvement(s) to be made, and a map identification number. The map identification number relates each project to the attached figure, which was supplied by ODOT Region 5.

It should be noted that all projects already identified on the 2000-2003 STIP Update have been excluded from the ODOT Region 5 needs assessment since these projects are planned or approved for construction.

Modernization Needs – Umatilla County**4th Street West – Power Line Road****Map I.D. No. 2**

This is a modernization need located on the Columbia River Highway (US-730) between milepoint 174.46 and 182.54. Improvements to this section would include reconstruction on substantially the same alignment with the addition of lanes to the existing section. Shoulder and drainage deficiencies should also be addressed. This section has been identified as a need by Region 5. The estimated project cost is \$2,425,000.(Umatilla and Marrow counties.)

Umatilla – Diagonal Road**Map I.D. No. 3**

This is a modernization need located on the Columbia River Highway (US-730) between milepoint 185.71 and 191.50. Improvements to this section would include reconstruction on substantially the same alignment with the addition of lanes to the existing section. Shoulder and drainage deficiencies should also be addressed. This section has been identified as a need by Region 5. The estimated project cost is \$11,740,000. (Umatilla County)

Diagonal Road – Washington State Line**Map I.D. No. 4**

This is a modernization need located on the Columbia River Highway (US-395/730) between milepoint 191.50 and 203.28. Improvements to this section would include resurfacing, shoulder widening/reconstruction, and realignment of substandard horizontal and vertical curvature. This section has been identified as a need by Region 5. The estimated project cost is \$17,700,000. (Umatilla County)

MP 1.5 – Adams Section**Map I.D. No. 5**

This is a modernization need located on the Oregon-Washington Highway (OR-11) between milepoint 1.50 and 11.00. Improvements to this section would include resurfacing, widening/reconstruction of shoulders, realignment of substandard horizontal and vertical curvature, and construction of passing lanes. This section has been identified as a need by Region 5. The estimated project cost is \$5,000,000. (Umatilla County)

Jct. Weston-Elgin Hwy – South Main Street (Milton-Freewater)**Map I.D. No. 6**

This is a modernization need located on the Oregon-Washington Highway (OR-11) between milepoint 20.40 and 26.90. Improvements to this section would include resurfacing, widening/reconstruction of shoulders, and realignment of substandard horizontal and vertical curvature. This section has been identified as a need by Region 5. The estimated project cost is \$3,300,000. (Umatilla County)

12th Avenue (Milton-Freewater) – Washington State Line**Map I.D. No. 7**

This is a modernization need located on the Oregon-Washington Highway (OR-11) between milepoint 30.62 and 35.32. Improvements to this section would include complete reconstruction to freeway design standards on substantially existing alignment. This section has been identified as a need by Region 5. The estimated project cost is not yet available. (Umatilla County)

Pendleton – Pilot Rock**Map I.D. No. 9**

This is a modernization need located on the Pendleton-John Day Highway (US-395) between milepoint 2.59 and 15.00. Improvements to this section would include construction of additional lanes to existing facility, resurfacing, shoulder work, guardrail, and drainage work. This section has been identified as a need by Region 5. The estimated project cost is \$6,500,000. (Umatilla County)

Pilot Rock – Battle Mountain**Map I.D. No. 10**

This is a modernization need located on the Pendleton-John Day Highway (US-395) between milepoint 16.19 and 34.00. Improvements to this section would include resurfacing, shoulder widening/reconstruction, realignment of substandard horizontal and vertical curvature, and construction of passing lanes. This section has been identified as a need by Region 5. The estimated project cost is \$9,000,000. (Umatilla County)

Webb Slough – Cooper Creek Section (Battle Mountain Section)**Map I.D. No. 11**

This is a modernization need located on the Pendleton-John Day Highway (US-395) between milepoint 34.00 and 42.50. Improvements to this section would include complete reconstruction, realignment, widening, and construction of climbing lanes. This section has been identified as a need by Region 5. The estimated project cost is \$15,400,000. (Umatilla County)

Snipe Valley Road – Long Creek

Map I.D. No. 12

This is a modernization need located on the Pendleton-John Day Highway (US-395) between milepoint 42.50 and 90.26. Improvements to this section would include resurfacing, widening/reconstruction of shoulders, realignment of substandard horizontal and vertical curvature, and construction of passing lanes. This section has been identified as a need by Region 5. The estimated project cost is \$45,500,000. (Umatilla County and Grant County)

Cold Springs Canyon – Middle Fork Cold Springs Canyon

Map I.D. No. 13

This is a modernization need located on the Pendleton-Cold Springs Highway (OR-37) between milepoint 6.70 and 17.50. Improvements to this section would include resurfacing, shoulder widening/reconstruction, and realignment of substandard horizontal and vertical curvature. This section has been identified as a need by Region 5. The estimated project cost is \$10,800,000. (Umatilla County)

MP 19.5 – Pendleton

Map I.D. No. 14

This is a modernization need located on the Pendleton-Cold Springs Highway (OR-37) between milepoint 19.50 and 29.00. Improvements to this section would include resurfacing, shoulder widening/reconstruction, and realignment of substandard horizontal and vertical curvature. This section has been identified as a need by Region 5. The estimated project cost is \$4,750,000. (Umatilla County)

Hinton Creek – Nye

Map I.D. No. 15

This is a modernization need located on the Heppner Highway (OR-74) between milepoint 47.35 and 83.15. Improvements to this section would include resurfacing, shoulder widening/reconstruction, and realignment of substandard horizontal and vertical curvature. This section has been identified as a need by Region 5. The estimated project cost is \$22,100,000. (Umatilla County)

WCL Pendleton – SW Court Avenue

Map I.D. No. 16

This is a modernization need located on the Pendleton Highway (US-30) between milepoint 0.00 and 2.57. Improvements to this section would include construction of additional lanes to existing facility, resurfacing, shoulder work, guardrail, and drainage work. This section has been identified as a need by Region 5. The estimated project cost is \$5,100,000. (Umatilla County)

Pendleton Paving Project (Phase 3)

Map I.D. No. 17

This is a modernization need located on the Pendleton Highway (US-30) between milepoint 2.10 and 2.57. Improvements to this section would include overlay, aggregate base, and widening to 4 lanes. This section has been identified as a need by Region 5. The estimated project cost is \$500,000. (Umatilla County)

Jct. Pendleton-John Day Hwy – Jct. Oregon-Washington Hwy

Map I.D. No. 19

This is a modernization need located on the Pendleton Highway (US-30) between milepoint 3.80 and 4.60. Improvements to this section would include reconstruction on substantially the same alignment with wider lanes than existing section, alignment corrections, shoulder work, guardrail, and drainage work. This section

has been identified as a need by Region 5. The estimated project cost is \$3,000,000. (Umatilla County)

Madison/Saylor Road – I-84

Map I.D. No. 20

This is a modernization need located on the Lexington-Echo Highway (State Hwy 320) between milepoint 27.24 and 40.25. Improvements to this section would include pavement reconstruction with alignment improvements. This section has been identified as a need by Region 5. The estimated project cost is \$9,700,000. (Umatilla County)

Mission Highway (Umatilla Indian Reservation)

Map I.D. No. 21

This is a modernization need located on the Umatilla-Mission Highway (State Hwy 331) between milepoint 0.00 and 4.84. Improvements to this section would include reconstruction on substantially the same alignment with wider lanes than existing section, alignment corrections, shoulder work, guardrail, and drainage work. This section has been identified as a need by Region 5. The estimated project cost is \$2,900,000. (Umatilla County)

Washington State Line – NW 8th Avenue (Milton-Freewater)

Map I.D. No. 22

This is a modernization need located on the Freewater Highway (State Hwy 339) between milepoint 0.00 and 5.25. Improvements to this section would include reconstruction on substantially the same alignment with wider lanes than existing section, alignment corrections, shoulder work, guardrail, and drainage work. This section has been identified as a need by Region 5. The estimated project cost is \$2,400,000. (Umatilla County)

Barnhart Road Interchange (Pendleton)

Map I.D. No. 23

This is a modernization need located in the city of Pendleton. Improvements to this section would include construction of interchange connection to the Eastern Oregon Region Airport in Pendleton. This section has been identified as a need by the city of Pendleton. The estimated project cost is \$3,200,000. (Umatilla County)

Diagonal Road – Elm Avenue (Hermiston)

Not Shown on Map

This is a modernization need located on the Hermiston Highway (OR 207) between milepoint 5.50 and 5.80. Improvements to this section would include realigning the six-way intersection at Diagonal Road, Elm Avenue, and Townshend Road. This section has been identified as a need by Region 5 and the city of Hermiston. The estimated cost for this project is \$3,500,000. (Umatilla County)

Half Bridge – State Line (Rockfall)

Not Shown on Map

This is a modernization need located on US 730 between milepoint 198.10 and 203.28. Improvements to this section would include the construction of a tunnel. This section has been identified as a need by Region 5. The estimated project cost is \$26,000,000. (Umatilla County)

East 10th Street Upgrade (Elm Avenue – Punkin Center Road)

Not Shown on Map

This is a modernization need located on East 10th Street in Hermiston. Improvements to this roadway would include an urban upgrade to city street standards. This sections has been identified as a need in the city of Hermiston TSP. The estimated project cost is \$2,654,000. (Umatilla County)

East 10th Street Upgrade (Columbia Drive – Elm Avenue)**Not Shown on Map**

This is a modernization need located on East 10th Street in Hermiston. Improvements to this roadway would include an urban upgrade to city street standards. This sections has been identified as a need in the city of Hermiston TSP. The estimated project cost is \$2,542,000. (Umatilla County)

Umatilla River Bridge**Not Shown on Map**

This is a modernization need located on a new roadway extension along either Elm Avenue or Punkin Center in Hermiston. Improvements would include a new roadway connecting this Hermiston area with Interstate 82 to the west, along with a bridge crossing over the Umatilla River. This project has been identified as a need in the city of Hermiton TSP. The estimated project cost is \$15,941,800. (Umatilla County)

Preservation Needs – Umatilla County**Umatilla River Bridge – Diagonal Road Section****Map I.D. No. 34**

This is a preservation need located on the Columbia River Highway (US-730) between milepoint 182.60 and 191.34. Improvements to this section would include grind, inlay, overlay, guardrail, signs, and bridge rail. This section has been identified as a need by Region 5. (Umatilla County)

Meacham Creek – Five Point Creek**Map I.D. No. 35**

This is a preservation need located on the Old Oregon Trail Highway (I-84) between milepoint 237.98 and 253.42. Improvements to this section would include chip seal, guardrail installation, signs, and bridge rail retrofit. This section has been identified as a need by Region 5. (Umatilla County)

S. Pendleton Interchange – 14th Street**Map I.D. No. 36**

This is a preservation need located on the Oregon-Washington Highway (OR-11) between milepoint –1.77 and 0.00. Improvements to this section would include an overlay. This section has been identified as a need by Region 5. (Umatilla County)

Jct. Pendleton Hwy – MP 1.5**Map I.D. No. 37**

This is a preservation need located on the Oregon-Washington Highway (OR-11) between milepoint 0.00 and 1.50. Improvements to this section would include resurfacing, shoulder work, guardrail, and drainage work. This section has been identified as a need by Region 5. (Umatilla County)

Adams – Jct. Weston-Elgin Highway**Map I.D. No. 38**

This is a preservation need located on the Oregon-Washington Highway (OR-11) between milepoint 16.34 and 20.40. Improvements to this section would include resurfacing, shoulder work, guardrail, and drainage work. This section has been identified as a need by Region 5. (Umatilla County)

S. Main Street (Milton-Freewater) – Walla Walla Valley Railroad**Map I.D. No. 39**

This is a preservation need located on the Oregon-Washington Highway (OR-11) between milepoint 26.90

and 30.62. Improvements to this section would include reconstruction on substantially the same alignment without widening the pavement structure. Drainage deficiencies should be addressed. This section has been identified as a need by Region 5. (Umatilla County)

Jct. Pendleton Hwy – E. 4th Street (Pilot Rock) Section

Map I.D. No. 40

This is a preservation need located on the Pendleton-John Day Highway (US-395) between milepoint 0.00 and 15.05. Improvements to this section would include grind, inlay/overlay, shoulder work, guardrail, and drainage work. This section has been identified as a need by Region 5. (Umatilla County)

Snipe Valley Road – MP 55.60

Map I.D. No. 41

This is a preservation need located on the Pendleton-John Day Highway (US-395) between milepoint 41.96 and 55.60. Improvements to this section would include a chip seal/fog seal. This section has been identified as a need by Region 5. (Umatilla County)

Columbia River – MP 15.30

Map I.D. No. 42

This is a preservation need located on the Pendleton-Cold Springs Highway (OR-37) between milepoint 0.08 and 15.30. Improvements to this section would include an overlay, placement of aggregate shoulder material, rock cut to improve sight distance, guardrail installation, signs, bridge rail retrofit, shoulder work, and bridge deck work. This section has been identified a need by Region 5. (Umatilla County)

MP 16.30 – Miller Road Section

Map I.D. No. 43

This is a preservation need located on the Pendleton-Cold Springs Highway (OR-37) between milepoint 16.30 and 27.87. Improvements to this section would include leveling, overlay, signs, guardrail installation, shoulder work, and bridge rail retrofit. This section has been identified as a need by Region 5. (Umatilla County)

MP 29 – Pendleton Highway

Map I.D. No. 44

This is a preservation need located on the Pendleton-Cold Springs Highway (OR-37) between milepoint 29.00 and 30.88. Improvements to this section would include resurfacing, shoulder work, guardrail, and drainage work. This section has been identified as a need by Region 5. (Umatilla County)

Franklin Summit – Nye Junction

Map I.D. No. 45

This is a preservation need located on the Heppner Highway (OR-74) between milepoint 66.50 and 83.12. Improvements to this section would include leveling, overlay, placement of aggregate shoulder material, and guardrail installation. This section has been identified as a need by Region 5. (Umatilla County)

SE 4th Street (Hermiston) – I-84

Map I.D. No. 46

This is a preservation need located on the Umatilla-Stanfield Highway (State Hwy 54) between milepoint 6.03 and 12.90. Improvements to this section would include reconstruction on substantially the same alignment without widening the pavement structure. Drainage deficiencies should be addressed. This section has been identified as a need by Region 5. (Umatilla County)

Pendleton Paving Project (Phase 2)

Map I.D. No. 47

This is a preservation need located on the Pendleton Highway (US-30) between milepoint-1.77 and 2.57.

Improvements to this section would include grind and inlay/overlay. This section has been identified as a need by Region 5. (Umatilla County)

SW Court Avenue (Pendleton) – Jct. Pendleton Hwy Section

Map I.D. No. 48

This is a preservation need located on the Pendleton Highway (US-30) between milepoint 2.57 and 3.80. Improvements to this section would include resurfacing, shoulder work, guardrail, and drainage work. This section has been identified as a need by Region 5. (Umatilla County)

Jct. Oregon-Washington Highway – I-84

Map I.D. No. 49

This is a preservation need located on the Pendleton Highway (US-30) between milepoint 4.60 and 6.60. Improvements to this section would include resurfacing, shoulder work, guardrail, and drainage work. This section has been identified as a need by Region 5. (Umatilla County)

Jct. Heppner Hwy – Madison/Saylor Road

Map I.D. No. 50

This is a preservation need located on the Lexington-Echo Highway (OR-207) between milepoint 0.00 and 27.24. Improvements to this section would include resurfacing, shoulder work, guardrail, and drainage work. This section has been identified as a need by Region 5. (Umatilla County)

MP 6.0 – Basket Mountain Road

Map I.D. No. 51

This is a preservation need located on the Weston-Elgin Highway (OR-204) between milepoint 6.00 and 10.69. Improvements to this section would include minor widening with no additional lanes. This section has been identified as a need by Region 5. (Umatilla County)

Jct. Hwy No. 8 – Weston Mountain

Map I.D. No. 52

This is a preservation need located on the Weston-Elgin Highway (OR-204) between milepoint x1.34 – 6.00. Improvements to this section would include resurfacing, shoulder widening, guardrail, and drainage work. This section has been identified as a need by Region 5. (Umatilla County)

Duff Road – I-84 Section

Map I.D. No. 53

This is a preservation need located on the Umatilla-Mission Highway (State Hwy 331) between milepoint 0.00 and 4.18. Improvements to this section would include grind, inlay, overlay, placement of aggregate shoulder material, guardrail, signs, and bridge rail. This section has been identified as a need by Region 5. (Umatilla County)

Washington State Line – Jct. Oregon-Washington Highway Section

Map I.D. No. 54

This is a preservation need located on the Sunnyside-Umapine Highway (State Hwy 332) between milepoint 0.00 and 7.93. Improvements to this section would include resurfacing, shoulder widening, guardrail, and drainage work. This section has been identified as a need by Region 5. (Umatilla County)

Jct. Columbia River Highway – Madison Corner

Map I.D. No. 55

This is a preservation need located on the Hermiston Highway (OR-207) between milepoint 0.00 and 17.98. Improvements to this section would include resurfacing, shoulder widening, guardrail, and drainage work.

This section has been identified as a need by Region 5. (Umatilla County)

Jct. Pendleton-Cold Springs Hwy – Athena-Holdman Hwy

Map I.D. No. 56

This is a preservation need located on the Athena-Holdman Highway (State Hwy 334) between milepoint 0.00 and 18.16. Improvements to this section would include resurfacing, shoulder widening, guardrail, and drainage work. This section has been identified as a need by Region 5. (Umatilla County)

Havana-Helix Highway Section

Map I.D. No. 57

This is a preservation need located on the Havana-Helix Highway (State Hwy 335) between milepoint 0.00 and 9.79. Improvements to this section would include resurfacing, shoulder widening, guardrail, and drainage work. This section has been identified as a need by Region 5. (Umatilla County)

NW 8th Ave. (Milton-Freewater) – Jct. Oregon-Washington Hwy

Map I.D. No. 58

This is a preservation need located on the Freewater Highway (State Hwy 339) between milepoint 3.93 and 5.25. Improvements to this section would include resurfacing, shoulder widening, guardrail, and drainage work. This section has been identified as a need by Region 5. (Umatilla County)

Camas Creek – County Line

Map I.D. No. 59

This is a preservation need located on the Ukiah-Hilgard Highway (OR-244) between milepoint 20.16 and 23.54. Improvements to this section would include an overlay. This section has been identified as a need by Region 5. (Umatilla County)

Safety Needs – Umatilla County

Columbia River Rockfall (Phase 2)

Map I.D. No. 62

This is a safety need located on the Columbia River Highway (US-730) between milepoint 198.15 and 200.30. Improvements to this section would include slope screening placement. This section has been identified as a need by Region 5. (Umatilla County)

Columbia River Rockfall (Phase 3)

Map I.D. No. 63

This is a safety need located on the Columbia River Highway (US-730) between milepoint 200.30 and 203.05. Improvements to this section would include slope screening placement. This section has been identified as a need by Region 5. (Umatilla County)

Oregon Trail Highway Rockfall

Map I.D. No. 64

This is a safety need located on the Old Oregon Trail Highway (I-84) between milepoint 227.00 and 229.00. Improvements to this section would include rockfall correction. This section has been identified as a need by Region 5. (Umatilla County)

Jct. Athena-Holdman Highway Section

Map I.D. No. 65

This is a safety need located on the Oregon-Washington (OR-11) between milepoint 17.36 and 17.48. Improvements to this section would include reconfiguration of the intersection. This section has been identified as a need by Region 5. (Umatilla County)

Oregon-Washington Highway Rockfall**Map I.D. No. 66**

This is a safety need located on the Oregon-Washington Highway (OR-11) between milepoint 21.91 and 22.00. Improvements to this section would include rockfall correction. This section has been identified as a need by Region 5. (Umatilla County)

Oregon-Washington Highway Rockfall**Map I.D. No. 67**

This is a safety need located on the Oregon-Washington Highway (OR-11) between milepoint 22.22 and 22.46. Improvements to this section would include rockfall correction. This section has been identified as a need by Region 5. (Umatilla County)

12th Avenue – State Line Road (Milton-Freewater)**Map I.D. No. 68**

This is a safety need located on the Oregon-Washington Highway (OR-11) between milepoint 30.60 and 35.32. Improvements to this section would include sign upgrades. This section has been identified as a need by Region 5. (Umatilla County)

Oregon-Washington Hwy / SE 10th Intersection Improvement**Map I.D. No. 69**

This is a safety need located on the Oregon-Washington Highway (OR-11). Improvements to this section would include intersection improvements. This section has been identified as a need by Region 5. (Umatilla County)

Perkins Street/US-395 Traffic Signal**Map I.D. No. 70**

This is a safety need located on the Pendleton-John Day Highway (US-395) near milepoint 2.50. Improvements to this section would include traffic signal installation. This section has been identified as a need by Region 5. (Umatilla County)

US-395/I-84 (Westbound) Traffic Signal**Map I.D. No. 71**

This is a safety need located on the Pendleton-John Day Highway (US-395). Improvements to this section would include traffic signal installation. This section has been identified as a need by Region 5. (Umatilla County)

Jct. Oregon-Washington Highway (Pendleton)**Map I.D. No. 72**

This is a safety need located on the Pendleton Highway (US-30) between milepoint 4.50 and 4.70. Improvements to this section would include merge lane extension. This section has been identified as a need by Region 5. (Umatilla County)

Diagonal Road – Elm Avenue**Map I.D. No. 73**

This is a safety need located on the Hermiston Highway (OR-207) between milepoint 5.50 and 5.80. Improvements to this section would include intersection reconstruction. This section has been identified as a need by Region 5. (Umatilla County)

Interstate Maintenance Needs – Umatilla County**Jct. Columbia River Hwy – Wallowa-Whitman Forest Boundary****Map I.D. No. 89**

This is an interstate maintenance need located on the Old Oregon Trail Highway (I-84) between milepoint 167.58 and 253.03. Improvements to this section would include resurfacing, shoulder work, guardrail, and drainage work. This section has been identified as a need by Region 5. (Umatilla County)

Pioneer Canal – Goad Road Using Section

Map I.D. No. 90

This is an interstate maintenance need located on the Old Oregon Trail Highway (I-84) between milepoint 188.01 and 212.00. Improvements to this section include shoulder paving. This section has been identified as a need by Region 5. (Umatilla County)

I-84 Climbing Lanes

Map I.D. No. 91

This is an interstate maintenance need located on the Old Oregon Trail Highway (I-84) between milepoint 205.00 and 253.03. Improvements to this section would include construction of climbing lanes at the following locations: 205.00 (westbound) – 207.15 (westbound), 245.80 (westbound) – 248.50 (westbound), 250.40 (westbound) – 253.03 (westbound), and 209.81 (eastbound) – 210.75 (eastbound). This section has been identified as a need by Region 5. (Umatilla County and Union County)

MP 226 – Meacham Creek

Map I.D. No. 92

This is an interstate maintenance need located on the Old Oregon Trail Highway (I-84) between milepoint 226.00 and 238.00. Improvements to this section would include a crack seal between concrete lanes and paved shoulder. This section has been identified as a need by Region 5. (Umatilla County)

MP 233 – Meacham Creek

Map I.D. No. 93

This is an interstate maintenance need located on the Old Oregon Trail Highway (I-84) between milepoint 233.00 and 238.00. Improvements to this section would include a fog seal (westbound only). This section has been identified as a need by Region 5. (Umatilla County)

Meacham Creek – Jct. Ukiah–Hilgard Highway Section

Map I.D. No. 94

This is an interstate maintenance project located on the Old Oregon Trail Highway (I-84) between milepoint 238.00 and 253.00. Improvements to this section include fog seal with choke. This section has been identified as a need by Region 5. (Umatilla County and Union County)

McNary Highway Section

Map I.D. No. 95

This is an interstate maintenance need located on the McNary Highway (I-82) between milepoint 0.00 and 11.21. Improvements to this section include resurfacing, shoulder work, guardrail, and drainage work. This section has been identified as a need by Region 5. (Umatilla County)

Bicycle/Pedestrian Needs – Umatilla County

Oregon-Washington Hwy/Intercourt (Pendleton)

Map I.D. No. 96

This is a bicycle/pedestrian need located in the city of Pendleton on the Oregon-Washington Highway (OR-11). Improvements to this section would include bicycle/pedestrian improvements at the intersection of the Oregon-Washington Highway and Intercourt Avenue. This section has been identified as a need by the city of Pendleton. (Umatilla County)

Oregon-Washington Highway (Pendleton)**Map I.D. No. 97**

This is a bicycle/pedestrian need located in the city of Pendleton on the Oregon-Washington Highway (OR-11). Improvements to this section would include bicycle/pedestrian improvements on the Oregon Washington Highway through Pendleton. This section has been identified as a need by the city of Pendleton. (Umatilla County)

Pendleton Highway Pedestrian Improvements (Pendleton)**Map I.D. No. 98**

This is a bicycle/pedestrian need located in the city of Pendleton on the Pendleton Highway (US-30). Improvements to this section would include accommodation for pedestrians along the Pendleton Highway through Pendleton. This section has been identified as a need by the city of Pendleton. (Umatilla County)

Pendleton-John Day Highway (Pendleton)**Map I.D. No. 99**

This is a bicycle/pedestrian need located in the city of Pendleton on the Pendleton-John Day Highway (US-395). Improvements to this section would include accommodation for pedestrians along the Pendleton-John Day Highway through Pendleton. This section has been identified as a need by the city of Pendleton. (Umatilla County)

Stanfield-Hermiston Bicycle/Pedestrian Improvements**Map I.D. No. 100**

This is a bicycle/pedestrian need located in the city of Stanfield on the Pendleton-John Day Highway (US-395). Improvements to this section would include construction of a multi-use path between the existing pathway at Rosalynn Drive and Feedville Road. This section has been identified as a need by the city of Stanfield. (Umatilla County).

ODOT Bridge Needs

As part of the ODOT Region 5 needs assessment, bridge needs along state highways were also examined. Excluding all the bridges already identified on the 2000-2003 STIP Update, there is one bridge identified for needed improvements. This bridge is summarized below and can be found on the map supplied by ODOT.

North Fork Butter Creek Bridge No. 1189**Map I.D. No. 85**

This is a state bridge need located on the Heppner Highway (OR-74) near milepoint 76.63. Improvements to this section would include bridge replacement. This section has been identified as a need by Region 5. (Umatilla County)

Other Deficient Bridges/Potential Projects

The ODOT needs assessment for bridge improvements does not include a number of state bridges identified as deficient in the state bridge inspection program. The ODOT needs assessment should include, at least, the remaining bridges identified as being structurally deficient and functionally obsolete. (Replacement of structurally deficient and functionally obsolete bridges should receive higher priority than replacement of bridges with low sufficiency ratings, less than 55.)

There are 11 bridges identified in the state bridge inspection inventory as being functionally obsolete and were not included in the ODOT 2000-2003 STIP Update or ODOT's bridge needs assessment. They are described as follows:

- Bridge #00447 on IRR Emigrant Fort Road over Meacham

- Bridge #02167 on US 30/OR 11 over Pendleton Eastgate
- Bridge #05203A on I-84/US 30 over Westland Irrigation
- Bridge #08498E on US 30 over Meacham
- Bridge #08498W on US 30 over Meacham
- Bridge #08595E on US 30 over Meacham
- Bridge #08595W on US 30 over Meacham
- Bridge #08612 on IRR Conn. Fr. Road over East Emigrant
- Bridge #08929 on OR 11 over Weston
- Bridge #09520 on I-84/US 395 over Highway and Union Pacific Railroad
- Bridge #09520A on I-84/US 395 over Highway and Union Pacific Railroad.

There are three bridges identified in the state bridge inspection inventory as having a sufficiency rating less than 55 and were not included in the ODOT 2000-2003 STIP Update or ODOT's bridge needs assessment. They are described as follows:

- Bridge #04728 on US 395 (Pendleton-John Day Hwy) over Camas Creek
- Bridge #04729 on US 395 (Pendleton-John Day Hwy) over North Fork John Day River
- Bridge #04713 on US 395 (Pendleton-John Day Hwy) over the Webb Slough.

Access Management Plan for State Highways

Although state highways comprise some of the most important routes in the Umatilla County transportation system, these highways are under the state's (ODOT's) jurisdiction and are subject to access management categories determined by that agency. The general access management standards recommended in this plan correspond to the *1991 Oregon Highway Plan (OHP)*, which will remain the current governing policy if the Umatilla County TSP is adopted before January 2000. The 1991 OHP specifies an access management category system and standards for state facilities. Although Umatilla County may designate state highways as arterial roadways within their transportation systems, the access management categories for these facilities should generally follow the guidelines of the OHP. Within urban areas, some of these highways cannot meet the OHP standards due to the high number of access points and urban character of the facilities. However, outside of the urban areas, access standards should be consistent with the OHP. Table B-6 shows the OHP access management classifications and standards for highways of different levels of importance.

**TABLE B-6
OREGON HIGHWAY PLAN ACCESS MANAGEMENT CATEGORIES AND STANDARDS**

INTERSECTIONS									
Category	Access Treatment	LOI	Urban Rural	Public Road Type	Public Road pacing	Private Road Type	Private Road pacing	Signal Spacing	Median Control
1	Full Control (Freeway)	Interstate/Statewide	U	Interchange	2-3 Mi.	None	NA	None	Full
			R	Interchange	3-8 Mi.	None	NA	None	Full
2	Full Control (Expressway)	Statewide	U	At grade/Interchange	½-2 Mi.	None	NA	½-2 Mi.	Full
			R	At grade/Interchange	1-5 Mi.	None	NA	None	Full
3	Limited Control (Expressway)	Statewide	U	At grade/Interchange	½-1 Mi.	Rt. Turns	800 ft.	½-1 Mi.	Partial
			R	At grade/Interchange	1-3 Mi.	Rt. Turns	1200 ft.	None	Partial
4	Limited Control	Statewide/Regional	U	At grade/Interchange	¼ Mi.	Lt./Rt. Turns	500 ft.	½ Mi.	Partial/None
			R	At grade/Interchange	1 Mi.	Lt./Rt. Turns	1200 ft.	None	Partial/None
5	Partial Control	Regional/District	U	At grade	¼ Mi.	Lt./Rt. Turns	300 ft.	¼ Mi.	None
			R	At grade	½ Mi.	Lt./Rt. Turns	500 ft.	½ Mi.	None
6	Partial Control	District	U	At grade	500'	Lt./Rt. Turns	150 ft.	¼ Mi.	None
			R	At grade	¼ Mi.	Lt./Rt. Turns	300 ft.	½ Mi.	None

Source: 1991 Oregon Highway Plan, ODOT

The OHP provides more than one appropriate access management classification for highways based upon their levels of importance. Therefore, the TSP recommends which access management categories are appropriate for the highways based on the OHP guidelines, development levels, and previously written transportation plans. Recommendations for level of importance and access management categories for the county's highways are listed in Table B-7. ODOT is ultimately responsible for determining the appropriate access management category for each highway.

TABLE B-7
HIGHWAY LEVELS OF IMPORTANCE AND RECOMMENDED ACCESS
MANAGEMENT CATEGORIES

State Highway Number (Name)	Level of Importance	Recommended OHP Access Management Categories (Urban and Rural Areas)
I-84 (<i>Oregon Trail Hwy.</i>)	Interstate	Category 1
I-82 (<i>McNary Hwy.</i>)	Interstate	Category 1
US 395 (<i>Pendleton-John Day Hwy.</i>)	Statewide	Category 4
US 395 (<i>Umatilla-Stanfield Hwy.</i>)	Regional	Categories 4 and 5 ⁽¹⁾
US 730 (<i>Columbia River Hwy.</i>)	Regional	Categories 4 and 5
OR 11 (<i>OR-WA Hwy.</i>)	Statewide	Category 4 ⁽²⁾
OR 37 (<i>Pendleton-Cold Springs Hwy.</i>)	District	Category 6
OR 74 (<i>Heppner Hwy.</i>)	District	Category 6
OR 204 (<i>Weston-Elgin Hwy.</i>)	Regional	Category 5
OR 207 (<i>Hermiston Hwy.</i>)	Regional	Category 4
Lexington-Echo Hwy. – Madison Rd. to Echo to I-84	District	Category 6
OR 244 (<i>Ukiah-Hilgard Hwy.</i>)	District	Category 6
Highway 331 (<i>Umatilla-Mission Hwy.</i>)	District	Category 6
Highway 334 (<i>Athena-Holdman Hwy.</i>)	District	Category 6
Highway 335 (<i>Havana-Helix Hwy.</i>)	District	Category 6
Highway 339 (<i>Freewater Hwy.</i>)	District	Category 6 ⁽³⁾
Highway 332 (<i>Sunnyside-Umapine Hwy.</i>)	District	Category 6 ⁽³⁾

- (1) The Regional Level of Importance and associated categories were designated in the Hermiston-Umatilla Highway 395 Corridor Land Use/Transportation Plan.
- (2) Category 4 (Urban) was recommended for OR 11 north of Milton-Freewater in the Milton-Freewater/Stateline Highway 11 Corridor Land Use and Transportation Plan.
- (3) As recommended in the Milton-Freewater/Stateline Highway 11 Corridor Land Use and Transportation Plan

1997 MAJOR STREETS INVENTORY

Umatilla County Transportation System Plan

Roadway Segment Location	Jurisdiction	Importance	Speed	Street	No. of	Passing	Shoulders							1997	
			Limit (mph)	Width (feet)	Travel Lanes	Lanes (direction)	Width (feet)	Side	Paving	On-Street Parking	Curbs	Sidewalks	Bikeway	Pavement Condition*	
Interstate-84 : OR Trail Hwy (Morrow Co. line to Union Co. line)															
<i>Direction: Southeast</i>															
MP 177.36 (Morrow Co. line) to MP 188.04	Federal	Interstate	65*	24	2	No	> 6	Both	Paved	No	No	No	No	No	Very Good
MP 188.04 to MP 218.00	Federal	Interstate	65*	24	2	No	> 6	Both	Paved	No	No	No	No	No	Good
MP 218.00 to MP 225.70	Federal	Interstate	65*	24	2	No	> 6	Both	Paved	No	No	No	No	No	Under const.
MP 225.70 to MP 229.20	Federal	Interstate	65*	24	2	No	2-4, > 6	Lt, Rt	Paved	No	No	No	No	No	Good
MP 229.20 to MP 239.65	Federal	Interstate	65*	24	2	No	> 6	Both	Paved	No	No	No	No	No	Very Good
MP 239.65 to MP 243.82 (Union Co. line)	Federal	Interstate	65*	24	2	No	2-4, > 6	Lt, Rt	Paved	No	No	No	No	No	Good
Interstate-84 (Union Co. line to Morrow Co. line)															
<i>Direction: Northwest</i>															
MP 243.82 (Union Co. line) to MP 239.65	Federal	Interstate	65*	24	2	No	2-4, > 6	Lt, Rt	Paved	No	No	No	No	No	Good
MP 239.65 to MP 237.79	Federal	Interstate	65*	24	2	No	> 6	Lt, Rt	Paved	No	No	No	No	No	Good
MP 237.79 to MP 229.20	Federal	Interstate	65*	24	2	No	> 6	Both	Paved	No	No	No	No	No	Very Good
MP 229.20 to MP 225.70	Federal	Interstate	65*	24	2	No	2-4, > 6	Both	Paved	No	No	No	No	No	Very Good
MP 225.70 to MP 218.00	Federal	Interstate	65*	24	2	No	> 6	Both	Paved	No	No	No	No	No	Under const.
MP 218.00 to MP 177.36 (Morrow Co. line)	Federal	Interstate	65*	24	2	No	> 6	Both	Paved	No	No	No	No	No	Good
Interstate-82: (OR/WA border to I-84 Jct.)															
<i>Direction: South</i>															
MP 0.00 (OR/WA border) to MP 0.40 (Bridge)	Federal	Interstate	65*	24	2	No	2-4	Both	Paved	No	No	No	No	No	Structure
MP 0.40 to MP 10.98	Federal	Interstate	65*	24	2	No	4-6, > 6	Lt, Rt	Paved	No	No	No	No	No	Good
MP 10.98 to MP 11.21 (I-84 Jct.)	Federal	Interstate	65*	20	1	No	4-6, > 6	Lt, Rt	Paved	No	No	No	No	No	Good
Interstate-82 (I-84 Jct. to OR/WA border)															
<i>Direction: North</i>															
MP 10.78 (I-84 Jct.) to MP 10.31	Federal	Interstate	65*	20	1	No	4-6, > 6	Lt, Rt	Paved	No	No	No	No	No	Good
MP 10.31 to MP 0.40	Federal	Interstate	65*	24	2	No	4-6, > 6	Lt, Rt	Paved	No	No	No	No	No	Good
MP 0.40 (Bridge) to MP 0.00 (OR/WA border)	Federal	Interstate	65*	20	1	No	2-4	Both	Paved	No	No	No	No	Rt side	Structure
* Truck speed limit is 55 mph.															
US Hwy 395 (Pendleton-John Day Hwy)															
<i>One-way Northbound Segment of Couplet</i>															
MP 1.55 to MP 0.81 (Pendleton)	State	Statewide	30	40	2	No	No	NA	NA	Both sides	Both sides	Both sides/paved	Rt side	Good	
MP 0.81 to MP 0.61	State	Statewide	30	30	2	No	No	NA	NA	Lt side	Both sides	Both sides/paved	Rt side	Good	
MP 0.61 to MP 0.24	State	Statewide	30	30	2	No	No	NA	NA	Lt side	Both sides	Lt side/paved	Rt side	Good	
MP 0.24 to MP 0.15	State	Statewide	30	30	2	No	No	NA	NA	No	Both sides	No	Rt side	Good	

1997 MAJOR STREETS INVENTORY

Umatilla County Transportation System Plan

Roadway Segment Location	Jurisdiction	Level of Importance	Speed	Street	No. of	Passing	Shoulders			On-Street			Bikeway	1997
			Limit (mph)	Width (feet)	Travel Lanes	Lanes (direction)	Width (feet)	Side	Paving	Parking	Curbs	Sidewalks		Pavement Condition*
MP 0.15 to MP 0.05	State	Statewide	25	30	2	No	No	NA	NA	No	Both sides	No	Rt side	Good
US Hwy 395 (Pendleton-John Day Hwy)														
<i>One-way Southbound Segment of Couplet</i>														
MP 0.03 to MP 0.24 (Pendleton)	State	Statewide	25	40	2	No	No	NA	NA	Both sides	Both sides	Both sides/paved	Rt side	Good
MP 0.24 to MP 0.32	State	Statewide	25	40	2	No	No	NA	NA	Both sides	Lt side	Lt side/paved	Rt side	Good
MP 0.32 to MP 0.71	State	Statewide	25	40	2	No	No	NA	NA	Both sides	Both sides	Both sides/paved	Rt side	Good
MP 0.71 to MP 0.81	State	Statewide	25	30	2	No	No	NA	NA	Lt side	Both sides	Both sides/paved	Rt side	Good
MP 0.81 to MP 1.55	State	Statewide	30	40	2	No	No	NA	NA	Both sides	Both sides	Both sides/paved	Rt side	Good
<i>Remainder of Two-way Highway Segment</i>														
MP 1.55 to MP 2.47 (Pendleton)	State	Statewide	35	70	5	No	No	NA	NA	No	Both sides	Both sides/paved	Both sides	Poor
MP 2.47 to MP 2.52	State	Statewide	45	70	5	No	No	NA	NA	No	Both sides	Both sides/paved	Both sides	Poor
MP 2.52 to MP 2.65	State	Statewide	45	40	3	No	No	NA	NA	No	Both sides	Both sides/paved	Both sides	Poor
MP 2.65 to MP 2.77	State	Statewide	55	24	2	No	> 6	Both	Paved	No	No	No	Both sides	Poor
MP 2.77 to MP 5.68	State	Statewide	55	24	2	No	4 - 6	Both	Paved	No	No	No	No	Good
MP 5.68 to MP 6.70	State	Statewide	55	36	3	Southbound	4 - 6	Both	Partial	No	No	No	No	Good
MP 6.70 to MP 11.17	State	Statewide	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Good
MP 11.17 to MP 15.01 (Pilot Rock)	State	Statewide	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Fair
MP 15.01 to MP 15.30	State	Statewide	30	48	4	No	4 - 6	Both	Partial	No	No	No	No	Fair
MP 15.30 to MP 16.20	State	Statewide	30	24	2	No	4 - 6	Both	Partial	No	No	No	No	Fair
MP 16.20 to MP 23.60	State	Statewide	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Fair
MP 23.60 to MP 32.70	State	Statewide	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Fair
MP 32.70 to MP 40.84	State	Statewide	55	36	3	Northbound	4 - 6	Both	Partial	No	No	No	No	Poor
MP 40.84 to MP 41.74	State	Statewide	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Poor
MP 41.74 to MP 50.06	State	Statewide	55	22	2	No	4 - 6	Both	Unpaved	No	No	No	No	Very Good
MP 50.06 to MP 52.24	State	Statewide	55	22	2	No	2 - 4	Both	Unpaved	No	No	No	No	Very Good
MP 52.24 to MP 56.24	State	Statewide	55	22	2	No	4 - 6	Both	Partial	No	No	No	No	Very Good
MP 56.24 to MP 63.96 (Grant Co. line)	State	Statewide	55	22	2	No	2 - 4	Both	Unpaved	No	No	No	No	Poor
US Hwy 395 (Umatilla-Stanfield Hwy)														
MP 0.04 (Umatilla) to MP 1.97	State	District	55	60	5	No	4 - 6	Both	Partial	No	No	No	No	Poor
MP 1.97 to MP 3.26	State	District	55	60	5	No	4 - 6	Both	Partial	No	Both sides	Both sides/unpaved	No	Poor
MP 3.26 to MP 4.33 (Hermiston)	State	District	45	60	5	No	No	NA	NA	No	Both sides	Both sides/unpaved	No	Poor
MP 4.33 to MP 4.77	State	District	35	60	5	No	No	NA	NA	No	Both sides	Both sides/paved	No	Poor
MP 4.77 to MP 5.87	State	District	30	60	5	No	No	NA	NA	No	Both sides	Both sides/paved	No	Poor
MP 5.87 to MP 6.03	State	District	30	70	6	No	No	NA	NA	No	Both sides	Both sides/paved	No	Poor
MP 6.03 to MP 6.26	State	District	30	60	5	No	No	NA	NA	No	Both sides	Both sides/paved	No	Good
MP 6.26 to MP 6.37	State	District	35	60	5	No	No	NA	NA	No	Both sides	Both sides/paved	No	Good
MP 6.37 to MP 6.59	State	District	45	60	5	No	No	NA	NA	No	Both sides	Both sides/paved	No	Good

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Umatilla County Transportation System Plan

Roadway Segment Location	Jurisdiction	Level of Importance	Speed	Street	No. of	Passing	Shoulders			On-Street		Sidewalks	Bikeway	1997
			Limit (mph)	Width (feet)	Travel Lanes	Lanes (direction)	Width (feet)	Side	Paving	Parking	Curbs			Pavement Condition*
MP 6.59 to MP 6.96	State	District	45	60	5	No	> 6	Both	Paved	No	No	No	No	Good
MP 6.96 to MP 9.25 (Stanfield)	State	District	55	60	5	No	> 6	Both	Paved	No	No	No	No	Good
MP 9.25 to MP 10.00	State	District	55	60	5	No	> 6	Both	Paved	No	No	No	No	Good
MP 10.00 to MP 10.48	State	District	45	60	5	No	> 6	Both	Paved	No	No	No	No	Good
MP 10.48 to MP 10.58	State	District	45	60	5	No	No	NA	NA	No	Both sides	Both sides/unpaved	No	Good
MP 10.58 to MP 10.81	State	District	45	60	5	No	No	NA	NA	No	Both sides	Both sides/unpaved	No	Good
MP 10.81 to MP 11.00	State	District	30	60	5	No	No	NA	NA	No	Both sides	Both sides/paved	No	Good
MP 11.00 to MP 11.13	State	District	30	60	5	No	No	NA	NA	Both sides	Both sides	Both sides/paved	No	Good
MP 11.13 to MP 11.27	State	District	30	60	5	No	No	NA	NA	No	Both sides	Both sides/paved	No	Good
MP 11.27 to MP 11.45	State	District	30	60	4	No	> 6	Both	Paved	No	No	No	No	Good
MP 11.45 to MP 12.50	State	District	55	60	4	No	> 6	Both	Paved	No	No	No	No	Good
MP 12.50 to MP 12.64 (I-84 Jct.)	State	District	55	45	3	No	> 6	Both	Paved	No	No	No	No	Good
US Hwy 730 (Morrow Co. line to OR/WA border)														
MP 178.70 (Morrow Co. line) to MP 182.21	State	Regional	55	24	2	No	> 6	Both	Paved	No	No	No	No	Fair
MP 182.21 to MP 182.56	State	Regional	45	24	2	No	> 6	Both	Paved	No	No	No	No	Fair
MP 182.56 to MP 182.64 (Bridge)	State	Regional	45	24	2	No	> 6	Both	Paved	No	No	No	No	Structure
MP 182.64 (Umatilla) to MP 183.61	State	Regional	25	60	3	No	No	NA	NA	Both sides	Both sides	Both sides/paved	No	Good
MP 183.61 to MP 183.87	State	Regional	35	40	3	No	4 - 6	Both	Paved	No	Both sides	Both sides/paved	No	Good
MP 183.87 to MP 184.00	State	Regional	35	40	5	No	4 - 6	Both	Paved	No	Both sides	Both sides/paved	No	Good
MP 184.00 to MP 184.30	State	Regional	35	60	5	No	> 6	Both	Paved	No	No	No	No	Good
MP 184.30 to MP 186.00	State	Regional	45	48	4	No	> 6	Both	Paved	No	No	No	No	Good
MP 186.00 to MP 203.28 (OR/WA border)	State	Regional	55	24	2	No	> 6	Both	Paved	No	No	No	No	Fair
OR Hwy 207 (Hermiston Hwy)														
MP 0.02 (US 730 Jct.) to MP 6.20 (Hermiston)	State	Regional	50	22	2	No	4 - 6	Both	Paved	No	No	No	No	Good
MP 6.20 to MP 6.60	State	Regional	35	22	2	No	4 - 6	Both	Paved	No	No	No	No	Good
MP 6.60 to MP 6.75	State	Regional	25	40	2	No	No	NA	NA	No	Both sides	Both sides/paved	No	Good
MP 6.75 to MP 7.25	State	Regional	25	40	2	No	No	NA	NA	Both sides	Both sides	Both sides/paved	No	Good
MP 7.25 to MP 7.31	State	Regional	25	60	5	No	No	NA	NA	Both sides	Both sides	Both sides/paved	No	Poor
MP 7.31 to MP 8.34	State	Regional	30	40	2	No	No	NA	NA	Both sides	Both sides	Both sides/paved	No	Poor
MP 8.34 to MP 8.43	State	Regional	30	40	3	No	No	NA	NA	No	Northbound	Northbound/paved	No	Good
MP 8.43 to MP 8.49	State	Regional	30	40	3	No	No	NA	NA	No	Both sides	Both sides/paved	No	Good
MP 8.49 to MP 9.07	State	Regional	35	24	2	No	4 - 6	Both	Paved	No	Northbound	Northbound/paved	No	Good
MP 9.07 to MP 9.57	State	Regional	50	24	2	No	> 6	Both	Paved	No	No	No	No	Good
MP 9.57 to MP 9.72	State	Regional	50	24	2	No	4 - 6	Both	Partial	No	No	No	No	Good
MP 9.72 to MP 10.84	State	Regional	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Good
MP 10.84 to MP 12.88	State	Regional	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Fair
MP 12.88 to MP 17.81 (Lex./Echo Hwy Jct.)	State	Regional	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Very Good

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Umatilla County Transportation System Plan

Roadway Segment Location	Jurisdiction	Level of Importance	Speed	Street	No. of	Passing	Shoulders			On-Street			1997 Pavement Condition*	
			Limit (mph)	Width (feet)	Travel Lanes	Lanes (direction)	Width (feet)	Side	Paving	Parking	Curbs	Sidewalks		Bikeway
Lexington-Echo Hwy														
MP 19.88 (Morrow Co. line) to MP 27.20	State	Regional	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Good
MP 27.20 to MP 35.17 (Echo)	State	Regional	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Fair
MP 35.17 to MP 35.45	State	District	25	24	2	No	4 - 6	Both	Partial	No	No	No	No	Fair
MP 35.45 to MP 35.60	State	District	25	40	2	No	No	NA	NA	Both sides	Both sides	Both sides/paved	No	Fair
MP 35.60 to MP 35.87	State	District	25	24	2	No	4 - 6	Both	Partial	No	No	No	No	Fair
MP 35.87 to MP 35.92	State	District	25	24	2	No	4 - 6	West	Partial	No	No	Northbound/paved	No	Fair
MP 35.92 to MP 36.26	State	District	25	24	2	No	4 - 6	Both	Partial	No	No	No	No	Fair
MP 36.26 to MP 40.25 (I-84 Jct.)	State	District	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Fair
OR Hwy 37 (Columbia River to Pendleton Hwy Jct.)														
MP 0.35 to MP 0.87 (Unpaved gravel road)	State	District	55	20	2	No	No	NA	NA	No	No	No	No	Fair
MP 0.87 (Begin pavement) to MP 1.18	State	District	55	22	2	No	4 - 6	Both	Unpaved	No	No	No	No	Fair
MP 1.18 to MP 6.54	State	District	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Good
MP 6.54 to MP 8.54	State	District	55	24	2	No	4 - 6	Both	Unpaved	No	No	No	No	Poor
MP 8.54 to MP 15.00	State	District	55	22	2	No	4 - 6	Both	Unpaved	No	No	No	No	Poor
MP 15.00 to MP 16.35	State	District	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Good
MP 16.35 to MP 27.77	State	District	55	22	2	No	4 - 6	Both	Unpaved	No	No	No	No	Poor
MP 27.77 to MP 30.30 (Pendleton)	State	District	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Good
MP 30.30 to MP 30.75 (Pendleton Hwy Jct.)	State	District	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Good
OR Hwy 74 (Morrow Co. line to US Hwy 395 Jct.)														
MP 72.70 (Morrow Co. line) to MP 76.63	State	District	55	20	2	No	4 - 6	Both	Unpaved	No	No	No	No	Fair
MP 76.63 (Vinson) to MP 76.67	State	District	35	20	2	No	4 - 6	Both	Unpaved	No	No	No	No	Fair
MP 76.77 to MP 77.47	State	District	55	20	2	No	4 - 6	Both	Unpaved	No	No	No	No	Fair
MP 77.47 to MP 83.15 (US Hwy 395 Jct.)	State	District	55	20	2	No	2 - 4	Both	Unpaved	No	No	No	No	Fair
OR Hwy 244 (US Hwy 395 Jct. to Union Co. line)														
MP 0.00 (US Hwy 395 Jct.) to MP 1.04 (Ukiah)	State	District	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Good
MP 1.04 to MP 1.38	State	District	35	24	2	No	> 6	Both	Paved	Both sides	No	No	No	Good
MP 1.38 to MP 2.45	State	District	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Good
MP 2.45 to MP 15.00	State	District	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Fair
MP 15.00 to MP 20.16	State	District	55	22	2	No	4 - 6	Both	Partial	No	No	No	No	Fair
MP 20.16 to MP 23.54 (Union Co. line)	State	District	55	22	2	No	4 - 6	Both	Partial	No	No	No	No	Good
OR Hwy 11 (I-84 Jct. to OR/WA border)														

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Roadway Segment Location	Jurisdiction	Level of Importance	Speed	Street	No. of	Passing	Shoulders			On-Street Parking	Curbs	Sidewalks	Bikeway	1997
			Limit (mph)	Width (feet)	Travel Lanes	Lanes (direction)	Width (feet)	Side	Paving					Pavement Condition*
MP -1.77 (I-84 Jct.) to MP -1.39 (Pendleton)	State	Statewide	45	20	1	No	4 - 6	Both	Partial	No	No	No	No	Poor
MP -1.39 to MP -0.86	State	Statewide	40	48	4	No	No	NA	NA	No	Both sides	No	No	Poor
MP -0.86 to MP -0.74	State	Statewide	25	48	4	No	No	NA	NA	No	Both sides	No	No	Poor
MP -0.74 to MP -0.68	State	Statewide	25	24	2	No	No	NA	NA	No	Both sides	Both sides/paved	No	Poor
MP -0.68 to MP -0.51 (Bridge)	State	Statewide	25	24	2	No	No	NA	NA	No	Both sides	Both sides/paved	No	Poor
MP -0.51 to MP -0.43	State	Statewide	30	36	3	No	No	NA	NA	No	Both sides	No	No	Poor
MP -0.43 to MP -0.28	State	Statewide	30	36	3	No	No	NA	NA	No	Both sides	Both sides/paved	No	Poor
MP -0.28 to MP 0.13	State	Statewide	30	36	3	No	No	NA	NA	No	Both sides	Southbound/paved	No	Poor
MP 0.13 to MP 0.34	State	Statewide	30	36	3	No	No	NA	NA	No	Both sides	Both sides/paved	No	Fair
MP 0.34 to MP 0.52	State	Statewide	45	48	4	No	> 6	Both	Paved	No	No	No	No	Fair
MP 0.52 to MP 1.81	State	Statewide	55	36	3	Northbound	4 - 6	Both	Partial	No	No	No	No	Good
MP 1.81 to MP 11.02	State	Statewide	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Good
MP 11.02 to MP 16.79	State	Statewide	55	24	2	No	> 6	Both	Partial	No	No	No	No	Poor
MP 16.79 to MP 16.96	State	Statewide	55	36	3	Northbound	> 6	Both	Partial	No	No	No	No	Good
MP 16.96 to MP 17.78	State	Statewide	55	36	3	Northbound	4 - 6	Both	Partial	No	No	No	No	Good
MP 17.78 to MP 19.07	State	Statewide	55	24	2	No	> 6	Both	Paved	No	No	No	No	Good
MP 19.07 to MP 20.57	State	Statewide	55	48	4	Both	> 6	Both	Paved	No	No	No	No	Good
MP 20.57 to MP 21.80	State	Statewide	55	36	3	Southbound	> 6	Both	Paved	No	No	No	No	Good
MP 21.80 to MP 22.15	State	Statewide	55	24	2	No	> 6	Both	Paved	No	No	No	No	Good
MP 22.15 to MP 22.76	State	Statewide	55	36	3	Northbound	> 6	Both	Paved	No	No	No	No	Good
MP 22.76 to MP 25.24	State	Statewide	55	24	2	No	> 6	Both	Paved	No	No	No	No	Good
MP 25.24 to MP 26.73	State	Statewide	55	36	3	Southbound	> 6	Both	Paved	No	No	No	No	Good
MP 26.73 to MP 26.90 (Milton-Freewater)	State	Statewide	25	36	3	Southbound	> 6	Both	Paved	No	No	No	No	Good
MP 26.90 to MP 30.74	State	Statewide	25	48	4	No	No	NA	NA	Both sides	Both sides	Both sides/paved	No	Under const.
MP 30.74 to MP 31.28	State	Statewide	35	60	5	No	No	NA	NA	Both sides	Both sides	Both sides/paved	No	Under const.
MP 31.28 to MP 31.90	State	Statewide	50	60	5	No	> 6	Both	Paved	No	Both sides	Both sides/paved	No	Under const.
MP 31.90 to MP 33.95	State	Statewide	50	60	5	No	> 6	Both	Paved	No	Both sides	Both sides/unpaved	No	Under const.
MP 33.95 to MP 35.32 (OR/WA border)	State	Statewide	50	60	5	No	> 6	Both	Paved	No	Both sides	Both sides/unpaved	No	Under const.
OR Hwy 204 (OR Hwy 11 Jct. to Union Co. line)														
MP -1.34 (OR Hwy 11 Jct.) to MP -0.22	State	Regional	55	24	2	No	4 - 6	Both	Paved	No	No	No	No	Fair
MP -0.22 to MP -0.03	State	Regional	55	22	2	No	4 - 6	Both	Partial	No	No	No	No	Fair
MP -0.03 to MP 5.55	State	Regional	55	36	3	Southbound	4 - 6	Both	Partial	No	No	No	No	Fair
MP 5.55 to MP 10.69	State	Regional	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Good
MP 10.69 to MP 20.75	State	Regional	55	22	2	No	4 - 6	Both	Partial	No	No	No	No	Poor
MP 20.75 to MP 21.15 (Union Co. line)	State	Regional	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Fair
Umatilla-Mission Hwy (OR Hwy 11 Jct. to I-84 Jct.)														
MP 0.00 (OR Hwy 11 Jct.) to MP 4.18	State	District	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Fair

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Roadway Segment Location	Jurisdiction	Importance	Speed	Street	No. of	Passing	Shoulders			On-Street				1997
			Limit (mph)	Width (feet)	Travel Lanes	Lanes (direction)	Width (feet)	Side	Paving	Parking	Curbs	Sidewalks	Bikeway	Pavement Condition*
MP 4.18 to MP 4.84 (I-84 Jct.)	State	District	55	24	2	No	4 - 6	Both	Partial	No	No	No	No	Very Good
Havana-Helix Hwy (Helix city limits to OR Hwy 11)														
MP 0.00 (Helix) to MP 9.79 (OR Hwy 11 Jct.)	State	District	55	20	2	No	2 - 4	Both	Partial	No	No	No	No	Fair
Sunnyside-Umapine Hwy (OR border to OR Hwy 11)														
MP 0.00 (OR/WA border) to MP 1.92	State	District	55	20	2	No	2 - 4	Both	Unpaved	No	No	No	No	Good
MP 1.92 to MP 2.04	State	District	25	20	2	No	4 - 6	Both	Unpaved	No	No	No	No	Good
MP 2.04 to MP 7.93 (OR Hwy 11 Jct.)	State	District	55	20	2	No	4 - 6	Both	Unpaved	No	No	No	No	Good
Athena-Holdman Hwy (OR Hwy 37 to OR Hwy 11)														
MP 0.00 (OR Hwy 37 Jct.) to MP 8.52	State	District	55	22	2	No	4 - 6	Both	Partial	No	No	No	No	Good
MP 8.52 to MP 17.00 (Athena)	State	District	55	22	2	No	2 - 4	Both	Partial	No	No	No	No	Fair
MP 17.00 to MP 17.10	State	District	25	22	2	No	No	NA	NA	No	No	No	No	Fair
MP 17.10 to MP 17.15	State	District	20	22	2	No	No	NA	NA	No	No	No	No	Fair
MP 17.15 to MP 17.28	State	District	20	40	2	No	No	NA	NA	Both sides	No	South side/paved	No	Poor
MP 17.28 to MP 17.47	State	District	20	40	2	No	No	NA	NA	Both sides	Both sides	Both sides/paved	No	Poor
MP 17.47 to MP 17.63	State	District	20	24	2	No	4 - 6	Both	Partial	No	No	No	No	Poor
MP 17.63 to MP 18.16 (OR Hwy 11 Jct.)	State	District	20	24	2	No	4 - 6	Both	Partial	No	No	No	No	Poor
Freewater Hwy (OR border to OR Hwy 11)														
MP 0.00 (OR/WA border) to MP 0.16	State	District	40	22	2	No	4 - 6	Both	Partial	No	No	No	No	Good
MP 0.16 to MP 1.41 (Ferndale)	State	District	40	22	2	No	4 - 6	Both	Unpaved	No	No	No	No	Good
MP 1.41 to MP 2.18 (Sunnyside)	State	District	40	22	2	No	4 - 6	Both	Unpaved	No	No	No	No	Good
MP 2.18 to MP 3.43 (Milton-Freewater)	State	District	40	22	2	No	4 - 6	Both	Unpaved	No	No	No	No	Good
MP 3.43 to MP 3.92	State	District	25	22	2	No	4 - 6	Both	Unpaved	No	No	No	No	Good
MP 3.92 to MP 4.12	State	District	25	40	2	No	No	NA	NA	Both sides	Both sides	Both sides/paved	No	Good
MP 4.12 to MP 4.45	State	District	20	40	2	No	No	NA	NA	Both sides	Both sides	Both sides/paved	No	Good
MP 4.45 to MP 4.72	State	District	25	40	2	No	No	NA	NA	No	Both sides	Both sides/paved	No	Poor
MP 4.72 to MP 4.88	State	District	25	48	4	No	No	NA	NA	Both sides	Both sides	Both sides/paved	No	Poor
MP 4.88 to MP 5.18	State	District	25	40	2	No	No	NA	NA	Both sides	Both sides	Both sides/paved	No	Poor
MP 5.18 to MP 5.25 (OR Hwy 11 Jct.)	State	District	25	48	4	No	No	NA	NA	No	Both sides	Both sides/paved	No	Poor

* Pavement condition information for is from the 1997 ODOT Pavement Condition Report.

Appendix C:

Access Management Standards

Access Management Spacing Standards

The following tables show the access spacing standards for the access management classifications listed in Goal 3, Policy 3A: Classification and Spacing Criteria, Action 3A.1.

INTERCHANGE SPACING ^①		
Access Management Classification	Area	Interchange Spacing ^②
Interstate* and Non-Interstate Freeways (NHS)	Urban	3 miles (5 kilometers)
	Rural	6 miles (10 kilometers)
All Expressways on Statewide (NHS), Regional and District Highways	Urban	1.9 miles (3 kilometers)
	Rural	3 miles (5 kilometers)

Table 12: Interchange spacing

Notes for Table 12:

* Interstate interchange spacing must be in conformance with federal policy.

① The spacing standards in Table 12 are for planning and design of new interchanges on freeways or expressways. A major deviation study is required to change these standards, but the deviation should consider the spacing requirements in the Interchange Access Management Area Tables 16-19.

② Crossroad to crossroad centerline distance.

SPACING STANDARDS FOR STATEWIDE HIGHWAYS①②						
Posted Speed③	Rural		Urban			
	Expressway**	Other	Expressway**	Other	UBA	STA
≥55	5280	1320	2640	1320		
50	5280	1100	2640	1100		
40 & 45	5280	990	2640	990		
30 & 35		770		770	720	④
≤25		550		550	520	④

Table 13: Access management spacing standards for statewide highways
(measurement is in feet)*

Notes for Table 13:

Note: The numbers in circles (④) refer to explanatory notes that follow tables.

* Measurement of the approach road spacing is from center to center on the same side of the roadway.

** Spacing for Expressway at-grade intersections only. See Table 12 for interchange spacing.

SPACING STANDARDS FOR REGIONAL HIGHWAYS①②						
Posted Speed③	Rural		Urban			
	Expressway**	Other	Expressway**	Other	UBA	STA
≥55	5280	990	2640	990		
50	5280	830	2640	830		
40 & 45	5280	750	2640	750		
30 & 35		600		600	425	④
≤25		450		450	350	④

Table 14: Access management spacing standards for regional highways
(measurement is in feet)*

Notes for Table 14:

Note: The numbers in circles (④) refer to explanatory notes that follow tables.

* Measurement of the approach road spacing is from center to center on the same side of the roadway.

** Spacing for Expressway at-grade intersections only. See Table 12 for interchange spacing.

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SPACING STANDARDS FOR DISTRICT HIGHWAYS ^{①②}						
Posted Speed ^③	Rural		Urban			
	Expressway ^{**}	Other	Expressway ^{**}	Other	UBA	STA ^④
≥55	5280	700	2640	700		
50	5280	550	2640	550		
40 & 45	5280	500	2640	500		
30 & 35		400		400	350	④
≤25		400		400	350	④

Table 15: Access management spacing standards for district highways
(measurement is in feet)*

Notes for Table 15:

Note: The numbers in circles (②) refer to explanatory notes that follow tables.

* Measurement of the approach road spacing is from center to center on the same side of the roadway.

** Spacing for Expressway at-grade intersections only. See Table 12 for interchange spacing.

Notes on Tables 13, 14 and 15:

- ① Where a right of access exists, access will be allowed to a property at less than the designated spacing standard only if that property does not have reasonable access and the designated spacing cannot be accomplished. If possible, other options should be considered such as joint access.

Where the right of access exists, the number of approach roads (driveways) to a single property shall be limited to one, even when the property frontage exceeds the spacing standards. More than one approach road may be considered if, in the judgment of the Region Access Management Engineer, additional approach roads are necessary to accommodate and service the traffic to a property, and additional approach roads will not interfere with driver expectancy and the safety of the through traffic on the highway.

Approach roads shall be located where they do not create undue interference or hazard to the free movement of normal highway or pedestrian traffic. Locations on sharp curves, steep grades, areas of restricted sight distance or at points which interfere with the placement and proper functioning of traffic control signs, signals, lighting or other devices that affect traffic operation will not be permitted.

If a property becomes landlocked (no reasonable access exists) because an approach road cannot be safely constructed and operated, and all other alternatives have been explored and rejected, ODOT might be required to purchase the property. (Note: If a hardship is self-inflicted, such as by partitioning or subdividing a property, ODOT does not have responsibility for purchasing the property.)

(Note ① has precedence over notes ②, ③ and ④.)

- ② These standards are for unsignalized access points only. Signal spacing standards supersede spacing standards for approaches.
- ③ Posted (or Desirable) Speed: Posted speed can only be adjusted (up or down) after a speed study is conducted and that study determines the correct posted speed to be different than the current posted speed. In cases where actual speeds are suspected to be much higher than posted speeds, ODOT reserves the right to adjust the access spacing accordingly. A determination can be made to go to longer spacing standards as appropriate for a higher speed. A speed study will need to be conducted to determine the correct speed.
- ④ Minimum spacing for public road approaches is either the existing city block spacing or the city block spacing as identified in the local comprehensive plan. Public road connections are preferred over private driveways, and in STAs driveways are discouraged. However, where driveways are allowed and where land use patterns permit, the minimum spacing for driveways is 175 feet (55 meters) or mid-block if the current city block spacing is less than 350 feet (110 meters).

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Access Management Spacing Standards for Interchanges

The following tables show the access spacing standards for interchanges as discussed in Goal 3, Policy 3C: Interchange Access Management Areas.

STANDARDS FOR FREEWAY INTERCHANGES WITH TWO-LANE CROSSROADS					
Category of Mainline	Type of Area	Spacing Dimension			
		A	X	Y	Z
FREEWAY	Fully Developed Urban	1 mi. (1.6 km)	750 ft. (230 m)	1320 ft. (400 m)	750 ft. (230 m)
	Urban	1 mi. (1.6 km)	1320 ft. (400 m)	1320 ft. (400 m)	990 ft. (300 m)
	Rural	2 mi. (3.2 km)	1320 ft. (400 m)	1320 ft. (400 m)	1320 ft. (400 m)

Table 16: Minimum spacing standards applicable to freeway interchanges with two-lane crossroads

Notes for Table 16:

1. If the crossroad is a state highway, these distances may be superseded by the Access Management Spacing Standards, providing the distances are greater than the distances listed in the above table.
2. No four-legged intersections may be placed between ramp terminals and the first major intersection.

A = Distance between the start and end of tapers of adjacent interchanges

X = Distance to the first approach on the right; right in/right out only

Y = Distance to first major intersection; no left turns allowed in this roadway section

Z = Distance between the last right in/right out approach road and the start of the taper for the on-ramp

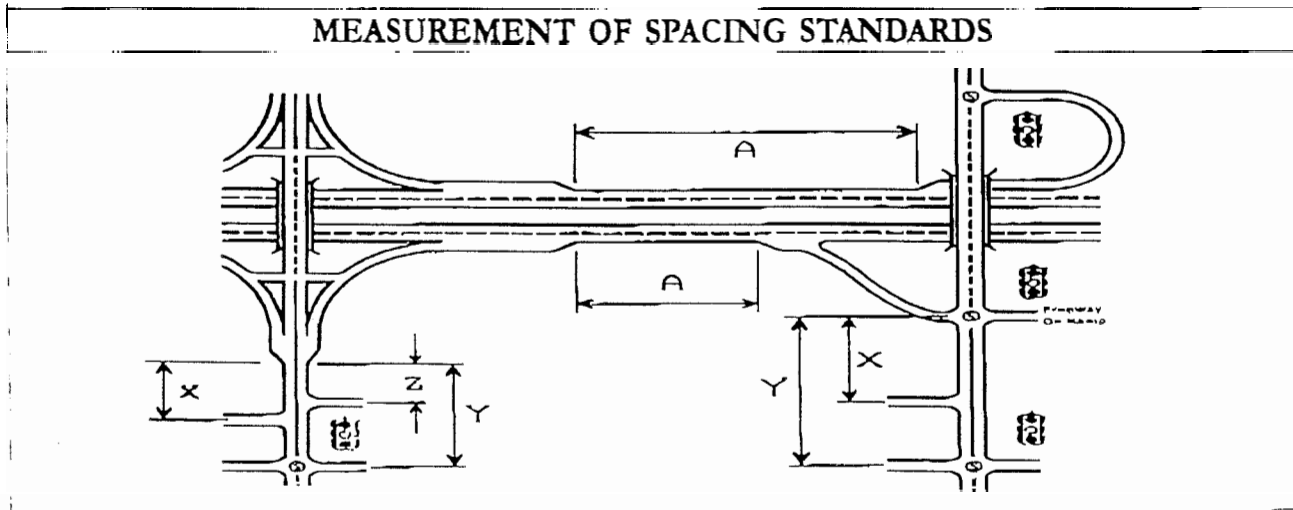


Figure 18: Measurement of spacing standards for table 16

STANDARDS FOR FREEWAY INTERCHANGES WITH MULTI-LANE CROSSROADS						
Category of Mainline	Type of Area	Spacing Dimension				
		A	X	Y	Z	M
FREEWAY	Fully Developed Urban	1 mi. (1.6 km)	750 ft. (230 m)	1320 ft. (400 m)	990 ft. (300 m)	1320 ft. (400 m)
	Urban	1 mi. (1.6 km)	1320 ft. (400 m)	1320 ft. (400 m)	1320 ft. (400 m)	1320 ft. (400 m)
	Rural	2 mi. (3.2 km)	1320 ft. (400 m)	1320 ft. (400 m)	1320 ft. (400 m)	1320 ft. (400 m)

Table 17: Minimum spacing standards applicable to freeway interchanges with multi-lane crossroads

Notes for Table 17:

1. If the crossroad is a state highway, these distances may be superseded by the Access Management Spacing Standards, providing the distances are greater than the distances listed in the above table.
2. No four-legged intersections may be placed between ramp terminals and the first major intersection.

A = Distance between the start and end of tapers of adjacent interchanges

X = Distance to first approach on the right; right in/right out only

Y = Distance to first major intersection

Z = Distance between the last approach road and the start of the taper for the on-ramp

M = Distance to first directional median opening. No full median openings are allowed in nontraversable medians to the first major intersection

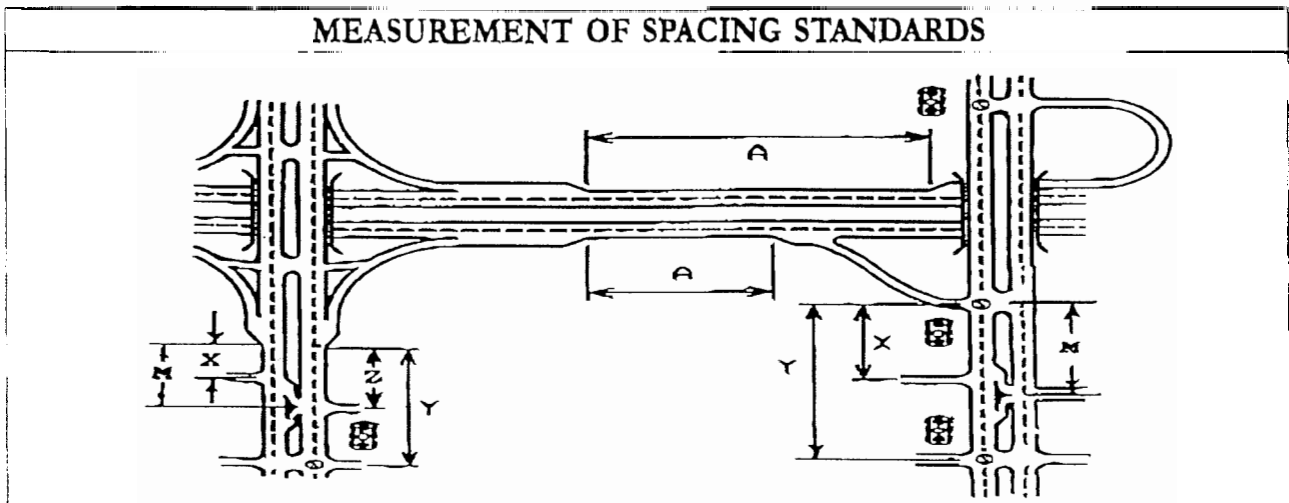


Figure 19: Measurement of spacing standards for table 17

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STANDARDS FOR NON-FREEWAY INTERCHANGES WITH TWO-LANE CROSSROADS							
Category of Mainline	Type of Area	Speed of Mainline	Spacing Dimension				
			B	C	X	Y	Z
EXPRESSWAY	Fully Developed Urban	45 mph (70 kph)	2640 ft. (800 m)	1 mi. (1.6 km)	750 ft (230 m)	1320 ft (400 m)	750 ft. (230 m)
	Urban	45 mph (70 kph)	2640 ft. (800 m)	1 mi. (1.6 km)	1320 ft. (400 m)	1320 ft. (400 m)	990 ft. (300 m)
	Rural	55 mph (90 kph)	1 mi. (1.6 km)	2 mi. (3.2 km)	1320 ft. (400 m)	1320 ft. (400 m)	1320 ft. (400 m)

Table 18: Minimum spacing standards applicable to non-freeway interchanges with two-lane crossroads

Notes for Table 18:

1. If the crossroad is a state highway, these distances may be superseded by the Access Management Spacing Standards, providing the distances are greater than the distances listed in the above table.
2. No four-legged intersections may be placed between ramp terminals and the first major intersection.
3. Use four-lane crossroad standards for urban and suburban locations that are likely to be widened.
4. No at-grade intersections are permitted between interchanges less than 5 miles apart.

B = Distance between the start and end of tapers

C = Distance between nearest at-grade and ramp terminal intersections or the end/start of the taper section

X = Distance to first approach on the right; right in/right out only

Y = Distance to first major intersection

Z = Distance between the last right in/right out approach road and the start of the taper for the on-ramp

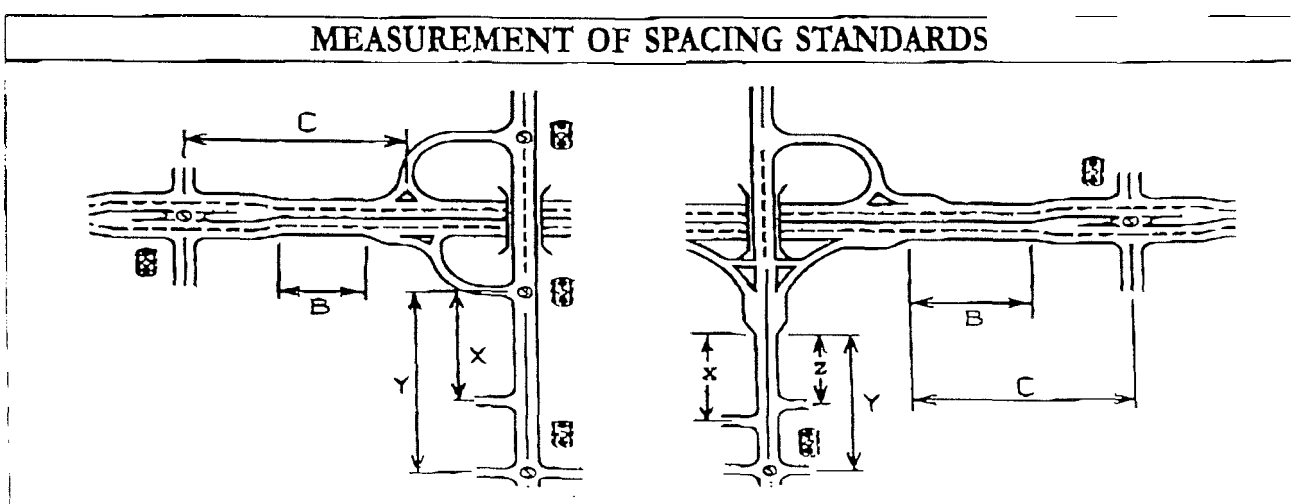


Figure 20: Measurement of spacing standards for table 18

STANDARDS FOR NON-FREEWAY INTERCHANGES WITH MULTI-LANE CROSSROADS

Category of Mainline	Type of Area	Speed of Mainline	Spacing Dimension					
			B	C	X	Y	Z	M
EXPRESSWAY	Fully Developed Urban	45 mph (70 kph)	2640 ft. (800 m)	1 mi. (1.6 km)	750 ft. (230 m)	1320 ft. (400 m)	990 ft. (300 m)	1320 ft. (400 m)
	Urban	45 mph (70 kph)	2640 ft. (800 m)	1 mi. (1.6 km)	1320 ft. (400 m)	1320 ft. (400 m)	1320 ft. (400 m)	1320 ft. (400 m)
	Rural	55 mph (90 kph)	1 mi. (1.6 km)	2 mi. (3.2 km)	1320 ft. (400 m)	1320 ft. (400 m)	1320 ft. (400 m)	1320 ft. (400 m)

Table 19: Minimum spacing standards applicable to non-freeway interchanges with multi-lane crossroads

Notes for Table 19:

1. If the crossroad is a state highway, these distances may be superseded by the Access Management Spacing Standards, providing the distances are greater than the distances listed in the above table.
2. No four-legged intersections may be placed between ramp terminals and the first major intersection.
3. No at-grade intersections are permitted between interchanges less than 5 miles apart.

B = Distance between the start and end of tapers

C = Distance between nearest at-grade and ramp terminal intersections or the end/start of the taper section

X = Distance to first approach on the right; right in/right out only

Y = Distance to first major intersection

Z = Distance between the last approach road and the start of the taper for the on-ramp

M = Distance to first directional median opening. No full median openings are allowed in nontraversable medians to the first major intersection

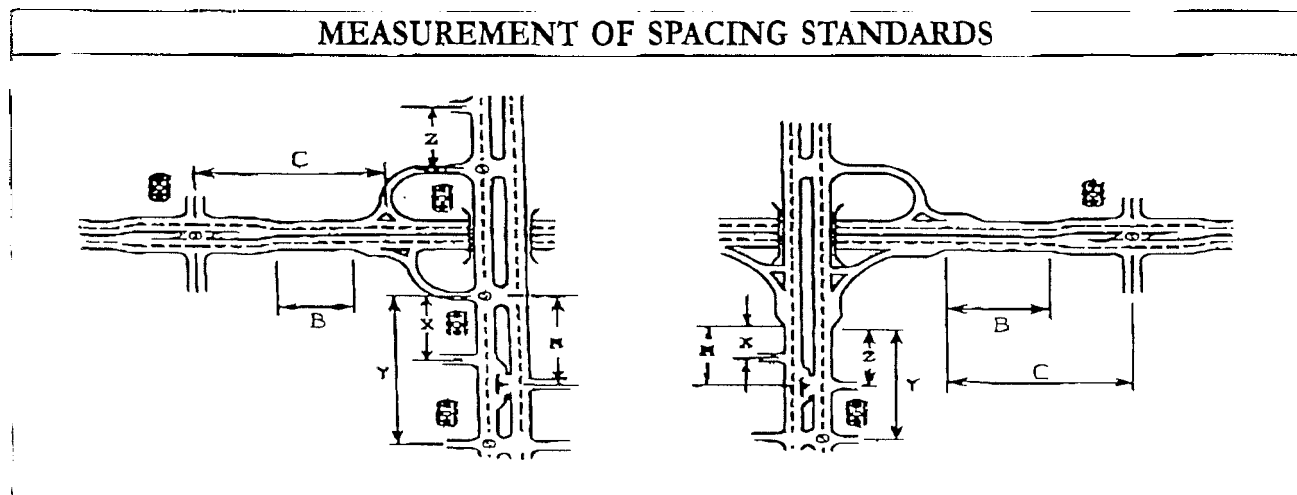


Figure 21: Measurement of spacing standards for table 19

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Access Management Spacing Standard Minor Deviation Limits

The following tables show the access management spacing standard minor deviation limits for the access management classifications listed in Goal 3, Policy 3A: Classification Spacing Criteria, Action 3A.1. The Access Management Spacing Standards are shown in Tables 13, 14 and 15 of this Appendix. Minor deviations may be considered down to the deviation limits shown in Tables 20, 21 and 22. Any request to deviate beyond these limits is considered a major deviation.

SPACING MINOR DEVIATION LIMITS FOR STATEWIDE HIGHWAYS ①②						
Posted Speed③	Rural		Urban			
	Expressways	Other	Expressways	Other	UBA	STA
≥55	(none)	(950)	(none)	(870)		
	[none]	[1150]	[none]	[1000]		
50	(none)	(700)	(none)	(640)		
	[none]	[900]	[none]	[810]		
40 & 45	(none)	(560)	(none)	(530)		
	[none]	[810]	[none]	[740]		
30 & 35		(400)		(350)	(350)	④
		[675]		[600]	[600]	
≤25		(280)		(250)	(250)	④
		[525]		[400]	[400]	

Table 20: Access management spacing standard minor deviation limits for statewide highways
(measurement is in feet)*

Notes for Table 20:

Note: The numbers in circles (②) refer to explanatory notes that follow the tables.

* Measurement of the approach road spacing is from center to center on the same side of the roadway.

** Spacing for Expressway at-grade intersections only. See Table 12 for interchange spacing.

() = Driveway spacing minor deviation limit.

[] = Public street spacing minor deviation limit.

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SPACING MINOR DEVIATION LIMITS FOR REGIONAL HIGHWAYS ①②						
Posted Speed③	Rural		Urban		U/BA	S/TA
	Expressways④	Other	Expressways④	Other		
≥55	(none)	(700)	(none)	(700)		
	[none]	[870]	[none]	[870]		
50	(none)	(540)	(none)	(540)		
	[none]	[640]	[none]	[640]		
40 & 45	(none)	(460)	(none)	(460)		
	[none]	[550]	[none]	[550]		
30 & 35		(300)		(300)	(300)	④
		[375]		[375]	[375]	
≤25		(220)		(220)	(220)	④
		[350]		[350]	[350]	

Table 21: Access management spacing standard minor deviation limits for regional highways
(measurement is in feet)*

Notes for Table 21:

Note: The numbers in circles (②) refer to explanatory notes that follow the tables.

* Measurement of the approach road spacing is from center to center on the same side of the roadway.

** Spacing for Expressway at-grade intersections only. See Table 12 for interchange spacing.

(____) = Driveway spacing minor deviation limit.

[____] = Public street spacing minor deviation limit.

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SPACING MINOR DEVIATION LIMITS FOR DISTRICT HIGHWAYS ①②						
Posted Speed③	Rural			Urban		
	Expressways **	Other	Expressways **	Other	UBA	SLA
≥55	(none)	(650)	(none)	(650)		
	[none]	[660]	[none]	[660]		
50	(none)	(475)	(none)	(475)		
	[none]	[525]	[none]	[525]		
40 & 45	(none)	(400)	(none)	(400)		
	[none]	[475]	[none]	[475]		
30 & 35		(275)		(275)	(250)	④
		[325]		[325]	[300]	
≤25		(200)		(200)	(175)	④
		[245]		[245]	[200]	

Table 22: Access management spacing standard minor deviation limits for district highways
(measurement is in feet)*

Notes for Table 22:

Note: The numbers in circles (②) refer to explanatory notes that follow the tables.

* Measurement of the approach road spacing is from center to center on the same side of the roadway.

** Spacing for Expressway at-grade intersections only. See Table 12 for interchange spacing.

() = Driveway spacing minor deviation limit.

[] = Public street spacing minor deviation limit.

Notes on Tables 20, 21 and 22:

- ① Where a right of access exists, access will be allowed to a property at less than minor deviation limits only if that property does not have reasonable access and the minor deviation limits cannot be accomplished. If possible, other options should be considered, such as joint access.

Where the right of access exists, the number of approach roads (driveways) to a single property shall be limited to one, even when the property frontage exceeds the spacing standards. More than one approach road may be considered if, in the judgment of the Region Access Management Engineer, additional approach roads are necessary to accommodate and service the traffic to a property, and additional approach roads will not interfere with driver expectancy and the safety of the through traffic on the highway.

Approach roads shall be located where they do not create undue interference or hazard to the free movement of normal highway or pedestrian traffic. Locations on sharp curves, steep grades, areas of restricted sight distance or at points which interfere with the placement and proper functioning of traffic control signs, signals, lighting or other devices that affect traffic operation will not be permitted.

If a property becomes landlocked (no reasonable access exists) because an approach road cannot be safely constructed and operated, and all other alternatives have been explored and rejected, ODOT might be required to purchase the property. (Note: If a hardship is self-inflicted, such as by partitioning or subdividing a property, ODOT does not have responsibility for purchasing the property.)

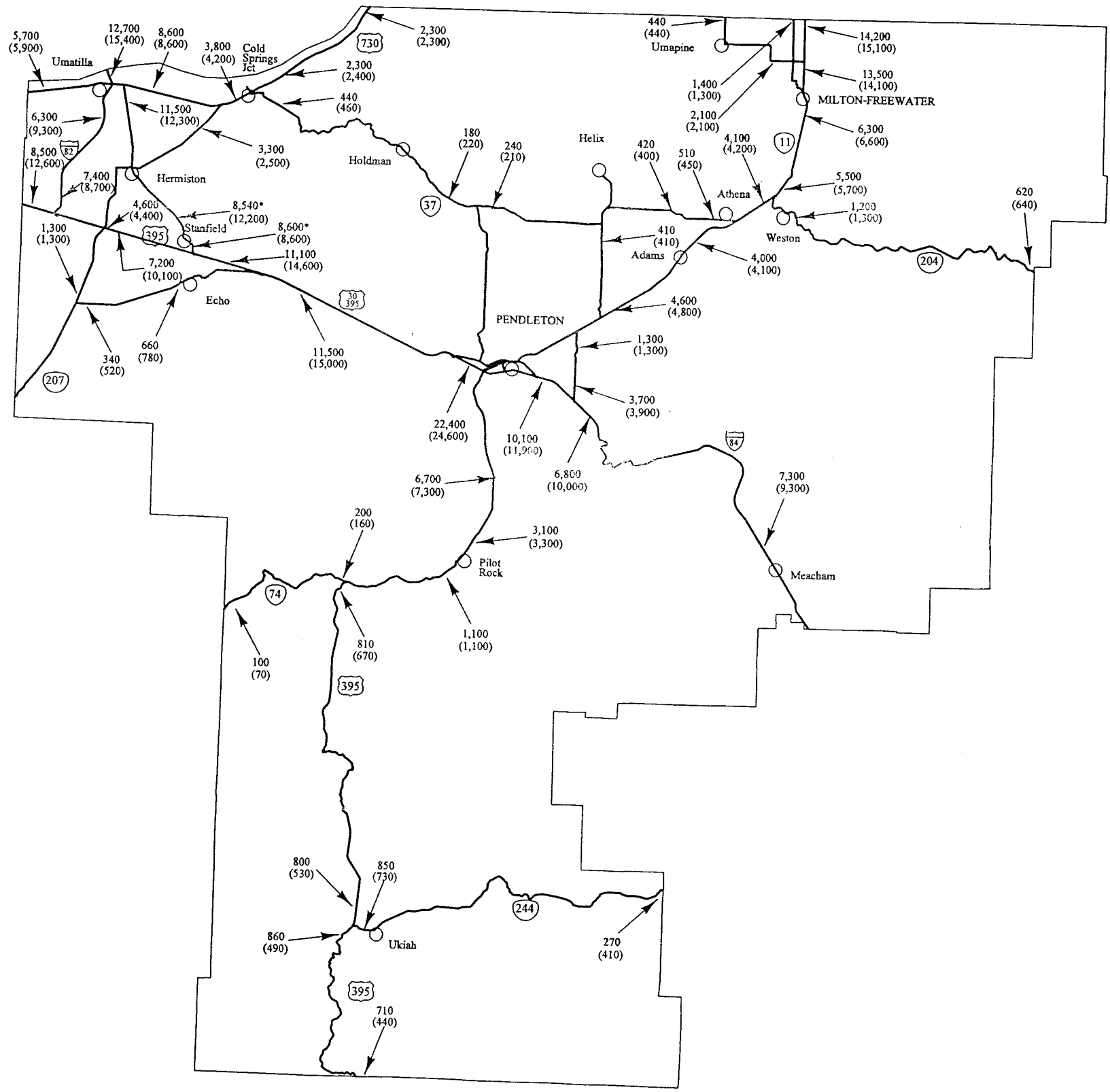
(Note ① has precedence over notes ②, ③ and ④.)


- ② These standards are for unsignalized access points only. Signal spacing standards supersede spacing standards for approaches.
- ③ Posted (or Desirable) Speed: Posted speed can only be adjusted (up or down) after a speed study is conducted and that study determines the correct posted speed to be different than the current posted speed. In cases where actual speeds are suspected to be much higher than posted speeds, ODOT reserves the right to adjust the access spacing accordingly. A determination can be made to go to longer spacing standards as appropriate for a higher speed. A speed study will need to be conducted to determine the correct speed.
- ④ Minimum spacing for public road approaches is either the existing city block spacing or the city block spacing as identified in the local comprehensive plan. Public road connections are preferred over private driveways, and in STAs driveways are discouraged. However, where driveways are allowed and where land use patterns permit, the minimum spacing for driveways is 55 meters (175 feet), or mid-block if the current city block spacing is less than 110 meters (350 feet).


**APPENDIX D: UMATILLA COUNTY POPULATION DISCUSSION,
POTENTIAL DEVELOPMENT IMPACT ANALYSIS,
AND POTENTIAL DEVELOPMENT IMPACT ANALYSIS**

APPENDIX C
TRAFFIC VOLUMES ALONG COUNTY ROADS, US FOREST SERVICE ROADS, AND
BUREAU OF LAND MANAGEMENT ROADS

UMCO0001/UMAT4-1.DGN/INT/07-07-98




DAVID EVANS AND ASSOCIATES, INC.
 2828 S.W. CORBETT AVENUE
 PORTLAND, OR. 97201-4830 (503) 223-6663


 NORTH
 (NOT TO SCALE)

LEGEND:
X,XXX = 1996 ADT VOLUMES
*X,XXX** = 1998 ADT VOLUMES
 (X,XXX) = 1999 ADT VOLUMES

FIGURE B-1
 Existing Average Daily
 Traffic Volumes
 -Umatilla County

US FOREST SERVICE ROADS

The US Forest Service currently has jurisdiction over 1,658 miles of differing types of roads in Umatilla County. Most of them are located in the Umatilla and Wallowa-Whitman National Forests and are made of gravel in the rural areas. The primary function of these roads is to provide access for logging trucks and recreational vehicles to all the different parts of the forest lands.

The Forest Service is not a public road agency; therefore, responsibilities and liabilities are not the same as those of the county and state. Road closures in some areas may be imminent with continuing reductions in federal budgets. Priority routes are determined by recreational and commercial uses.

Maintenance Levels

The Forest Service utilizes five different maintenance levels which are operational and objective in nature. These levels are identified as follows:

- Maintenance Level 1 – Assigned to intermittent service roads during the time they are closed to vehicular traffic. The closure period must exceed one year. Basic custodial maintenance is performed to keep damage to adjacent resources to an acceptable level and to perpetuate the road to facilitate future management activities. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level. Appropriate traffic management strategies are “prohibit” and “eliminate.”
- Maintenance Level 2 – Assigned to roads open for use by high clearance vehicles. Passenger car traffic is not a consideration. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other specified uses. Log haul may occur at this level. Appropriate traffic management strategies are either to (1) discourage or prohibit passenger cars or (2) accept or discourage high clearance vehicles.
- Maintenance Level 3 – Assigned to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities. Roads in this maintenance level are typically low speed, single lane with turnouts and spot surfacing. Some roads may be fully surfaced with either native or processed material. Appropriate traffic management strategies are either “encourage” or “accept”. “Discourage” or “prohibit” strategies may be employed for certain classes of vehicles or users.
- Maintenance Level 4 – Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double lane and aggregate surfaced. However, some roads may be single lane. Some roads may be paved and/or dust abated. The most appropriate traffic management strategy is “encourage”. However, the “prohibit” strategy may apply to specific classes of vehicles or users at certain times.
- Maintenance Level 5 – Assigned to roads that provide a high degree of user comfort and convenience. These roads are normally double lane, paved facilities. Some may be aggregate surfaced and dust abated. The appropriate traffic management strategy is “encourage.”

The distinction between Forest Service maintenance levels is not always sharply defined. Some parameters overlap two or more different maintenance levels. Maintenance levels are based on the best overall fit of the parameters for the road in question. In the situations where the parameters do not indicate a definite selection, the desired level of user comfort and convenience is used as the overriding criteria to determine the maintenance level. Forest Service road maintenance includes a variety of work activities. Activities may be either detailed and site specific, or broad and general.

Bureau of Land Management Roads

The Bureau of Land Management (BLM) has jurisdiction over 22 miles of roads within Umatilla County. This number includes eight miles of natural surface roads and seven miles of gravel roads. The seven miles of paved roadway, now abandoned, runs near the south fork of the Walla Walla River and was formerly used by Boise Cascade company for logging operations. The primary function of these roads is to provide access for logging and grazing on BLM lands. The BLM is not a public road agency; therefore, responsibilities and liabilities are not the same as those of the county and state. Road closures in some areas may be imminent with continuing reductions in federal budgets. Priority routes are determined by commercial uses. Currently, all BLM roads in Umatilla County are subject to an annual visual inspection. Maintenance is usually performed only in the case of washouts due to storms.

US Forest Service Roads

Traffic volumes on Forest Service roads are intermittent and can range from 0 to 100 vpd or more.

Bureau of Land Management Roads

Traffic volumes of BLM roads are very low, usually under 10 vpd. This number will increase when a log haul is in progress.

Umatilla County Population Discussion

METHODOLOGY AND DATA SOURCES

Population estimates and projections were developed from historical data, official annual estimates, official long-range forecasts, and an impact analysis of four major employers entering or expanding in western Umatilla County. Historical data are compiled as reported by the Census Bureau. Portland State University's Center for Population Research and Census developed annual population estimates for cities and counties for the purpose of allocating certain state tax revenues to cities and counties. The State of Oregon Office of Economic Analysis (OEA) provided long-term (through year 2040) state population forecasts, disaggregated by county, for state planning purposes.

The Office of Economic Analysis used business-cycle trends (as reflected by the Employment Department's employment forecasts) as the primary driver of population and employment for the short term. For the long term, the forecasts shift to a population-driven model, which emphasizes demographics of the resident population, including age and gender of the population, with assumptions regarding life expectancy, fertility rate, and immigration. DEA used a methodology based on OEA's county-distribution methodology in developing population and employment forecasts for each of the cities in Umatilla County. DEA calculated a weighted average growth rate for each jurisdiction (weighting recent growth more heavily than past growth) and combined this average growth rate with the projected county-wide growth rate. This methodology assumes convergence of growth rates because of the physical constraints of any area to sustain growth rates beyond the state or county average for long periods of time. These constraints include availability of land and housing, congestion, and other infrastructure limitations.

These preliminary forecasts were used as a basis for discussion with individuals who have local knowledge and expertise. The projections were then revised based on local input and analysis. One element that had a significant impact on the population analysis was the HUES (Hermiston, Umatilla, Echo, and Stanfield) Growth Impact Study, conducted by the Benkendorf Associates Corporation, Hobson Johnson & Associates, and Martin Davis Consulting, which quantifies the impact of the construction and operation of four major employers.

As required by state policy, this forecast is consistent with the State of Oregon Office of Economic Analysis forecast at the end of the 20-year planning period. Because of the impact of the four large employers, however, the growth of Umatilla County will occur faster in the beginning of the planning horizon, slowing to compensate near the end of the planning period.

These population and employment forecasts were developed to determine future transportation needs. The amount of growth, and where it occurs, will affect traffic and transportation facilities in the study area. This report is not intended to provide a complete economic forecast or housing analysis, and it should not be used for any purpose other than that for which it was designed.

CURRENT POPULATION AND EMPLOYMENT LEVEL

Estimated at 65,500 in 1997, the population of Umatilla County has grown relatively rapidly since the 1990 Census, with an average annual growth rate of over one-and-one-half percent. The following table shows the estimated change in population for Umatilla County and the jurisdictions of Adams, Athena, Echo, Helix, Pilot Rock, Stanfield, Ukiah, and Weston for 1990 and 1996.

Umatilla County Population Level
1990 and 1996

	1990	1997	1990-1997 Change	
			Number	CAARG*
Umatilla County	59,249	65,500	6,251	1.4%
Adams	223	265	42	2.5%
Athena	997	1,120	123	1.7%
Echo	499	585	86	2.3%

Helix	150	190	40	3.4%
Pilot Rock	1,478	1,585	107	1.0%
Stanfield	1,568	1,770	202	1.7%
Ukiah	250	240	-10	-0.6%
Weston	606	680	74	1.6%

* *Compound Average Annual Rate of Growth*

Source: *Portland State University Center for Population Research and Census.*

Most of the jurisdictions in Umatilla County have grown at a healthy rate, comparable to the annual growth rate of 1.4 percent for the county overall. The smaller jurisdictions of Adams and Helix have grown at a slightly faster rate, starting from the smaller population bases of 223 (Adams) and 150 (Helix) in 1990.

Populations with Specific Transportation Needs

Certain populations have been identified as having more intensive transportation needs than the general population. These populations include people under the legal driving age, those under the poverty level, and those with mobility limitations.

As stated above, Portland State University's Center for Population and Census estimates the Umatilla County's population as 65,500 in 1997. The Center further estimates that 18,623 of these people, or about 28 percent of the population, is under the age of 18 and that 5,505 are under age 5. Because the purpose of this analysis is to determine the number of people with specific transportation needs, DEA used PSU's age disaggregation to estimate that 16,617 people are under 16, the legal driving age in Umatilla County.

According to the 1990 Census, 16.5 percent of the 57,046 persons living in Umatilla County (for whom poverty status is determined) were below poverty level. Poverty statistics are based on a threshold of nutritionally-adequate food plans by the Department of Agriculture for the specific size of the family unit in question. The distribution of the population below poverty level shows that a larger proportion of younger persons than older populations are affected by this indicator, as shown in the following table.

Poverty Status

Umatilla County--1990 Census

	Below Poverty Level			Total* Population	Percent of Total Population Below Poverty
	Male	Female	Total Below Poverty Level		
11 and under	1,408	1,175	2,583	10,929	23.6%
12 to 17	481	517	998	5,223	19.1%
18 and over	2,300	3,538	5,838	40,894	14.3%
Total	4,189	5,230	9,419	57,046	16.5%

* *For whom poverty status is determined.*

Source: *U.S. Census Bureau.*

The Census Bureau reports that 3.3 percent of the population 16 and older had a mobility limitation in 1990. Persons were identified as having a mobility limitation if they had a health condition (physical and/or mental) that lasted for six or more months and which made it difficult to go outside the home alone. A temporary health problem, such as a broken bone that was expected to heal normally, was not considered a health condition.

Using the proportion of the population with mobility limitations and below the poverty level¹ in 1990, DEA estimated the number of people with specific transportation needs in 1996. The following table

¹ DEA used the Census Bureau's age disaggregation to estimate that 10.7 percent of the population over the age of 16 was under the poverty level in 1990.

shows that an estimated 34.8 percent of the population may have specific transportation needs. (There is likely to be some overlap between the 3.3 percent of the population with mobility limitations and the 14.5 percent below the poverty level; therefore, the sum of the figures may overstate the proportion of the population with specific transportation needs.)

**Estimated Population with Specific Transportation Needs
1996, Umatilla County**

	Percent of Total Population	Estimated Number
Persons between the ages of 5 and 15	17.0%	11,115
Persons 16 and older under Poverty Level	14.5%	9,480
Persons 16 and older with Mobility Limitation	3.3%	2,130
Total Specific Transportation Needs Population	34.8%	22,725

Source: U.S. Census Bureau.

Planning for the overall transportation system will need to consider the special needs of these populations.

HISTORICAL GROWTH

The population of Umatilla County has grown since the 1970s, with significantly slower growth in the 1980s, reflecting a general slowdown in the state's economy. Helix, Pilot Rock, and Weston actually experienced a net population loss between 1970 and 1990. The following table shows the population trend for Adams, Athena, Echo, Helix, Pilot Rock, Stanfield, Ukiah, and Weston, and Umatilla County as a whole.

Umatilla County Historical Population Trend

	1970	1980	1985	1990	1995	1997	1970-1990 Change	
							Number	CAARG*
Umatilla County	44,923	58,855	60,000	59,249	65,200	65,500	14,326	1.4%
Adams	219	240	245	223	260	265	4	0.1%
Athena	872	965	955	997	1,080	1,120	125	0.7%
Echo	479	624	605	499	530	585	20	0.2%
Helix	152	155	155	150	170	190	(2)	(0.1%)
Pilot Rock	1,612	1,630	1,630	1,478	1,560	1,585	(134)	(0.4%)
Stanfield	891	1,568	1,660	1,568	1,700	1,770	677	2.9%
Ukiah	N.A.	249	230	250	270	240	N/A	N/A
Weston	660	719	730	606	655	680	(54)	(0.4%)

* Compound Average Annual Rate of Growth

Ukiah was incorporated in July 1972.

Source: Portland State University Center for Population Research and Census.

The number of people residing in Stanfield nearly doubled between 1970 and 1980. This population growth may have been fueled by some significant housing developments and the location of several food processing plants in Stanfield during this time.

POPULATION AND EMPLOYMENT FORECASTS

Umatilla County is expected to experience population gains for the next 20 years. Like much of rural Oregon, the economy of Umatilla County remains largely seasonal, with nearly one-quarter of all employment agriculture-based. Therefore, population increases are difficult to predict, and are not likely to be as stable as the forecasts appear to imply.

The State Office of Economic Analysis prepared long-term population projections by county. Based on these projections and the methodology described above, preliminary population forecasts for the jurisdictions of Adams, Athena, Echo, Helix, Pilot Rock, Stanfield, Ukiah, and Weston were developed in five-year increments.

An ad-hoc HUES (Hermiston, Umatilla, Echo, and Stanfield) Impact Planning Group was formed in early 1997 to lead cooperative efforts to address growth concerns in western Umatilla County arising from four major employers locating or expanding in the region. The HUES Growth Impact Study, conducted by the Benkendorf Associates Corporation, Hobson Johnson & Associates, and Martin Davis Consulting, quantifies the impact of the construction and operation of these four facilities. Employment impacts are translated into household and population impacts, and disaggregated across the four HUES communities, Pendleton, and rural Umatilla County.

Of these four employers (the Two Rivers Correctional Institution, the Umatilla Chemical Agent Disposal Facility, the Union Pacific Railroad Hinkle Locomotive Shop, and the Wal-Mart Distribution Center and Truck Maintenance Facility), only one (the Wal-Mart Distribution Center) had been announced and incorporated in the long-range population and employment forecast prepared by the Office of Economic Analysis. Because the Umatilla County site was selected as the location for the Wal-Mart Distribution Center in 1994, its impacts were already incorporated in the Office of Economic Analysis long-term population and employment forecast. Applying the HUES methodology, DEA, Inc. subtracted out the impact of the Wal-Mart Distribution Center, in order to identify the population impacts resulting from the three "big four" employers otherwise not accounted for in the OEA forecast.

HUES Population Impacts by Community
HUES Study "Scenario One" Less Wal-Mart Distribution Center

	Base Population	Population Impact		
	1996	2000	2005	2007
Hermiston	11,050	1,681	2,354	1,412
Umatilla	3,310	503	705	423
Echo*	530	81	113	68
Stanfield	1,755	267	374	224
HUES communities subtotal		2,531	3,545	2,128
Pendleton		223	313	188
Rural Umatilla County		223	313	188
Total Population Impact		2,978	4,171	2,503

* *The HUES study estimates Echo's base population using utility hook-up data and a 2.5 average household size. However, this methodology yields a base-year estimate inconsistent with the "official" state estimate. As required by state policy, the Transportation System Plan uses the official state estimate as the base population. As appropriate, the TSP uses utility hook-up data as the base number of households.*

Source: *HUES Growth Impact Study and David Evans and Associates, Inc.*

These estimated impacts were then applied to the original population forecast for Echo and Stanfield by the mathematical model. The resulting population forecast is shown in five-year increments in the table below.

Umatilla County Population Forecast

	1995						1995-2000	1995-2017
		2000	2005	2010	2015	2017	CAARG	CAARG
Umatilla County	65,200	72,800	77,000	78,300	79,500	80,073	2.2%	0.9%
Adams	260	270	280	290	300	310	0.7%	0.8%
Athena	1,080	1,160	1,210	1,270	1,330	1,360	1.4%	1.1%
Echo	530	610	640	650	660	660	2.9%	1.0%
Helix	170	190	210	220	230	230	2.7%	1.4%
Pilot Rock	1,560	1,580	1,600	1,610	1,640	1,650	0.3%	0.3%
Stanfield	1,700	2,020	2,130	2,290	2,430	2,490	3.5%	1.8%
Ukiah	270	290	310	320	340	340	1.6%	1.1%
Weston	655	690	700	710	720	730	1.0%	0.5%

Source: *1995 estimates developed by Portland State University Center for Population Research and Census; long-term County forecasts developed by State of Oregon Office of Economic Analysis; and Jurisdiction forecasts and intermediate County forecasts developed by David Evans and Associates, Inc.*

Overall, Umatilla County is expected to experience healthy rates of population growth, averaging nearly one percent annually over the planning horizon. As shown in the table, the western portion of Umatilla County is expected to grow faster than the rest of Umatilla County, fueled by the four major employers. Of all jurisdictions included in this analysis, Stanfield is expected to grow the fastest, at an annual average of 3.5 percent at the beginning of the planning horizon, slowing somewhat, but still achieving a very rapid average annual rate of 1.8 percent for the 20-year planning period.

UMATILLA COUNTY
POPULATION ANALYSIS

December 16, 1998

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INTRODUCTION

Umatilla County and its incorporated cities wish to formally propose a modification to the official Umatilla County population forecast, prepared by the State of Oregon Office of Economic Analysis (OEA). In Executive Order 97-22, Governor Kitzhaber directed any use of state resources to encourage the "development of quality communities," specifying that "each Community Solutions Team agency shall use the population and employment forecasts developed or approved by the Department of Administrative Service's Office of Economic Analysis in coordination with Oregon's 36 counties to plan and implement programs and activities."

Recognizing that forecasts are based on the best information available during their creation but that economic and employment conditions change, a county allocation review procedure has been instituted by the state to allow for modifications in the county-level forecasts. The process for modifying the OEA forecasts is initiated by the county who supplies the new information to a panel with representatives from the following state agencies: State of Oregon Office of Economic Analysis (OEA), Oregon Department of Transportation (ODOT), and the Department of Land Conservation and Development (DLCD).

In order to successfully challenge the existing forecast, the county needs to identify and demonstrate structural changes to the regional economy, changes that would leave the area less susceptible to downturns in the economy as experienced in the 1980s. Contributing to these changes are several newly-released siting decisions of major employers. In compliance with these requirements, this memorandum documents new information made available since the original forecasts were prepared by the State of Oregon Office of Economic Analysis. This analysis is based on the best population and employment information currently available.

This memorandum is organized as follows:

- Overview of methods and data sources
- Identification of materials submitted by the local community
- Overview of historic population growth
- Analysis of the employment and economic environment
- Review of the original population and employment forecasts
- Analysis of recent building permit activity
- Analysis of estimated impact of new major employers
- Development of proposed population forecast

This information is provided to the representatives of the relevant state agencies and Umatilla County to facilitate discussions regarding a new forecast. The new county forecast will be used to disaggregate the Umatilla County population forecasts to its incorporated cities.

METHODS AND DATA SOURCES

Historical population data were obtained from official sources as reported by the Census Bureau and Portland State University's Center for Population Research and Census. Employment and income data were collected from the State of Oregon Employment Department. These data are used to present the overall employment and economic environment of the Umatilla County region. OEA's long-term state population and employment forecasts, disaggregated by county, were described as the baseline forecast. Employment Department forecasts were compared to OEA forecasts to identify specific inconsistencies and areas of divergence. New information about new employers to the Umatilla County region was analyzed and discussed among representatives of the county, DLCD, OEA, and ODOT.

The outcome of this discussion was the acceptance of certain impacts as "extraordinary" to the original OEA forecast. These extraordinary impacts were categorized as economically-driven (i.e. new employment) or other factors (i.e. prison inmates). The economically-driven impacts were added to the original forecast in the intermediate year (in five-year increments) which the impacts were expected to first occur, creating higher base years early in the planning horizon from which future years' population forecasts were calculated. Finally, the inmate population of the Two Rivers Correctional Institution (TRCI) was added to the forecast previously adjusted.

The new county forecast will be used to disaggregate the Umatilla County population forecasts to its incorporated cities. As the OEA forecasts are provided only at the county and state levels, the counties are responsible for disaggregating the county-wide populations to their incorporated cities and rural areas. Like the original forecast that these numbers are intended to replace, this new forecast is only as accurate as the data that were used to create it. As economic conditions will continue to change, this forecast should be viewed as a tool for long-range planning in the county; and, like all tools, must be continually updated and revised.

MATERIALS SUBMITTED BY LOCAL JURISDICTIONS

In response to Umatilla County's decision to pursue an update to the existing population and employment forecasts, the County solicited the local jurisdictions for materials in support of structural changes to the regional economy. In addition to materials prepared and collected by David Evans and Associates, Inc. (DEA), Umatilla County, and the HUES analysis consulting team, the following materials were received in response to the solicitation:

- Several newspaper articles from the Valley Times, June 30, 1998 through August 27, 1998, describing the incentive package Sykes Enterprises has requested from the Milton-Freewater City Council and the proposed development.
- A letter and supporting material from the City of Echo, describing a household-by-household census conducted in July, 1998.
- Building Permit information for the City of Milton-Freewater.

- A letter from the City of Umatilla indicating their support of the HUES analysis.
- A memo and supporting material from the City of Hermiston with data on building permits and subdivision approvals.
- A memo and supporting information from the City of Pendleton with building permit information.
- Another memo and supporting material from the City of Pendleton indicating their support for the Employment Department's employment projections and the HUES analysis.
- A memo from the City of Pilot Rock with household data for their Urban Growth Area (UGA).
- Notes from the City of Weston indicating a potential proposal to develop 28 acres within the City limits.
- Notes from the City of Ukiah indicating that there was a recent property transfer of 160 acres adjacent to, but outside of, its current UGB.
- A letter and supporting materials from the City of Stanfield that indicate that its recent Water System Study (June 1998) assumes 10 percent annual growth for five years, followed by annual growth of 1 percent annually for the remainder of the 22-year planning horizon.
- A letter with information from the City of Athena relating to utility hookups, recent building permits, and pending permit applications.

Many of these materials submitted by the incorporated cities support higher population and employment forecasts. For example, an analysis of recent building permit data is provided later in this memorandum. Some of the materials submitted, however, are based on assumptions of population growth previously applied. Such materials do not demonstrate significant structural economic changes, as required to modify the existing forecast.

HISTORIC POPULATION GROWTH

Although the population of Umatilla County has grown since the 1970s, significantly slower growth occurred in the 1980s, reflecting a general slowdown in the state's economy. Helix, Pilot Rock, and Weston actually experienced a net population loss between 1970 and 1990. Table 1 shows the population trend for Umatilla County's cities and the county as a whole over the 1970 to 1997 period.

Table 1
Umatilla County Historical Population Growth

	1970	1980	1985	1990	1997	Change 1970-1997	
						Number	CAARG*
Umatilla County	44,923	58,855	60,000	59,249	65,500	20,577	1.4%
Adams	219	240	245	223	265	46	0.7%
Athena	872	965	955	997	1,120	248	0.9%
Echo	479	624	605	499	585	106	0.7%
Helix	152	155	155	150	190	38	0.8%
Hermiston	4,893	9,408	9,890	10,047	11,340	6,447	3.2%
Milton-Freewater	4,105	5,086	5,850	5,533	6,200	2,095	1.5%
Pendleton	13,197	14,521	14,400	15,142	16,180	2,983	0.8%
Pilot Rock	1,612	1,630	1,630	1,478	1,585	(27)	-0.1%
Stanfield	891	1,568	1,660	1,568	1,770	879	2.6%
Ukiah**		249	230	250	240	(9)	-0.2%
Umatilla	679	3,199	2,980	3,046	3,375	2,696	6.1%
Weston	660	719	730	606	680	20	0.1%
Sum of Incorporated Cities	26,189	36,535	37,525	37,820	41,560	15,371	1.7%
State of Oregon	2,091,533	2,633,156	2,633,156	2,842,321	3,217,000	1,125,467	1.6%

* Compound Average Annual Rate of Growth

** Ukiah's growth rate is for the years 1980-1997, as it was not incorporated until 1972.

Source: Portland State University Center for Population Research and Census.

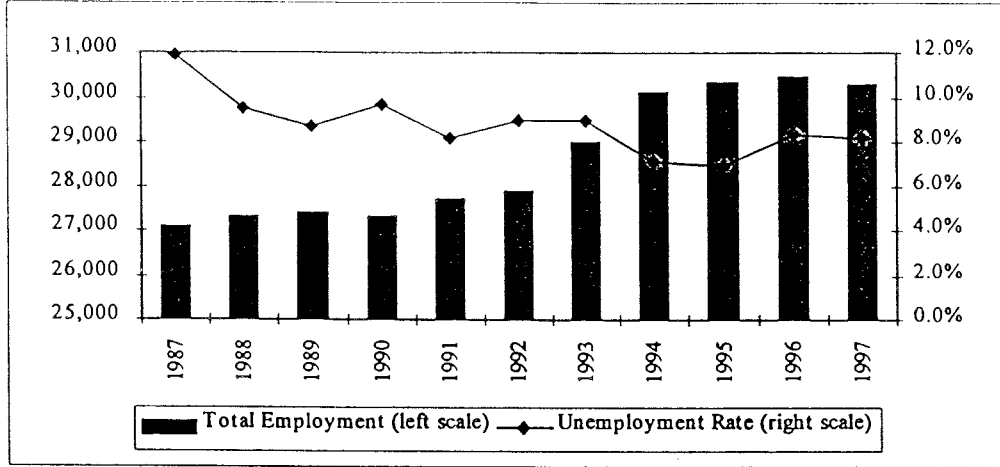
In November 1998, PSU CPRC released its preliminary 1998¹ county-level population estimates to the county governments. The population of Umatilla County was preliminarily estimated at 67,100, a 2.4 percent increase over the 1997 estimate of 65,500. Based on this estimate, population growth in Umatilla County has been relatively rapid since the 1990 Census, with an average annual growth rate of 1.6 percent, comparable to the growth rate experienced by the State of Oregon overall. Though the 1998 estimates for incorporated cities are not yet available, based on the 1997 estimates, most jurisdictions in Umatilla County have also grown at healthy rates. Fueled by some significant housing developments and the location of several food processing plants, the jurisdictions of Hermiston, Umatilla, and Stanfield have grown at rates slightly faster than the county overall.

EMPLOYMENT AND INCOME

Total employment in Umatilla County has grown in the last decade, from an estimated 27,000 jobs in 1987 to an estimated 30,270 in 1997, as shown in Figure 1. Unemployment rates have dropped accordingly, from a high of 11.9 percent in 1987 to a low for the decade of 6.9 in 1995. The rate rose again slightly in recent years, but at 8.2 percent, is near its low for the decade.

¹ These figures reflect the population as estimated on July 1, 1998.

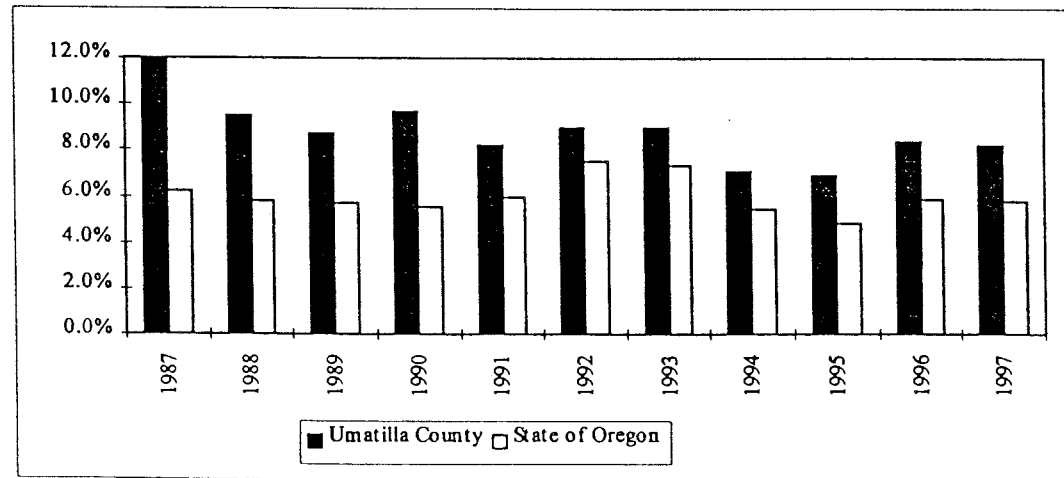
Figure 1
Total Employment and Unemployment Rates, 1987 to 1997
Umatilla County



Source: State of Oregon Employment Department.

Historically, Umatilla County has experienced higher rates of unemployment than the statewide average during the last decade. However, the differential between the Umatilla County average unemployment rate and the State of Oregon average unemployment rate has declined from the late 1980s, as shown in Figure 2. As of August 1998, the county employment had grown to 33,270, with unemployment dropping to a rate equal to the state's low rate of 5.2 percent. In comparison, employment one year previous (in August, 1997) was estimated at 32,470, with an unemployment rate of 6.0 percent.

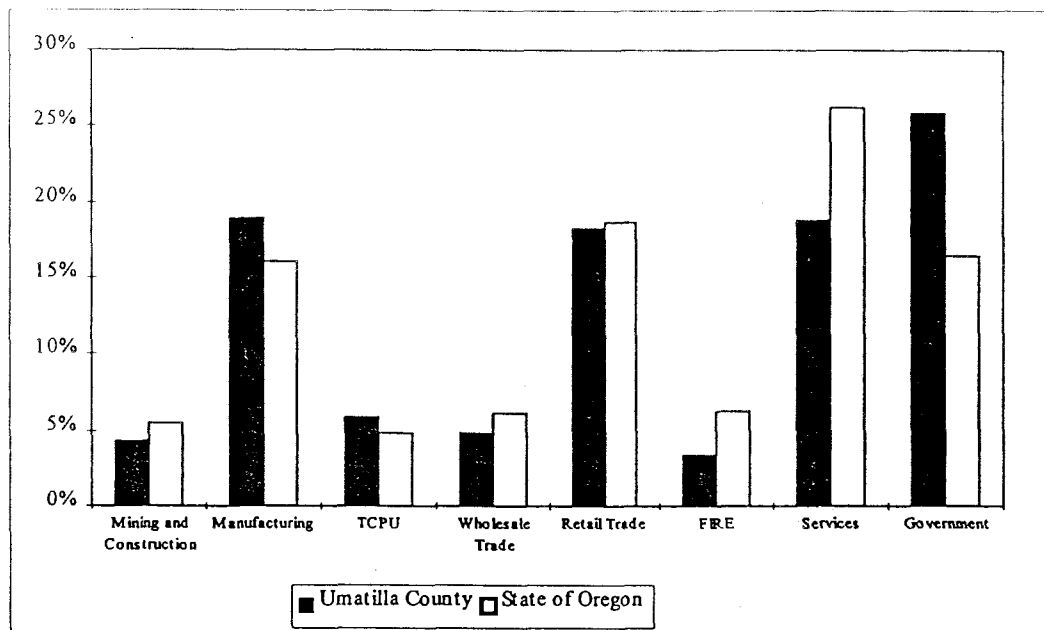
Figure 2
Unemployment Rate Comparison, 1987 to 1997
Umatilla County and State of Oregon



Source: State of Oregon Employment Department.

The industrial mix of jobs in Umatilla County shares some commonalities with the industry mix of the State as a whole, as well as some distinct differences, as shown in Figure 3.

Figure 3
 Non-Agricultural Employment by Industry Group, 1997
 Umatilla County and State of Oregon



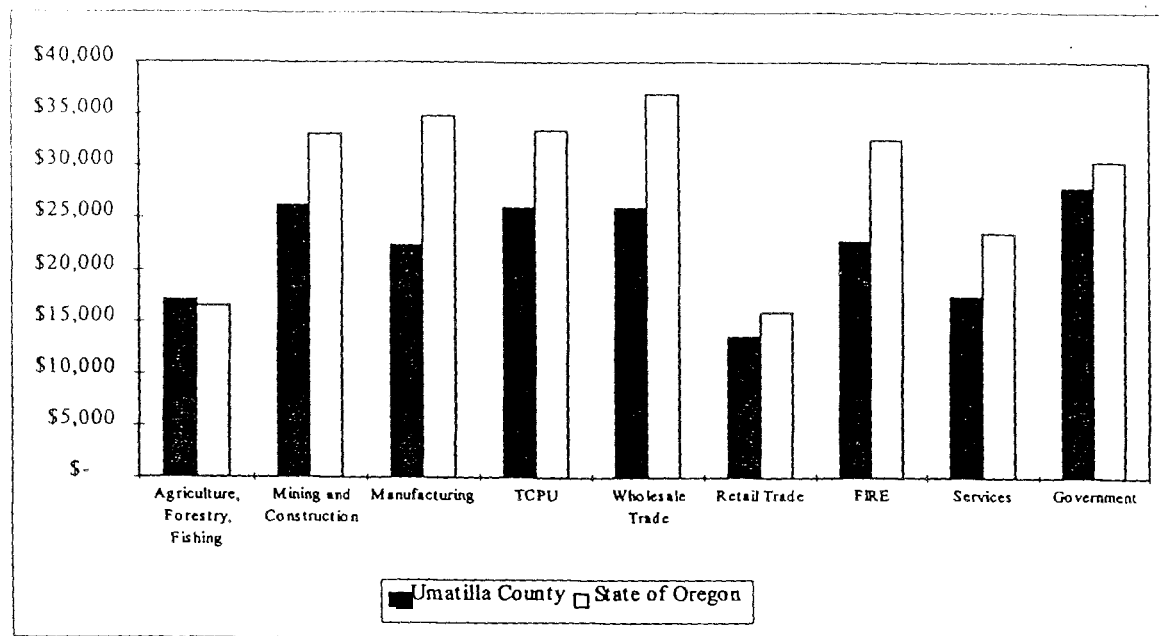
TCPU=Transportation, Communications, and Public Utilities.
 FIRE=Finance, Insurance, and Real Estate.

Source: State of Oregon Employment Department.

Over one-quarter of all employment in Umatilla County is in the government sector, compared with the statewide average of only 16 percent. Similarly, one-fifth of total employment is in manufacturing, again higher than the statewide average of 16 percent. The service sector, though a large player for the Umatilla County economy with 19 percent of total employment in the county, is more dominant in the overall state's economy comprising 26 percent of employment statewide, as shown in Figure 3.

One indicator of the type of wage an industry provides is average annual payroll (total covered payroll divided by the total number of employees in that industry group). Figure 4 shows average payroll by industry in the county compared to the State of Oregon as a whole. The declining importance of the manufacturing sector statewide has resulted in slower growth of manufacturing jobs, that traditionally have been higher paying than those in the retail trade and service sectors.

Figure 4
Average Covered Payroll by Industry, 1996
Umatilla County and State of Oregon



TCPU=Transportation, Communications, and Public Utilities.
FIRE=Finance, Insurance, and Real Estate.

Source: State of Oregon Employment Department.

As shown in Figure 4, Umatilla County's average payrolls are lower than the statewide averages in all industry groups with the exception of agriculture, forestry, and fishing. The largest differentials occur in the relatively higher-paying industry groups of manufacturing and wholesale trade. Lower wages can affect net migration in different ways. They can serve to attract employers looking to lower their labor costs. On the other hand, potential migrants may be discouraged from moving to a new area if their potential earnings are higher in their current place of residence.

ORIGINAL POPULATION AND EMPLOYMENT FORECASTS

Based on the original forecasts prepared by the State of Oregon Office of Economic Analysis, Umatilla County is expected to experience population gains for the next 20 years. Released in January of 1997, these forecasts were based on the best information available at that time. When the analysis was conducted, the most current official population estimates were those PSU provided for July 1995. The most current employment estimates were the Employment Department's annual figures from 1995 and the Employment Department's June 1995 10-year employment forecast. The resulting OEA population and employment projections for Umatilla County are displayed in Table 2.

Table 2
OEA Population and Employment Forecasts
Umatilla County and State of Oregon

	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040
<i>Umatilla County</i>										
Population	65,200	69,854	72,870	75,869	78,936	81,964	84,873	87,501	89,851	91,932
Employment	23,510	26,313	27,688	28,703	29,262	29,766	30,303	31,021	31,781	32,328
<i>State of Oregon</i>										
Population	3,132,000	3,406,000	3,631,000	3,857,000	4,091,000	4,326,000	4,556,000	4,776,000	4,988,000	5,193,000
Employment	1,416,900	1,601,718	1,718,659	1,814,276	1,882,653	1,947,702	2,014,350	2,094,256	2,179,730	2,253,736

These forecasts were supported by other current population and employment forecasting efforts. For example, the State of Oregon Employment Department's 1995 to 2005 employment forecasts by region indicated similar growth rates in employment for region 12, defined as Umatilla and Morrow counties. The 1995 to 2005 forecast showed an increase of approximately 6,000 jobs within the two-county area in the 10-year forecast, as shown in Table 3.

Table 3
Employment Projections by Industry, 1995-2005
Region 12: Morrow and Umatilla Counties

	1995	2005	1995-2005	
			Change	% Change
Nonagricultural Employment	26,190	32,100	5,910	22.6%
Goods Producing	6,570	7,220	650	9.9%
Service Producing	19,620	24,880	5,260	26.8%
Manufacturing	5,650	6,310	660	11.7%
Mining	10	20	10	100.0%
Construction	910	890	(20)	-2.2%
Transportation, Communications, Utilities	1,570	1,850	280	17.8%
Trade	5,660	7,670	2,010	35.5%
Wholesale	1,270	1,570	300	23.6%
Retail	4,390	6,100	1,710	39.0%
Finance, Insurance, Real Estate	690	850	160	23.2%
Services	5,430	7,430	2,000	36.8%
Government	6,270	7,080	810	12.9%
Federal	900	820	(80)	-8.9%
State	1,410	1,580	170	12.1%
Local	3,960	4,680	720	18.2%

Source: State of Oregon Employment Department.

In order to compare the Employment Department's forecast to the Office of Economic Analysis' forecast, forecast employment for Morrow and Umatilla counties are combined in Table 4.

Table 4
Original OEA Employment Forecasts
Umatilla and Morrow Counties

	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040
Umatilla County	23,510	26,313	27,688	28,703	29,262	29,766	30,303	31,021	31,781	32,328
Morrow County	2,793	3,283	3,613	3,890	4,097	4,290	4,487	4,713	4,956	5,184
Region 12 total	26,303	29,596	31,301	32,593	33,359	34,056	34,790	35,734	36,737	37,512

Source: State of Oregon Office of Economic Analysis.

The combined employment for Morrow and Umatilla counties was forecast by OEA to total 31,301 by year 2005, comparable and consistent with the Employment Department's forecast of 32,100 for the same year. In the 1996-2006 forecast, however, the Employment Department significantly increased the forecast employment for the region to 37,080, as shown in Table 5.

Table 5
Employment Projections by Industry, 1996-2006
Region 12: Morrow & Umatilla Counties

	1996	2006	1996-2006	
			Change	% Change
Total Non-Farm Employment	27,100	37,080	9,980	36.8%
Mining and Construction	950	1,340	390	41.1%
Manufacturing	5,590	5,820	230	4.1%
TCPU	1,630	3,050	1,420	87.1%
Wholesale Trade	1,280	2,410	1,130	88.3%
Retail Trade	4,570	6,080	1,510	33.0%
FIRE	930	1,250	320	34.4%
Services	5,370	8,100	2,730	50.8%
Government	6,780	9,030	2,250	33.2%

TCPU=Transportation, Communications, and Public Utilities.

FIRE=Finance, Insurance, and Real Estate.

Source: State of Oregon Employment Department.

Four primary developments caused the increase in forecast employment. As a result of a multi-billion dollar government contract to dispose of chemical weapons and location of a locomotive maintenance facility, the region's transportation, communications, and utilities sector will nearly double in 10 years. The trade sector is also expected to grow rapidly, due to the location of a wholesale distribution facility of a major retailer in the area. Finally, government employment is expected to grow as a result of a new corrections facility. The specific impacts of these four large employers will be examined further in the discussion of the HUES Analysis.

BUILDING PERMIT INFORMATION

Another way to confirm the recent growth of the area is by analyzing building permits for new housing units in the area. In the absence of other factors, population growth results in an increase in household formations. As the population grows, new families and incoming migrants require additional housing units. Other factors which affect household growth include changing household size and changing vacancy rates. Despite these other factors, household growth—as reflected in building permit activity—tends to support population growth.

The cities of Milton-Freewater, Pendleton and Athena provided recent building permit activity in support of the population analysis effort.

Pendleton and Milton-Freewater reported building permit activity on an annual basis. As shown in Table 6, the City of Milton-Freewater issued permits for 260 housing units between January, 1990 and August, 1998. The City of Pendleton issued permits for 462 units between 1990 and 1997.

Table 6
Residential Units Permitted
Milton-Freewater and Pendleton

	1990	1991	1992	1993	1994	1995	1996	1997	1998	Total
Milton-Freewater	8	6	21	24	29	17	23	66	66	260
Pendleton	47	25	28	76	38	48	128	72	N.A.	462

Source: *Cities of Milton-Freewater and Pendleton.*

Using 1990 Census data as the base year information, the permits reported suggest housing growth estimated at 1.0 percent (Pendleton) and 1.4 percent (Milton-Freewater), as shown in Table 7. These household growth rates are consistent with population growth since 1990 for these jurisdictions, estimated at 1.0 percent for Pendleton and 1.6 percent for Milton-Freewater.

Table 7
Estimated Annual Growth in Residential Units
Milton-Freewater and Pendleton

	Housing Units in 1990	New Units Permitted	Estimated Annual Growth
Milton-Freewater	2,251	260	1.4%
Pendleton	6,174	462	1.0%

Source: *U.S. Census Bureau (Housing Units in 1990) and Cities of Milton-Freewater and Pendleton (New Residential Units Permitted).*

Athena reported building permits for 46 residential units between March, 1995 and March, 1998. Since March, 1998, permits for 11 housing units have been issued. Over the last several decades, Athena has experienced average population growth of approximately 1 percent annually. Without specific data on the number of residential units existing in March of 1995, it is not possible to identify a rate of growth.

However, using the 1990 Census count of 402 housing units in Athena, we can estimate that the recent building activity represents housing growth of approximately 3 percent annually. Although housing growth is affected by factors other than population growth, this recent housing growth supports an increase in population growth forecast for the Athena area.

As noted earlier, residential building activity supports population growth. Although housing growth is affected by additional factors (including vacancy rates and changing household size), it tends to occur at a rate comparable to population growth. Recent housing growth in Umatilla County—as documented by permitted building activity reported by the cities of Athena, Milton-Freewater, and Pendleton—supports an increase in population growth forecast for the area.

IMPACT OF NEW EMPLOYERS

DEA reviewed new information available about the impact of new major employers and other factors having an impact on the population. New information has included data on the four larger employers which were the subject of the HUES analysis, the inmate population of the Two Rivers Correctional Institution (TRCI), and a Sykes Enterprises new call center.

HUES Analysis

An ad-hoc HUES (Hermiston, Umatilla, Echo, and Stanfield) Impact Planning Group was formed in early 1997 to lead cooperative efforts to address growth concerns in western Umatilla County arising from four major employers locating or expanding in the region. The HUES Growth Impact Study, conducted by the Benkendorf Associates Corporation, Hobson Johnson & Associates, and Martin Davis Consulting, quantifies the impact of the construction and operation of these four facilities. Employment impacts are translated into household and population impacts, and disaggregated across the four HUES communities, Pendleton, and rural Umatilla County.

Of these four employers (the Two Rivers Correctional Institution, the Umatilla Chemical Agent Disposal Facility, the Union Pacific Railroad Hinkle Locomotive Shop, and the Wal-Mart Distribution Center and Truck Maintenance Facility), only one (the Wal-Mart Distribution Center) had begun the development process at the time of the OEA forecasting effort. Estimated employment impacts generated by the operation of the four large employers is shown in Table 8.

Table 8
Employment Impact from New Primary Employers
HUES Scenario One

Year	Direct Impact	Total Impact
1998	568	922
1999	861	1,459
2000	1,641	2,735
2001	2,162	3,838
2002	2,289	4,164
2003	2,289	4,164
2004	2,289	4,164
2005	2,289	4,164
2006	2,289	4,164
2007	1,474	2,991

Source: HUES Growth Impact Study.

Direct employment at the four new developments will reach a peak of 2,289 by year 2002, and continue through year 2006. Direct employment is expected to decline again to 1,474 with the closure of the Umatilla Army Depot Incinerator Project in May of 2006. Total impacts (which include indirect and induced impacts) will similarly increase to nearly 4,200 in year 2002, declining to just under 3,000 jobs by year 2006.

The employment impact was then translated to households. Several factors were considered in this translation, including the average number of workers per household, and the number of workers who would commute from outside the target HUES area. The resulting household impact is shown in Table 9.

Table 9
Household Impact
HUES Scenario One

	Households	Household Growth		
	1996	2000	2005	2007
Hermiston	4,420	877	1,335	959
Umatilla	1,324	263	400	287
Echo	246	49	74	53
Stanfield	702	139	212	152
Subtotal (HUES)	6,692	1,328	2,022	1,452
Pendleton		117	178	128
Rural Umatilla County		117	178	128
Total		1,562	2,379	1,709

Source: HUES Growth Impact Study.

Applying an average household size of 2.5 persons, the calculated household impact of 1,562 will have an estimated population impact of nearly 4,000 persons by year 2000, increasing to nearly 6,000 by year

2005, declining again to 4,300 with the completion of the Incinerator Project. These estimates of population impact are shown in Table 10.

Table 10
Population Impact
HUES Scenario One

	Population	Population Impact		
	1996	2000	2005	2007
Hermiston	11,050	2,193	3,339	2,398
Umatilla	3,310	657	1,000	718
Echo	615	122	186	133
Stanfield	1,755	348	530	381
Subtotal (HUES)	16,730	3,320	5,055	3,631
Pendleton		293	446	320
Rural Umatilla County		293	446	320
Total		3,906	5,947	4,272

Source: HUES Growth Impact Study.

Informed of the Union-Pacific and Umatilla Army Incinerator project as part of the community meetings, the OEA forecast accounted for the impacts of these employers, as well as the Wal-Mart facility. OEA Senior Demographer Kanhaiya Viadya indicated that the impacts which would justify an increase in the population forecast for Umatilla County were those caused by the Sykes Enterprises Development, the Two Rivers Correctional Institution (TRCI) employment, and TRCI inmate population.

Two Rivers Employment and Inmate Population Impacts

As part of their search for new sites, the Oregon Department of Corrections selected a site in the City of Umatilla for development of the Two Rivers Correctional Institution (TRCI). TRCI will be a 640,000-square-foot facility on a 42-acre site. At full capacity, it will house 1,500 medium-security inmates, and 100 minimum-security inmates, for a total prison population of 1,600 inmates. There will be an estimated 510 employees related to the operation and maintenance of the correctional institution.

According to Bob Hensel, the Department of Corrections Community Coordinator, substantial completion is expected by November 1999, with potential phase-in of 100 inmates per month. Currently, 96 minimum-security inmates are in place at the facility. It is expected that the facility will reach full capacity sometime during the first part of year 2002. Based on this phase-in schedule and the impact analysis described in the HUES Analysis, DEA translated these impacts to population impacts, as shown in Table 11.

Table 11
Estimated Impacts of the Two Rivers Correctional Institution

	2000	2005
Direct Employment	65	510
Total Employment Impact*	167	1,302
Household Impact	95	744
Population Impact from Employment	238	1,859
Inmate Population	400	1,600
Total Population Impact	638	3,459

* Total employment impact includes indirect (response to a change in output by the primary employer) and induced (response to an increase in expenditures caused by new income) impacts, and were calculated using the multipliers from the HUES analysis.

Source: HUES Analysis (Employment Impacts), Department of Corrections (Phase-in of Inmate Population).

Based on the impact factors as applied in the HUES analysis, total population impact of TRCI is expected to reach an estimated 3,500 at full capacity, with 510 direct employees having a total population impact of over 1,800 and an inmate population of 1,600.

Sykes Enterprises

Another major employer affecting the population in Umatilla County is in Milton-Freewater. Negotiations between Key Investments and the City of Milton-Freewater have resulted in the development of a new Sykes Enterprises call center. Based on \$3.5-million incentive package, Sykes has begun construction on a 42,000-square-foot office building, which will house 432 operators who would answer questions for computer users and others who call in for technical support. Applying impact factors as defined in the HUES Analysis, the total impact of the Sykes is shown in Table 12.

Table 12
Estimated Impacts of the Sykes Enterprises Call Center

	2000	2005
Direct Employment	200	432
Total Employment Impact*	513	1,103
Household Impact (OR only)	160	345
Population Impact (OR only)	399	862

* Total employment impact includes indirect (response to a change in output by the primary employer) and induced (response to an increase in expenditures caused by new income) impacts, and were calculated using the multipliers from the HUES analysis.

Source: City of Milton-Freewater (Sykes employment information).

Because of the development's proximity and ease of access to the Walla Walla area, the State of Oregon Employment Department expects approximately one-half of the employment impact to be absorbed by commuters who live outside Umatilla County. Applying this ratio to the employment impact, the total

population impact of the Sykes Enterprises call center upon Umatilla County is still expected to reach over 850 when all 432 employees are hired and the center is fully operational.

PROPOSED POPULATION FORECASTS

In order to incorporate these impacts into a set of proposed population figures, the impacts have been separated into two categories: those caused by economic and employment factors, and those caused by other factors. As the Umatilla County population includes all people who usually reside in the county, the population figure includes people living in correctional institutions, nursing homes, and college dormitories. As the imprisoned population is not a direct result of the kinds of economic growth and industrial changes discussed in this analysis, the impact of those estimated 1,600 prison inmates expected to reside at TRCI will be addressed after incorporating economically-driven factors.

Addressing the economically-driven population growth first, OEA Senior Demographer Kanhaiya Viadya indicated that the impacts which would justify an increase in the population forecast for Umatilla County were those caused by the Sykes Enterprises Development and the Two Rivers Correctional Institution (TRCI) employment. These factors and the amount of population growth attributable to their impacts are summarized in Table 13.

Table 13
Summary of Economically-Driven Population Impacts

	2000	2005	2010
Population Impact of TCRI Employment ¹	238	1,859	1,859
Population Impact of Sykes Employment ²	399	862	862
Total Cumulative Population Impact	638	2,721	2,721

¹From Table 11

²From Table 12

These impacts are based on long-term employment from the operation and maintenance of the TRCI and the Sykes call-in center. In order to integrate these impacts into the original forecasts, the new impact for each of the intermediate years is distinguished from impacts captured and integrated into the economy from previous intermediate years. A summary of the new impacts by intermediate year is shown in Table 14.

Table 14
Summary of Impacts by Integration Year

	2000	2005	2010
Total Cumulative Population Impact	638	2,721	2,721
Less Impact Captured in Previous Periods		(638)	(2,721)
Total New Impact not Captured in Previous Periods	638	2,084	0

These impacts are added to the original forecasts, and the original growth rate forecast by OEA applied. The results of this modification are shown in Table 15.

Table 15
Umatilla County Population Forecast Adjusted for New Economically-Driven Factors

	1998	2000	2005	2010	2015	2020	2025	2030	2035	2040
Original Forecast	67,100	69,854	72,870	75,869	78,936	81,964	84,873	87,501	89,851	91,932
Adjusted Forecast*	67,100	70,490	75,620	78,730	81,910	85,050	88,070	90,800	93,240	95,400

* *Adjusted for economically-driven factors accepted as extraordinary impacts: population growth generated by employment at Sykes and the Two Rivers Correctional Institution. These population increases become part of the base from which future increases are calculated.*

Source: State of Oregon Office of Economic Analysis (Original forecast), and David Evans and Associates, Inc. (New forecast).

As shown in Table 15, the incorporation of these impacts would increase the population forecast for Umatilla County raising the year 2020 forecast population from just under 82,000 persons to 85,050. The growth rates represented by the adjusted population forecasts are shown in five-year increments in Table 16.

Table 16
Population Growth Rates after Adjusting for Economically-Driven Factors

	1998- 2000	2000- 2005	2005- 2010	2010- 2015	2015- 2020	2020- 2025	2025- 2030	2030- 2035	2035- 2040
Original Forecast	2.03%	0.85%	0.81%	0.80%	0.76%	0.70%	0.61%	0.53%	0.46%
Adjusted Forecast	2.49%	1.41%	0.81%	0.80%	0.76%	0.70%	0.61%	0.53%	0.46%

Source: State of Oregon Office of Economic Analysis (Original forecast), and David Evans and Associates, Inc. (New forecast).

The proposed forecast represents short-term (between 1998 and year 2000) growth of 2.49 percent, consistent with the 2.44 percent rate of growth suggested by the 1998 preliminary estimate. As noted earlier, the newly-released 1998 population estimate, at 67,100, represents a 2.44 percent increase over the 1997 estimate of 65,500. This growth, faster than historically experienced by Umatilla County, is fueled by the location of the new employers which are the subject of this analysis, increasing the overall county population base.

Based on the phase-in schedule expected by the Department of Corrections, the prison inmates are expected to number approximately 400 by year 2000, reaching the full-capacity population of 1,600 in year 2002. By simply adding this population after the analysis of the economically-driven growth, the result is a one-time (non-compounded) increase of 1,600 persons, yielding a year 2020 projected population of 86,050 and a year 2040 projected population of 97,000. Total proposed population figures by five-year increments are shown in Table 17.

Table 17

**Proposed Umatilla County Population Forecast
With the Addition of the Two Rivers Correctional Institution Inmates**

	2000	2005	2010	2015	2020	2025	2030	2035	2040
Original Forecast	69,854	72,870	75,869	78,936	81,964	84,873	87,501	89,851	91,932
Adjusted Forecast	70,490	75,620	78,730	81,910	85,050	88,070	90,800	93,240	95,400
TCRI Inmates*	400	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600
Proposed Forecast	70,890	77,220	80,330	83,510	86,650	89,670	92,400	94,840	97,000

* *The inmate population of 1,600 was simply added to the adjusted forecast at the rate at which DOC expects inmates to be moved in. These figures are separate from the population base from which future increases have been calculated.*

Because the inmate population is simply added to the population as adjusted for economically-driven factors, a stable inmate population (of 1,600) becomes a smaller proportion of the overall county population as the population grows. The addition of these inmates yields the forecast proposed by Umatilla County: 86,650 persons by year 2020 and 97,000 persons by year 2040, as shown in the last line of Table 17.

This new county forecast will be used by Umatilla County and its incorporated cities to disaggregate the county population forecasts to the incorporated cities and rural areas. The population to be disaggregated to the incorporated cities does not include the population of inmates at the Two Rivers Correctional Institution, as those inmates will necessarily reside in Umatilla.

POTENTIAL DEVELOPMENT IMPACT ANALYSIS

Draft Report

UMATILLA COUNTY

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1.1 INTRODUCTION

This Potential Development Impact Analysis (PDIA) report provides development estimates for a maximum development scenario in Umatilla County. All land outside of urban growth boundaries (UGBs) zoned for residential, commercial, and industrial uses was analyzed. The analysis was designed to assist ODOT in answering the question, "How many vehicle trips would be produced if every vacant parcel of residential, commercial, and industrial property in the County was developed at maximum density?" The following development figures were estimated in the analysis:

- The total number of acres zoned for residential, commercial and industrial uses;
- The portion of residential, commercial, and industrial acres that are vacant (buildable);
- The number of existing residential units;
- The number of buildable residential units; and
- The amount of leasable commercial square footage.

Analysis Limitations are outlined in Section 1.2, and Findings are presented in Section 1.3. Appendix A contains a Methodology summary, as well as the Development Standards used in the analysis. Appendix B is comprised of three Spreadsheet Tables which contain the analysis data figures.

1.2 ANALYSIS LIMITATIONS

This analysis was intended to provide a maximum development scenario for residential, commercial, and industrial land in the county. Because low density development is common, the development estimates provided in this report likely overestimate the actual development that will occur.

The development estimates presented in this report were calculated based on a number of assumptions and limitations which are summarized below:

1.2.1 Residential Development Estimate Limitations

- We made allowances for parking requirements and design standards, but because of the high cost of aerial photographs, we did not make allowances for extreme slopes, bodies of water, riparian areas, and other features which constrain development. Therefore, the vacant residential acres figure may overstate the amount of buildable residential acreage, and the potential buildable units figure may overstate the number of residential units that are buildable.
- In order to estimate the existing number of units in residential zones, we summed the number of units for each census block that contains residential zones. The assumption is that most of the units that the Census tallies for a block containing residential zoning actually occur within the residential zone, rather than within non-residential zones.

- Residential units that occur in a census block that does not contain residential zoning were not added into the existing residential units figure.
- The development estimates do not account for market factors, such as the supply of available housing and demand for that housing, that affect residential development. Market demand for housing is related to a number of factors, including employment and income trends, that are not considered in this analysis.

1.2.2 Commercial Development Estimate Limitations

- We determined that any land that was not built upon and did not have physical constraints was developable. We did not consult tax assessor lot lines to determine if a lot was already improved. Since lots with vacant land that are improved are less likely to have future development, the vacant commercial acreage estimate may be overstated.
- In cases where the zoning ordinance does not specify parking requirements for a commercial zoning designation, a parking requirement allowance cannot be calculated. Therefore, the maximum leasable commercial square footage may be overstated.
- Because we could not accurately determine the height of existing buildings or predict future building heights, we assumed that all existing and future commercial development is and will be one-story high.

1.2.3 Industrial Development Estimate Limitations

- The industrial development estimates are expressed as total industrial acreage and vacant industrial acreage. Maximum leasable square feet per acre was not calculated for industrial zones. The main reason for this is that many trip generation models for industrial development use "trips per employee" to estimate trips, rather than using density or leasable square feet per acre. Calculating trips per employee is beyond the scope of this analysis.
- We determined that any land that was not built upon and did not have physical constraints was developable. We did not consult tax assessor lot lines to determine if a lot was already improved. Since lots with vacant land that are improved are less likely to have future development, the vacant industrial acreage estimate may be overstated.

1.3 FINDINGS

This section summarizes the development estimates presented in Appendix B, Spreadsheet Tables.

1.3.1 Residential Development Estimates

Approximately 20,104 acres of land is zoned residential with 2,944 existing residential units. Of this residential acreage, approximately 14,338 acres are vacant with a potential buildout of 44,888 units. Maximum development (existing plus potential) is estimated at 47,832 units.

1.3.2 Commercial Development Estimates

Approximately 437 acres of land is zoned commercial. Of this commercial acreage, an estimated 201 acres are vacant, which translates into 2,048,700 square feet of leasable commercial space.

1.3.3 Industrial Development Estimates

Approximately 3,643 acres of land is zoned industrial. Of this industrial acreage, an estimated 2,243 acres are vacant.

APPENDIX A METHODOLOGY AND DEVELOPMENT STANDARDS

Appendix A contains a description of the project methodology, as well as a detailed description of the Development Standards.

A-1 METHODOLOGY

We established the following six chronological phases for the county analysis:

Phase I:	Data Gathering and Development Standards
Phase II:	Initial Map Analysis
Phase III:	Polygon Map
Phase IV:	Commercial/Industrial Aerial Analysis
Phase V:	Data Entry
Phase VI:	Final Report

In Phase I, we compiled the materials necessary to begin the analysis. This process involved reading the county zoning ordinance to determine which zones needed to be analyzed, and interpreting zone descriptions in order to write the Development Standards that are presented in Section A-2.

In Phase II, we studied zoning maps to identify all lands within the county, outside of incorporated urban areas, zoned for residential, commercial, and industrial use. We compared the zoning maps to U.S. Census maps to identify all the census blocks within the residential, commercial, and industrial polygons. We identified the census block acreage and the number of residential units within each census block using 1990 U.S. Census Data. We calculated the amount of acreage within each residential, commercial, and industrial polygon using a grid transparency measuring system. All this data was recorded on data sheets.

In Phase III, we created a polygon map that links each block in the spreadsheet to its location on the county map. This process involved drawing zoning polygons found on individual zoning maps onto a map of the county and assigning each data sheet entry a polygon descriptor number. The creation of the polygon map served as an important accuracy check of the work completed in Phase II, since each data sheet entry had to be reviewed. Polygons comprised solely of residential zoning were labeled "R." Polygons comprised solely of commercial zoning were labeled "C." Polygons comprised solely of industrial zoning were labeled "I." Polygons comprised of two or more of the three zoning classes were labeled "M" if the zoning classes could not be labeled separately.

In Phase IV, we completed an aerial analysis of commercial and industrial lands. For each commercial and industrial data sheet entry, we used a grid transparency to determine the amount of land that was vacant (buildable). The aerial analysis served as a second accuracy check step for the commercial and industrial data sheet entries completed in Phase II, since each entry was reviewed for a second time.

In Phase V, we entered the data sheet entries into the Residential Spreadsheet (Table 1,) and the Commercial/Industrial Spreadsheet (Table 2). The third Spreadsheet Table summarizes Tables 1 and 2. The following Residential Spreadsheet columns contain input data: Polygon Descriptor Number, Census Tract, Census Block, Census Block Acres, Census Block Residential Units (Existing), Zoning Type, Residential Acres by Zone, and Allowable Density. See Section A-2, Development Standards, for an explanation of the Allowable Density calculation.

Explanations of the Residential Spreadsheet columns that are calculated follow:

- Percent of Total Residential is calculated for each type of zoning within a census block by dividing Residential Acres by Zone by the total residential acres.
- Average Density is a weighted average based on the acreage within each zone. This calculation is necessary for census blocks that contain two or more zones (multi-zone blocks). If there is only one type of zoning within the census block, then Average Density is the same as Allowable Density.
- Developed Residential Acres is calculated by dividing Census Block Residential Units (Existing) by the Average Density.
- Percent Vacant is calculated by dividing Vacant Residential Acres by Residential Acres by Zone.
- Vacant Residential Acres is calculated by subtracting Developed Residential Acres from Residential Acres by Zone.
- Potential Buildable Units is calculated by subtracting Census Block Residential Units from Maximum Allowed Units.
- Maximum Allowed Units is calculated by multiplying Residential Acres by Zone and Average Density.

The following Commercial/Industrial Spreadsheet columns contain input data: Polygon Descriptor Number, Census Tract, Census Block, Census Block Acres, Zoning Type, Commercial/Industrial Acres by Zone, Developed Commercial Acres, and Developed Industrial Acres.

Explanations of the Commercial/Industrial Spreadsheet columns that are calculated follow:

- Vacant Commercial Acres is calculated by subtracting Developed Commercial Acres from the Commercial/Industrial Acres by Zone.
- Leasable Commercial Square Feet is calculated by multiplying Vacant Commercial Acres by the Maximum Leasable square footage per acre. See Section A-2, Development Standards, for an explanation of the Maximum Leasable square footage per acre calculation.
- Vacant Industrial Acres is calculated by subtracting Developed Industrial Acres from the Total Commercial/Industrial Acres by Zone.

A-2 DEVELOPMENT STANDARDS

In accordance with the county zoning ordinance, this section provides *maximum allowable density per acre factors* for residential zones and *maximum leasable square feet per acre factors* for commercial zones. These factors are used in the Spreadsheet Tables to calculate the development estimates.

A-2.1 Residential Zoning Designations

Five residential zoning designations were identified in the county zoning ordinance. For each designation, we provide the *maximum allowable residential density* (expressed in units per acre). In calculating densities for zones with a minimum lot size of less than one acre, we use a *net acre* (34,848 square feet). A net acre is calculated by subtracting 20 percent from a gross acre (43,560 square feet) to account for streets and right-of-ways.¹ To calculate densities for residential zones with minimum lot sizes of one acre or greater, we use the gross acre figure. This is based on the assumption that larger lots are often platted along existing roads and additional streets and/or access points will not be needed.

A summary of residential zones and their maximum allowable densities is presented in Table 1. Following the table is a description of each zone density calculation.

Table 1
Residential Zoning Designations

Residential Zoning Designation	Abbreviation	Maximum Allowable Residential Density (Units Per Acre)
Unincorporated Community	UC	5.8
Rural Residential 2	RR-2	0.5
Rural Residential 4	RR-4	0.3
Multiple Use Forest 10	MUF-10	0.1
Forest Residential 5	FR-5	0.2
Mountain Residential 1	MR-1	1.0

Unincorporated Community (UC)

The minimum lot size for the Unincorporated Community zoning designation is 6,000 square feet. To calculate the maximum residential density per net acre, we divided 34,848 square feet by the 6,000 square foot minimum lot size. The resulting density is 5.8 units per acre.

¹ Derived from Land Use in 33 Oregon Cities, Bureau of Municipal Research and Service, University of Oregon, 1961

Rural Residential 2 (RR-2)

The minimum lot size for the Rural Residential 2 designation is 2.0 acres. To calculate the maximum residential density per acre, we divided 1.0 gross acre by the 2.0 acre minimum lot size. The resulting density is 0.5 units per acre.

Rural Residential 4 (RR-4)

The minimum lot size for the Rural Residential 4 designation is 4.0 acres. To calculate the maximum residential density per acre, we divided 1.0 gross acre by the 4.0 acre minimum lot size. The resulting density is 0.3 units per acre.

Multiple Use Forest 10 (MUF-10)

The minimum lot size for the Multiple Use Forest 10 designation is 10.0 acres. To calculate the maximum residential density per acre, we divided 1.0 gross acre by the 10.0 acre minimum lot size. The resulting density is 0.1 units per acre.

Forest Residential 5 (FR-5)

The minimum lot size for the Forest Residential 5 designation is 5.0 acres. To calculate the maximum residential density per acre, we divided 1.0 gross acre by the 5.0 acre minimum lot size. The resulting density is 0.2 units per acre.

Mountain Residential 1 (MR-1)

The minimum lot size for the Mountain Residential 1 designation is 1.0 acres. To calculate the maximum residential density per acre, we divided 1.0 gross acre by the 1.0 acre minimum lot size. The resulting density is 1.0 units per acre.

A-2.2 Commercial Zoning Designations

Three commercial zoning designations were identified in the county zoning ordinance. We calculated the *maximum leasable commercial area* (expressed in square feet per gross acre) for each designation. A summary of findings is presented in Table 2, followed by an explanation of the analysis used to calculate leasable area in each zone.

Table 2
Commercial Zoning Designations

Commercial Zoning Designation	Abbreviation	Maximum Leasable Commercial Area (Square Feet Per Acre)
Retail/Service Commercial	RSC	12,104
Commercial Rural Center	CRC	10,821
Tourist Commercial	TC	6,298

The zoning ordinance provides unique criteria for each commercial zoning designation. Therefore, the methodology for determining the maximum leasable commercial area per acre for each zoning designation differs. For all commercial zones on county lands, the net usable area figure we base calculations on is a gross acre (43,560 square feet). From this figure, allowances for setbacks, yards, and parking are subtracted to obtain the maximum leasable commercial area. If setbacks and yards are not required, a parking requirement allowance is generally the only figure subtracted from the net usable area figure. In cases where the zoning ordinance does not specify parking requirements, a parking requirement allowance cannot be calculated and the maximum leasable commercial area may be overstated.

In cases where setbacks and yards are required, minimum lot dimensions must be determined in order to calculate how much area will be subtracted from the net usable area figure. If a minimum lot size is not specified in the zoning ordinance, the default minimum lot size that calculations are based on is one acre. If minimum lot dimensions are not provided in the zoning ordinance, the lot is assumed to be square and the lot dimensions are derived by taking the square root of the minimum lot size. Front and rear setbacks are subtracted from the minimum lot depth measurement to obtain the buildable lot depth. Side setbacks are subtracted from the minimum lot width measurement to obtain the buildable lot width. After subtracting setbacks, lot width is multiplied by lot depth to obtain the buildable (usable) area per lot. This figure multiplied by the number of lots per acre provides the net usable area per acre.

The parking requirement allowance is determined by averaging the parking requirements for permitted uses, as specified in the zoning ordinance. These are provided in terms of one space per "X" square feet of gross floor area (gfa). In calculating parking allowances, we use a standard allowance of parking lot space (parking, turning space, ingress, and egress) of 325 square feet per space.² The parking requirement average is divided into the standard allowance of parking lot space, which provides the parking ratio. The parking ratio plus one (1) is divided into the net usable area figure, providing leasable square feet per acre.

If the zoning ordinance provides a maximum lot coverage percent figure, the calculated leasable square feet figure (net usable area minus setbacks and parking allowance) must be less than or equal to the provided percentage.

Tables 3, 4, and 5 display the data used to determine the maximum leasable commercial area per acre for each commercial zoning designation.

² Derived from Site Planning, Kevin Lynch and Gary Hack, 1985, page 461. This book suggests a range of 250-400 square feet per car be used. We selected the midpoint in this range.

Table 3
Retail/Service Commercial (RSC)

Criteria	Formula	Result
Minimum Lot Size (sq. ft.)	1 acre, 43,560 sq. ft. (default = 43,560 sq. ft., a gross acre)	n/a
Maximum Lots Per Acre	43,560 (one acre) ÷ 43,560 (min. lot size)	1.0 lots per acre
Setbacks & Yards (Linear Feet)	front = 20, side = 10, rear = 20	n/a
Maximum Lot Coverage	Not specified	n/a
Minimum Lot Dimensions (Linear Feet)	width = 100 (default width & depth = square root of minimum lot size)	n/a
Parking Requirement Average	[Commercial Uses (200)] ÷ 1	200 sq. ft. gfa
Parking Ratio	325 (one space fixed) ÷ 200 (parking requirement)	1.63
Net Usable Area Per Acre	sq. root of 43,560 (min. lot size) = 208.7 (lot width and depth); 208.7 (lot depth) - 40 (front & rear setbacks) = 168.7 (buildable lot depth); 208.7 (width) - 20 (side setbacks) = 188.7 (buildable lot width); 168.7 (lot depth) * 188.7 (lot width) = 31,834 (buildable land per lot); 31,834 * 1 (lots per acre)	31,834 sq. ft.
Leasable Sq. Ft. Per Acre	31,834 (net usable area) ÷ 2.63 (parking ratio + 1)	12,104 sq. ft.

Table 4
Commercial Rural Center (CRC)

Criteria	Formula	Result
Minimum Lot Size (sq. ft.)	1 acre, 43,560 sq. ft. (default = 43,560 sq. ft., a gross acre)	n/a
Maximum Lots Per Acre	43,560 (one acre) ÷ 43,560 (min. lot size)	1.0 lots per acre
Setbacks & Yards (Linear Feet)	all sides = 20	n/a
Maximum Lot Coverage	Not specified	n/a
Minimum Lot Dimensions (Linear Feet)	width = 150 (default width & depth = square root of minimum lot size)	n/a
Parking Requirement Average	[Commercial Uses (200)] ÷ 1	200 sq. ft. gfa
Parking Ratio	325 (one space fixed) ÷ 200 (parking requirement)	1.63
Net Usable Area Per Acre	sq. root of 43,560 (min. lot size) = 208.7 (lot width and depth); 208.7 (lot width & depth) - 40 (setbacks for two sides) = 168.7 (buildable lot width & depth); 168.7 (lot depth) * 168.7 (lot width) = 28,460 (buildable land per lot); 28,460 * 1 (lots per acre)	28,460 sq. ft.
Leasable Sq. Ft. Per Acre	28,460 (net usable area) ÷ 2.63 (parking ratio + 1)	10,821 sq. ft.

Table 5
Tourist Commercial (TC)

Criteria	Formula	Result
Minimum Lot Size (sq. ft.)	1 acre, 43,560 sq. ft. (default = 43,560 sq. ft., a gross acre)	n/a
Maximum Lots Per Acre	43,560 (one acre) ÷ 43,560 (min. lot size)	1.0 lots per acre
Setbacks & Yards (Linear Feet)	all sides = 40	n/a
Maximum Lot Coverage	Not specified	n/a
Minimum Lot Dimensions (Linear Feet)	width = 100 (default width & depth = square root of minimum lot size)	n/a
Parking Requirement Average	[Commercial Uses (200)] ÷ 1	200 sq. ft. gfa
Parking Ratio	325 (one space fixed) ÷ 200 (parking requirement)	1.63
Net Usable Area Per Acre	sq. root of 43,560 (min. lot size) = 208.7 (lot width and depth); 208.7 (lot width & depth) - 80 (setbacks for two sides) = 128.7 (buildable lot width & depth); 128.7 (lot depth) * 128.7 (lot width) = 16,564 (buildable land per lot); 16,564 * 1 (lots per acre)	16,564 sq. ft.
Leasable Sq. Ft. Per Acre	16,564 (net usable area) ÷ 2.63 (parking ratio + 1)	6,298 sq. ft.

A-2.3 Industrial Zoning Designations

All industrial zones are referred to as "I" in the spreadsheet tables. Table 7 shows the industrial zoning designations used in this analysis.

Table 7
Industrial Zoning Designations

Industrial Zoning Designation	Abbreviation
Agribusiness	A-B
Light Industrial	LI
Heavy Industrial	HI

APPENDIX B SPREADSHEET TABLES

We present the data from the county analysis in three Spreadsheet Tables. Tables 1 and 2 are organized by census tract and block in ascending order.

- **Table 1** provides residential development estimates.
- **Table 2** provides commercial and industrial development estimates.
- **Table 3** provides summary data totals for Tables 1 and 2.

Zoning Designations

The following zoning designations are found in Spreadsheet Tables 1 and 2:

UC	Unincorporated Community
RR2	Rural Residential 2
RR4	Rural Residential 4
MUF10	Multiple Use Forest 10
FR5	Forest Residential 5
MRI	Mountain Residential 1
CRC	Commercial Rural Center
RSC	Retail/Service Commercial
TC	Tourist Commercial
I	Agribusiness, Light Industrial, Heavy Industrial

T 1: RESIDENTIAL LAND (OUTSIDE URBAN AREAS)

Location: Umatilla County

Polygon Descriptor Number	Census Tract	Census Block	Census Block Acres	Census Block Res. Units (Existing)	Zoning Type	Res. Acres by Zone	Percent of Total Res.	Allowable Density (units/acre)	Average Density (units/acre)	Developed Res. Acres	Percent Vacant	Vacant Res. Acres	Potential Buildable Units	Maximum Allowed Units
M4	9501	101	39.5	6	RR2	28.3	100%	0.5	0.5	12.0	58%	16.3		
M5	9501	102	6.7	5	RR2	5.9	100%	0.5	0.5	5.9	0%	0.0	8	14
M4	9501	103	146.0	12	RR2	3.5	100%	0.5	0.5	3.5	0%	0.0	0	5
M4	9501	104	61.8	9	RR2	11.9	100%	0.5	0.5	11.9	0%	0.0	0	12
M5	9501	105	24.0	4	RR4	2.6	100%	0.3	0.3	2.6	0%	0.0	0	9
M5	9501	106	5.7	4	RR4	2.0	100%	0.3	0.3	2.0	0%	0.0	0	4
M6	9501	121	77.8	22	RR2	55.0	100%	0.5	0.5	44.0	20%	11.0	6	28
M5	9501	131	39.8	3	RR4	8.6	100%	0.3	0.3	8.6	0%	0.0	0	3
M4	9501	133	16.8	9	RR4	12.7	100%	0.3	0.3	12.7	0%	0.0	0	9
R11 M4	9501	143	45.5	26	RR4	37.0	100%	0.3	0.3	37.0	0%	0.0	0	26
R11, M4	9501	144	67.2	15	RR4	12.0	100%	0.3	0.3	12.0	0%	0.0	0	15
R11	9501	153	16.8	8	RR4	16.8	100%	0.3	0.3	16.8	0%	0.0	0	8
R11	9501	154	65.2	23	RR4	26.5	100%	0.3	0.3	26.5	0%	0.0	0	23
R11 M3	9501	155	133.4	26	RR4	20.7	100%	0.3	0.3	20.7	0%	0.0	0	26
M3	9501	156	1.7	26	RR4	1.7	100%	0.3	0.3	1.7	0%	0.0	0	26
M3	9501	157	2.0	30	RR4	2.0	100%	0.3	0.3	2.0	0%	0.0	0	30
M3	9501	158	2.7	22	RR4	2.7	100%	0.3	0.3	2.7	0%	0.0	0	22
M3	9501	159	99.3	24	RR4	12.3	100%	0.3	0.3	12.3	0%	0.0	0	24
R11	9501	161	8.4	7	RR4	8.4	100%	0.3	0.3	8.4	0%	0.0	0	7
M4	9501	205	154.4	29	RR2	86.3	100%	0.5	0.5	58.0	33%	28.3	14	43
M4	9501	206	420.8	0	RR2	18.0	100%	0.5	0.5	0.0	100%	18.0	9	9
M4	9501	207	105.5	26	RR2	77.3	100%	0.5	0.5	52.0	33%	25.3	13	39
M4	9501	208	81.0	17	RR2	40.3	100%	0.5	0.5	34.0	16%	6.3	3	20
M3	9501	211	41.8	9	RR4	5.4	100%	0.3	0.3	5.4	0%	0.0	0	9
M3	9501	212	189.5	42	RR4	17.2	100%	0.3	0.3	17.2	0%	0.0	0	42
R12	9501	301	7,851.4	7	FR5	174.6	100%	0.2	0.2	35.0	80%	139.6	28	35
R12	9501	302	11,134.3	49	FR5	284.6	100%	0.2	0.2	245.0	14%	39.6	8	57
R	9501	318	2,358.6	4	FR5	28.5	100%	0.2	0.2	20.0	30%	8.5	2	6
R	9501	323	70,617.0	108	MUF10	10.2	3%	0.1	0.4	254.2	24%	81.4	35	143
					FR5	229.8	68%	0.2						
R15					MR1	95.6	28%	1.0						
R15	9501	388	1,437.6	15	FR5	182.1	100%	0.2	0.2	75.0	59%	107.1	21	36
R10	9503	137	79.8	26	UC	28.9	100%	5.8	5.8	4.5	84%	24.4	142	168
R10	9503	138	2.0	0	UC	2.0	100%	5.8	5.8	0.0	100%	2.0	12	12
R10	9503	139	3.0	4	UC	3.0	100%	5.8	5.8	0.7	77%	2.3	13	17
R10	9503	140	2.5	3	UC	2.5	100%	5.8	5.8	0.5	79%	2.0	12	15
R10	9503	141	619.2	17	UC	1.6	100%	5.8	5.8	1.6	0%	0.0	0	17
R10	9503	148	665.7	23	UC	37.4	100%	5.8	5.8	4.0	89%	33.4	194	217
M11	9504	168	3,068.2	10	RR2	24.7	100%	0.5	0.5	20.0	19%	4.7	2	12
M11	9504	177	898.2	14	RR2	21.6	100%	0.5	0.5	21.6	0%	0.0	0	14
M10	9505	304	4,017.6	35	UC	39.5	100%	5.8	5.8	6.0	85%	33.5	194	229
M10	9505	305	60.8	2	UC	14.7	100%	5.8	5.8	0.3	98%	14.4	83	85
M10	9505	317	1,032.9	23	UC	27.5	100%	5.8	5.8	4.0	86%	23.5	137	169
R21	9505	353	758.1	5	RR4	37.7	100%	0.3	0.3	16.7	56%	21.0	6	11
M10	9505	396	4.2	11	UC	4.2	100%	5.8	5.8	1.9	55%	2.3	13	24
M10	9505	397	2.0	6	UC	2.0	100%	5.8	5.8	1.0	48%	1.0	6	12
R19	9505	405B	33.6	0	RR2	23.1	100%	0.5	0.5	0.0	100%	23.1	12	12
R19	9505	406B	8.9	10	RR2	6.3	100%	0.5	0.5	6.3	0%	0.0	0	10
R19	9505	409	12.1	6	RR2	12.1	100%	0.5	0.5	12.0	1%	0.1	0	6
R19	9505	410	1,436.1	17	RR2	136.7	100%	0.5	0.5	34.0	75%	102.7	51	68
R21	9505	413	96.6	1	RR4	5.0	100%	0.3	0.3	3.3	33%	1.7	1	2
R19	9505	415	14.3	7	RR2	14.3	100%	0.5	0.5	14.0	2%	0.3	0	7
R19	9505	416	31.0	4	RR2	31.6	100%	0.5	0.5	8.0	75%	23.6	12	16
R19	9505	417	10.6	3	RR2	10.6	100%	0.5	0.5	6.0	43%	4.6	2	5
R19	9505	418	8.6	0	RR2	8.6	100%	0.5	0.5	0.0	100%	8.6	4	4
R19	9505	419	8.4	1	RR2	8.4	100%	0.5	0.5	2.0	76%	6.4	3	4
R19	9505	420	16.6	2	RR2	16.6	100%	0.5	0.5	4.0	76%	12.6	6	8
R19	9505	421	95.9	11	RR2	88.6	100%	0.5	0.5	22.0	75%	66.6	33	44
R19	9505	422	145.0	20	RR2	21.0	21%	0.5	0.3	58.5	42%	42.3	14	34
					RR4	79.8	79%	0.3						
S10	9506	510	3,388.2	6	RR2	29.4	100%	0.5	0.5	12.0	59%	17.4	9	15
R19	9506	513	1,763.1	83	RR2	251.6	100%	0.5	0.5	166.0	34%	85.6	43	126
R19	9506	514	7.4	12	RR2	7.4	100%	0.5	0.5	7.4	0%	0.0	0	12
R	9506	515	17.0	15	RR2	15.0	100%	0.5	0.5	15.0	0%	0.0	0	15
R	9506	517	7.2	16	RR2	7.2	100%	0.5	0.5	7.2	0%	0.0	0	16
R19	9506	518	41.0	3	RR2	3.7	100%	0.5	0.5	3.7	0%	0.0	0	3

TABLE 1: RESIDENTIAL LAND (OUTSIDE URBAN AREAS)

Location: Umatilla County

Polygon Descriptor Number	Census Tract	Census Block	Census Block Acres	Census Block Res. Units (Existing)	Zoning Type	Res. Acres by Zone	Percent of Total Res.	Allowable Density (units/acre)	Average Density (units/acre)	Developed Res. Acres	Percent Vacant	Vacant Res. Acres	Potential Buildable Units	Maximum Allowed Units
R19	9506	519	5.2	6	RR2	5.2	100%	0.5	0.5	5.2	0%	0.0	0	6
R19	9506	520	39.5	19	RR2	9.8	100%	0.5	0.5	9.8	0%	0.0	0	19
R20, R19	9506	603	771.0	5	RR2	23.3	100%	0.5	0.5	10.0	57%	13.3	7	12
M11	9507	101B	62.0	6	RR2	34.4	100%	0.5	0.5	12.0	65%	22.4	11	17
M11	9507	106	42.7	3	RR2	3.2	100%	0.5	0.5	3.2	0%	0.0	0	3
R9	9508	102	86.7	3	RR2	18.0	100%	0.5	0.5	6.0	67%	12.0	6	9
R8	9508	103	834.5	14	RR2	69.3	100%	0.5	0.5	28.0	60%	41.3	21	35
R9	9508	146	1.2	0	RR2	1.2	100%	0.5	0.5	0.0	100%	1.2	1	1
R9	9508	147	0.7	1	RR2	0.7	100%	0.5	0.5	0.7	0%	0.0	0	1
R9	9508	148	13.3	8	RR2	13.3	100%	0.5	0.5	13.3	0%	0.0	0	8
R9	9508	149	3.7	4	RR2	3.7	100%	0.5	0.5	3.7	0%	0.0	0	4
R4	9508	325	95.9	5	RR4	74.5	100%	0.3	0.3	16.7	78%	57.8	17	22
M1	9508	327	50.4	8	RR4	29.0	100%	0.3	0.3	26.7	8%	2.3	1	9
M1	9508	330	2.0	0	RR4	0.7	100%	0.3	0.3	0.0	100%	0.7	0	0
M1	9508	331	7.2	2	RR4	1.8	100%	0.3	0.3	1.8	0%	0.0	0	2
M1	9508	332	6.9	0	RR4	6.9	100%	0.3	0.3	0.0	100%	6.9	2	2
R4	9508	334	107.7	4	RR4	42.2	100%	0.3	0.3	13.3	68%	28.9	9	13
R4	9508	335	38.1	4	RR4	34.2	100%	0.3	0.3	13.3	61%	20.9	6	10
R4	9508	336	119.3	9	RR4	26.6	100%	0.3	0.3	26.6	0%	0.0	0	9
R4	9508	337	53.9	2	RR4	26.5	100%	0.3	0.3	6.7	75%	19.8	6	8
R2	9508	340	129.0	2	RR2	20.9	100%	0.5	0.5	4.0	81%	16.9	8	10
R2	9508	343	30.6	0	RR2	30.6	100%	0.5	0.5	0.0	100%	30.6	15	15
R4	9508	344	44.0	0	RR4	16.5	100%	0.3	0.3	0.0	100%	16.5	5	5
R2	9508	345	41.0	0	RR2	41.0	100%	0.5	0.5	0.0	100%	41.0	21	21
R2	9508	346	80.3	0	RR2	80.3	100%	0.5	0.5	0.0	100%	80.3	40	40
M1	9508	348	134.7	8	RR2	9.1	100%	0.5	0.5	9.1	0%	0.0	0	8
R3	9508	350	63.8	3	RR2	18.1	100%	0.5	0.5	6.0	67%	12.1	6	9
R2	9508	351	45.5	0	RR2	45.5	100%	0.5	0.5	0.0	100%	45.5	23	23
R3	9508	352	29.2	24	RR2	27.5	100%	0.5	0.5	27.5	0%	0.0	0	24
R2	9508	356	89.5	18	RR2	34.3	100%	0.5	0.5	34.3	0%	0.0	0	18
R2	9508	357	30.4	2	RR2	30.4	100%	0.5	0.5	4.0	87%	26.4	13	15
R2	9508	358	124.8	6	RR2	124.8	100%	0.5	0.5	12.0	90%	112.8	56	62
R2	9508	359	1.2	0	RR2	1.2	100%	0.5	0.5	0.0	100%	1.2	1	1
R2	9508	360	10.6	0	RR2	10.6	100%	0.5	0.5	0.0	100%	10.6	5	5
R2	9508	361	88.0	9	RR2	88.0	100%	0.5	0.5	18.0	80%	70.0	35	44
R2	9508	362	87.2	0	RR2	87.2	100%	0.5	0.5	0.0	100%	87.2	44	44
R2	9508	363	2.2	0	RR2	2.2	100%	0.5	0.5	0.0	100%	2.2	1	1
R2	9508	364	430.4	23	RR2	290.4	100%	0.5	0.5	46.0	84%	244.4	122	145
R2	9508	365	65.5	8	RR2	54.8	100%	0.5	0.5	16.0	71%	38.8	19	27
R2	9508	366	13.3	2	RR2	13.3	100%	0.5	0.5	4.0	70%	9.3	5	7
R2	9508	367	36.3	0	RR2	36.3	100%	0.5	0.5	0.0	100%	36.3	18	18
R2	9508	369	60.3	6	RR2	60.3	100%	0.5	0.5	12.0	80%	48.3	24	30
R7	9508	408	70.4	9	RR4	69.5	100%	0.3	0.3	30.0	57%	39.5	12	21
R7	9508	409	36.6	4	RR4	26.6	100%	0.3	0.3	13.3	50%	13.3	4	8
R7	9508	411	302.5	8	RR4	58.2	100%	0.3	0.3	26.7	54%	31.6	9	17
R7	9508	412	161.9	9	RR4	34.9	100%	0.3	0.3	30.0	14%	4.9	1	10
R7	9508	416	318.8	41	RR4	88.9	42%	0.3	0.4	98.5	54%	114.3	48	89
R7					RR2	123.9	58%	0.5						
R7	9508	417	25.9	6	RR4	20.0	100%	0.3	0.3	20.0	0%	0.0	0	6
R7	9508	418	64.7	4	RR4	49.7	100%	0.3	0.3	13.3	73%	36.4	11	15
R7	9508	419	63.8	6	RR4	61.9	100%	0.3	0.3	20.0	68%	41.9	13	19
R7	9508	420	3.7	1	RR4	3.6	100%	0.3	0.3	3.3	7%	0.3	0	1
R7	9508	423	65.7	3	RR4	2.1	100%	0.3	0.3	2.1	0%	0.0	0	3
R7	9508	426	90.7	5	RR4	18.3	100%	0.3	0.3	16.7	9%	1.6	0	5
R7	9508	429	311.3	18	RR4	28.4	100%	0.3	0.3	28.4	0%	0.0	0	18
R7	9508	430	80.8	10	RR4	74.9	100%	0.3	0.3	33.3	55%	41.5	12	22
R7	9508	431	80.6	8	RR4	18.6	100%	0.3	0.3	18.6	0%	0.0	0	8
R7	9508	433	11.9	4	RR4	11.8	100%	0.3	0.3	11.8	0%	0.0	0	4
R7	9508	434	159.1	20	RR4	78.2	100%	0.3	0.3	66.7	15%	11.5	3	23
R7	9508	435	147.5	11	RR4	147.6	100%	0.3	0.3	36.7	75%	110.9	33	44
R7	9508	436	1.7	0	RR4	1.7	100%	0.3	0.3	0.0	100%	1.7	1	1
R7	9508	437	4.4	0	RR4	4.4	100%	0.3	0.3	0.0	100%	4.4	1	1
R7	9508	438	165.8	38	RR4	165.8	100%	0.3	0.3	126.7	24%	39.1	12	50
R7	9508	439	320.2	36	RR4	301.8	94%	0.3	0.3	115.6	64%	204.6	64	100
R7					RR2	18.4	6%	0.5						
R7	9508	440	79.6	17	RR4	59.7	85%	0.3	0.3	56.7	20%	13.9	4	21

TAI : RESIDENTIAL LAND (OUTSIDE URBAN AREAS)

Location: Umatilla County

Polygon Descriptor Number	Census Tract	Census Block	Census Block Acres	Census Block Res. Units (Existing)	Zoning Type	Res. Acres by Zone	Percent of Total Res.	Allowable Density (units/acre)	Average Density (units/acre)	Developed Res. Acres	Percent Vacant	Vacant Res. Acres	Potential Buildable Units	Maximum Allowed Units
R7					RR2	10.9	15%	0.5						
R7	9508	441	80.8	27	RR4	80.8	100%	0.3	0.3	80.8	0%	0.0	0	27
R7	9508	442	161.1	39	RR2	66.9	46%	0.5	0.4	99.6	32%	46.5	18	57
R7					RR4	79.2	54%	0.3						
R7	9508	443	161.6	6	RR4	28.6	100%	0.3	0.3	20.0	30%	8.6	3	9
R7	9508	446	144.6	16	RR4	126.1	100%	0.3	0.3	53.3	58%	72.8	22	38
R7	9508	449	253.8	58	RR2	253.8	100%	0.5	0.5	116.0	54%	137.8	69	127
R7	9508	450	1.5	0	RR2	1.5	100%	0.5	0.5	0.0	100%	1.5	1	1
R7	9508	451	66.0	25	RR2	63.1	100%	0.5	0.5	50.0	21%	13.1	7	32
R7	9508	452	206.1	78	RR2	206.1	100%	0.5	0.5	156.0	24%	50.1	25	103
R7	9508	453	125.3	52	RR2	125.3	100%	0.5	0.5	104.0	17%	21.3	11	63
R7	9508	454	185.1	15	RR2	82.2	100%	0.5	0.5	30.0	64%	52.2	26	41
R7	9508	455	137.4	31	RR2	137.4	100%	0.5	0.5	62.0	55%	75.4	38	69
R7	9508	460	89.7	0	RR2	15.0	100%	0.5	0.5	0.0	100%	15.0	8	8
R7	9508	461	59.3	0	RR2	21.8	100%	0.5	0.5	0.0	100%	21.8	11	11
R7	9508	462	251.5	34	RR2	80.5	100%	0.5	0.5	68.0	16%	12.5	6	40
R3	9509	233	504.1	5	RR4	33.5	100%	0.3	0.3	16.7	50%	16.8	5	10
R3	9509	246	151.0	0	RR4	46.8	100%	0.3	0.3	0.0	100%	46.8	14	14
R3	9509	247	14.6	0	RR4	3.2	100%	0.3	0.3	0.0	100%	3.2	1	1
R3	9509	248	187.3	19	RR4	187.3	100%	0.3	0.3	63.3	66%	124.0	37	56
R3	9509	249	9.6	3	RR4	9.5	100%	0.3	0.3	9.5	0%	0.0	0	3
R3	9509	250	252.3	24	RR2	195.6	100%	0.5	0.5	48.0	75%	147.6	74	98
R3	9509	251B	124.0	15	RR4	44.3	100%	0.3	0.3	44.3	0%	0.0	0	15
R3	9509	253	15.8	1	RR2	15.8	100%	0.5	0.5	2.0	87%	13.8	7	8
R3	9509	254	4.9	2	RR2	4.9	100%	0.5	0.5	4.0	18%	0.9	0	2
R3	9509	256	106.7	2	RR4	84.9	100%	0.3	0.3	6.7	92%	78.2	23	25
R3	9509	270	6.2	0	RR4	6.2	100%	0.3	0.3	0.0	100%	6.2	2	2
F	9509	271	55.6	1	RR4	42.2	100%	0.3	0.3	3.3	92%	38.9	12	13
I	9509	272	43.5	4	RR4	32.7	100%	0.3	0.3	13.3	59%	19.4	6	10
R3	9509	275	9.1	2	RR4	9.1	100%	0.3	0.3	6.7	27%	2.4	1	3
R3	9509	277B	159.1	27	RR2	159.1	100%	0.5	0.5	54.0	66%	105.1	53	80
R3	9509	279	33.1	5	RR2	33.1	100%	0.5	0.5	10.0	70%	23.1	12	17
R3	9509	280	37.8	5	RR2	33.9	100%	0.5	0.5	10.0	71%	23.9	12	17
R1	9509	325C	814.4	0	RR2	33.9	100%	0.5	0.5	0.0	100%	33.9	17	17
R1	9509	327	943.2	3	RR4	54.4	11%	0.3	0.5	6.3	99%	468.8	224	227
R1					RR2	420.7	89%	0.5						
R1	9509	328	400.8	56	RR2	58.4	100%	0.5	0.5	58.4	0%	0.0	0	56
R13	9510	101	575.7	26	RR4	24.2	100%	0.3	0.3	24.2	0%	0.0	0	26
R13	9510	104	521.9	19	RR4	102.9	100%	0.3	0.3	63.3	38%	39.6	12	31
R13	9510	109	42.0	12	RR4	31.2	100%	0.3	0.3	31.2	0%	0.0	0	12
R13	9510	110	494.9	1	RR4	0.4	100%	0.3	0.3	0.4	0%	0.0	0	1
R13	9510	111	85.2	7	RR4	85.2	100%	0.3	0.3	23.3	73%	61.9	19	26
R13	9510	112	71.7	6	RR4	22.8	100%	0.3	0.3	20.0	12%	2.8	1	7
R13	9510	116	57.6	17	RR4	53.6	100%	0.3	0.3	53.6	0%	0.0	0	17
R13	9510	117	12.6	10	RR4	9.5	100%	0.3	0.3	9.5	0%	0.0	0	10
R13	9510	118	160.4	21	RR4	160.4	100%	0.3	0.3	70.0	56%	90.4	27	48
R13	9510	119	224.9	24	RR4	198.1	100%	0.3	0.3	80.0	60%	118.1	35	59
R13	9510	120	42.3	21	RR4	42.3	100%	0.3	0.3	42.3	0%	0.0	0	21
R13	9510	122	197.2	4	RR4	4.1	100%	0.3	0.3	4.1	0%	0.0	0	4
R13	9511	101C	134.9	17	RR4	2.6	100%	0.3	0.3	2.6	0%	0.0	0	17
R13	9511	102	489.5	11	RR4	46.6	100%	0.3	0.3	36.7	21%	9.9	3	14
R13	9511	103	269.8	12	RR4	29.4	100%	0.3	0.3	29.4	0%	0.0	0	12
R13	9511	104	243.1	14	RR4	162.4	100%	0.3	0.3	46.7	71%	115.7	35	49
R13	9511	107	147.0	32	RR4	138.8	100%	0.3	0.3	106.7	23%	32.1	10	42
R13	9511	108	126.0	25	RR4	125.0	100%	0.3	0.3	83.3	33%	41.7	13	38
R13	9511	109	18.5	6	RR4	18.5	100%	0.3	0.3	18.5	0%	0.0	0	6
R13	9511	110	129.0	12	RR4	40.3	100%	0.3	0.3	40.0	1%	0.3	0	12
R13	9511	113	35.6	6	RR4	35.1	100%	0.3	0.3	20.0	43%	15.1	5	11
R13	9511	114	20.8	1	RR4	20.8	100%	0.3	0.3	3.3	84%	17.5	5	6
R13	9511	115	4.4	0	RR4	4.4	100%	0.3	0.3	0.0	100%	4.4	1	1
R13	9511	126	101.1	16	RR4	27.4	100%	0.3	0.3	27.4	0%	0.0	0	15
R13	9511	214	12.6	12	RR4	10.9	100%	0.3	0.3	10.9	0%	0.0	0	12
R13	9511	508	92.9	4	RR4	67.6	100%	0.3	0.3	13.3	80%	54.5	16	20
R1	9511	510	40.0	2	RR4	38.2	100%	0.3	0.3	6.7	83%	31.5	9	11
R14	9513	142	122.6	17	RR2	122.6	100%	0.5	0.5	34.0	72%	88.6	14	61
R14	9513	143	274.8	21	RR2	27.6	100%	0.5	0.5	27.6	0%	0.0	0	21

TABLE 1: RESIDENTIAL LAND (OUTSIDE URBAN AREAS)

Location: Umatilla County

Polygon Descriptor Number	Census Tract	Census Block	Census Block Acres	Census Block Res. Units (Existing)	Zoning Type	Res. Acres by Zone	Percent of Total Res.	Allowable Density (units/acre)	Average Density (units/acre)	Developed Res. Acres	Percent Vacant	Vacant Res. Acres	Potential Buildable Units	Maximum Allowed Units
R27	9514	105D	144,506.1	104	UC	7,113.4	100%	5.8	5.8	17.9	100%	7,095.5	41,154	41,258
R26	9514	138G	105,053.8	119	MUF10	156.1	100%	0.1	0.1	156.1	0%	0.0	0	119
R22	9514	165B	1,784.3	10	RR2	7.9	100%	0.5	0.5	7.9	0%	0.0	0	10
R22	9514	209	4.4	0	RR4	4.0	100%	0.3	0.3	0.0	100%	4.0	1	1
R22	9514	210	2.7	0	RR4	2.7	100%	0.3	0.3	0.0	100%	2.7	1	1
R22	9514	211	3.2	0	RR4	3.2	100%	0.3	0.3	0.0	100%	3.2	1	1
R22	9514	212	260.2	34	RR4	34.0	100%	0.3	0.3	34.0	0%	0.0	0	34
R23	9514	223B	4,658.1	4	RR2	34.0	100%	0.5	0.5	8.0	76%	26.0	13	17
R24	9514	312B	11,051.5	24	RR2	7.2	100%	0.5	0.5	7.2	0%	0.0	0	24
R25	9514	405B	10,706.3	25	RR4	4.8	5%	0.3	0.5	51.0	48%	46.9	23	48
R24					RR2	93.1	95%	0.5						
R29	9514	481	2,772.2	8	FR5	2.2	100%	0.2	0.2	2.2	0%	0.0	0	8
R29	9514	483	216.7	3	FR5	24.8	100%	0.2	0.2	15.0	40%	9.8	2	5
R29	9514	484	79.3	3	FR5	46.1	100%	0.2	0.2	15.0	67%	31.1	6	9
R28	9514	506D	177,391.6	52	FR5	238.7	100%	0.2	0.2	238.7	0%	0.0	0	52
R29	9514	542	110,603.4	31	FR5	0.9	100%	0.2	0.2	0.9	0%	0.0	0	31
R15	9515	151B	6,309.0	23	FR5	205.8	100%	0.2	0.2	115.0	44%	90.8	18	41
R15	9515	160	518.9	21	FR5	79.2	67%	0.2	0.1	118.6	0%	0.0	0	21
R15					MR	39.4	33%	0						
R15	9515	161	6.4	1	FR5	6.4	100%	0.2	0.2	5.0	22%	1.4	0	1
R15	9515	162	464.5	15	MR1	55.4	67%	1.0	0.7	20.4	75%	62.4	46	61
R15					FR5	27.3	33%	0.2						
R15	9515	162	464.5	15	MR1	0.3	100%	1.0	1.0	0.3	0%	0.0	0	15
R15	9515	207	4,111.7	7	FR5	59.6	86%	0.2	0.2	35.0	50%	34.6	7	14
R15					MR1	10.0	14%	1.0						
R15	9515	210	419.6	6	FR5	79.7	34%	0.2	0.7	8.2	97%	227.8	166	172
R15					MR1	156.3	66%	1.0						
R15	9515	211	7.2	5	MR1	7.2	100%	1.0	1.0	5.0	31%	2.2	2	7
R15	9515	212	56.8	2	MR1	56.8	100%	1.0	1.0	2.0	96%	54.8	55	57
R15	9515	213	2.5	1	MR1	2.5	100%	1.0	1.0	1.0	60%	1.5	2	3
R15	9515	214	31.1	8	MR1	31.1	100%	1.0	1.0	8.0	74%	23.1	23	31
R15	9515	215	31.9	1	FR5	3.0	100%	0.2	0.2	3.0	0%	0.0	0	1
R15	9515	216	81.3	0	FR5	81.3	100%	0.2	0.2	0.0	100%	81.3	16	16
R15	9515	217	1,024.7	9	MR1	63.4	50%	1.0	0.6	16.3	87%	110.0	61	70
R15					MUF10	62.9	50%	0.1						
R15	9515	222	329.4	8	MR1	29.5	100%	1.0	1.0	8.0	73%	21.5	22	30
R15	9515	223	70.7	1	FR5	37.2	100%	0.2	0.2	5.0	87%	32.2	6	7
R15	9515	226	15,804.5	8	MUF10	228.5	54%	0.1	0.1	54.7	87%	369.5	54	62
R15,R17					FR5	195.7	46%	0.2						
R15	9515	230	168.0	0	FR5	28.8	100%	0.2	0.2	0.0	100%	28.8	6	6
R15	9515	231	21.3	3	MR1	21.3	100%	1.0	1.0	3.0	86%	18.3	18	21
R15	9515	232	5.7	1	MR1	5.7	100%	1.0	1.0	1.0	82%	4.7	5	6
R15	9515	233	240.7	1	MR1	53.3	100%	1.0	1.0	1.0	98%	52.3	52	53
R15					FR5	35.8	100%	0.2	0.2	0.0	100%	35.8	7	7
R15	9515	234	3.2	1	FR5	3.2	100%	0.2	0.2	3.2	0%	0.0	0	1
R15	9515	235	46.9	2	FR5	46.9	100%	0.2	0.2	10.0	79%	36.9	7	9
R15	9515	237	105.5	0	FR5	105.5	100%	0.2	0.2	0.0	100%	105.5	21	21
R15	9515	238	45.2	0	FR5	45.2	100%	0.2	0.2	0.0	100%	45.2	9	9
R15	9515	239	1.0	0	FR5	1.0	100%	0.2	0.2	0.0	100%	1.0	0	0
R15	9515	240	4.9	0	FR5	4.9	100%	0.2	0.2	0.0	100%	4.9	1	1
R15	9515	243	610.1	2	MR1	119.9	100%	1.0	1.0	2.0	98%	117.9	118	120
R15	9515	247	203.6	0	FR5	10.8	100%	0.2	0.2	0.0	100%	10.8	2	2
R15	9515	248	415.9	0	FR5	173.2	94%	0.2	0.3	0.0	100%	185.1	47	47
R15					MR1	11.9	6%	1.0						
R15	9515	253	3.0	0	FR5	3.0	100%	0.2	0.2	0.0	100%	3.0	1	1
R15	9515	254	2.2	0	FR5	2.2	100%	0.2	0.2	0.0	100%	2.2	0	0
R17	9515	270	121.1	0	FR5	32.4	88%	0.2	0.3	0.0	100%	36.8	11	11
R18					MR1	4.4	12%	1.0						
TOTAL	N/A	N/A	N/A	2,944	N/A	20,104	N/A	N/A	N/A	5,766	N/A	14,338	44,888	47,832

TABLE 2: COMMERCIAL AND INDUSTRIAL LAND (OUTSIDE URBAN AREAS)

Location: Umatilla County

Polygon Descriptor Number	Census Tract	Census Block	Census Block Acres	Zoning Type	Com./Ind. Acres by Zone	Vacant Commercial Acres	Vacant Industrial Acres	Developed Commercial Acres	Leasable Commercial Square Feet	Developed Industrial Acres
M4	9501	101	39.5	I	8.9	-	8.0	-	-	-
M4	9501	103	146.0	RSC	13.7	5.1	-	8.6	61,730	0.9
M4	9501	104	146.0	RSC	13.7	5.1	-	8.6	61,730	-
M5	9501	106	5.7	RSC	1.4	0.0	-	1.4	0	-
M5	9501	107	6.2	RSC	2.1	0.5	-	1.6	6,052	-
M6	9501	110	187.8	I	9.7	-	9.7	-	-	-
M3	9501	155	133.4	RSC	13.7	2.6	-	11.1	31,470	0.0
M3	9501	159	99.3	RSC	2.0	0.0	-	2.0	0	-
M3,M2,C3	9501	176	68.9	RSC	17.2	1.8	-	15.4	21,787	-
M2	9501	183	36.8	RSC	1.4	0.0	-	1.4	0	-
M2	9501	184	36.3	RSC	0.9	0.9	-	0.0	10,894	-
I3	9501	189	36.6	I	11.1	-	1.9	-	-	-
M2	9502	201B	64.7	RSC	3.4	3.4	-	0.0	41,154	9.2
M4	9501	206	38.1	RSC	20.3	12.7	-	7.6	153,721	-
M4	9501	207	105.5	RSC	22.3	14.7	-	7.6	177,929	-
M4				I	14.2	-	9.7	-	-	-
M3	9501	208	81.0	RSC	1.9	0.4	-	1.5	4,842	4.5
M3	9501	210	62.3	RSC	11.9	3.2	-	8.7	38,733	-
M3	9501	211	41.8	RSC	1.0	0.0	-	1.0	0	-
M3,M2,C3	9501	212	189.5	RSC	33.8	9.9	-	23.9	119,588	-
M3,M2				I	4.3	-	0.9	-	-	-
I2	9502	120	19.8	I	12.8	-	11.0	-	-	3.4
M2	9502	201B	64.7	RSC	3.4	3.4	-	0.0	41,154	1.8
I4	9504	254	1,312.3	I	4.5	-	3.4	-	-	-
M9	9504	256	4,729.5	I	25.0	-	15.4	-	-	1.1
M9	9505	304	4,017.6	TC	12.8	6.4	-	6.4	40,307	9.6
I5,M10				I	49.6	-	37.6	-	-	-
M9	9505	306	1,692.9	I	32.1	-	10.6	-	-	12.0
I4	9505	308	247.3	I	31.0	-	26.6	-	-	21.5
I6	9505	315	3,149.5	I	55.0	-	55.0	-	-	4.4
M11	9507	106	42.7	RSC	3.5	2.6	-	0.9	31,470	0.0
I7	9507	403	165.1	I	3.2	-	2.4	-	-	-
C1	9508	103	834.5	TC	12.0	0.0	-	12.0	0	0.8
I1	9508	113	3,179.4	I	931.0	-	605.2	-	-	-
M1	9508	321	21.7	I	2.8	-	2.8	-	-	325.9
M1	9508	322	46.9	I	24.3	-	4.9	-	-	0.0
M1	9508	328	14.6	I	12.4	-	8.0	-	-	19.4
M1				RSC	2.2	0.7	-	1.5	8,473	4.4
M1	9508	329	22.2	I	17.0	-	13.8	-	-	-
M1				RSC	5.2	0.5	-	4.7	6,294	3.2
M1	9508	330	2.0	I	1.3	-	1.3	-	-	-
M1	9508	331	7.2	I	5.4	-	5.4	-	-	0.0
M1	9508	348	134.7	I	86.6	-	57.1	-	-	0.0
M1				RSC	24.8	14.8	-	10.0	179,139	29.5
M1	9508	350	63.8	I	29.2	-	29.2	-	-	-
M1				RSC	4.7	4.7	-	0.0	56,889	0.0
M1	9508	353	9.6	I	8.3	-	7.0	-	-	-
M1	9508	354	6.9	I	6.2	-	6.2	-	-	1.3
M1	9508	356	89.5	I	23.0	-	21.1	-	-	0.0
M1				RSC	25.4	11.9	-	13.5	144,038	1.9
C2	9508	440	79.6	CRC	23.0	9.0	-	14.0	97,389	-
C4	9508	451	66.0	CRC	2.8	2.8	-	0.0	30,299	-
M1	9509	233	504.1	I	11.8	-	11.8	-	-	-
M1	9509	241	24.5	I	14.8	-	3.4	-	-	0.0
M1				RSC	2.0	2.0	-	0.0	24,208	11.4
M1	9509	242	94.9	I	72.3	-	66.0	-	-	-
M1				RSC	0.7	0.7	-	0.0	8,473	6.3
M1	9509	243	3.0	I	3.0	-	3.0	-	-	-
M1	9509	244	1.5	I	1.5	-	1.5	-	-	0.0
M1	9509	245	2.5	I	2.5	-	2.5	-	-	0.0
M1	9509	246	151.0	I	118.1	-	118.1	-	-	0.0
M1	9509	247	14.6	I	12.7	-	12.7	-	-	0.0
M1	9509	256	106.7	I	14.6	-	13.7	-	-	0.0
M1	9509	257	2.2	RSC	1.4	0.9	-	0.5	10,894	0.9
M1	9509	258	91.4	I	83.7	-	60.1	-	-	-
M1				RSC	7.7	0.8	-	6.9	9,683	23.6
M1	9509	259	10.4	I	10.4	-	10.4	-	-	-
M1	9509	259	10.4	I	10.4	-	10.4	-	-	0.0
M1	9509	260	13.3	I	13.3	-	13.3	-	-	0.0
M1	9509	261	1.0	I	1.0	-	1.0	-	-	0.0
M1	9509	262	2.0	I	2.0	-	2.0	-	-	0.0

TABLE 2: COMMERCIAL AND INDUSTRIAL LAND (OUTSIDE URBAN AREAS)

Location: Umatilla County

Polygon Descriptor Number	Census Tract	Census Block	Census Block Acres	Zoning Type	Com/Ind. Acres by Zone	Vacant Commercial Acres	Vacant Industrial Acres	Developed Commercial Acres	Leasable Commercial Square Feet	Developed Industrial Acres
M1	9509	263	46.0	RSC	16.8	2.8	--	14.0	33,891	--
M1				I	29.2	--	18.9	--	--	10.3
M1	9509	264	4.7	RSC	1.6	0.4	--	1.2	4,842	--
M1				I	3.1	--	2.5	--	--	0.6
M1	9509	265	1.2	I	1.2	--	1.2	--	--	0.0
M1	9509	266	4.4	I	4.4	--	4.4	--	--	0.0
M1	9509	267	1.5	I	1.5	--	1.5	--	--	0.0
M1	9509	268	8.4	I	8.4	--	7.6	--	--	0.8
M1	9509	269	1.2	I	1.2	--	1.2	--	--	0.0
M1	9509	271	55.6	I	13.4	--	13.4	--	--	0.0
M1	9509	272	43.5	I	13.1	--	4.9	--	--	8.2
M1	9509	273	14.3	I	12.4	--	7.6	--	--	4.8
M1	9509	274	24.5	RSC	21.0	12.6	--	8.4	152,510	--
M1				I	1.0	--	0.5	--	--	0.5
M1	9509	276	56.6	RSC	32.4	6.1	--	26.3	73,834	--
M1				I	19.5	--	17.6	--	--	1.9
M1	9509	278	15.1	I	14.8	--	13.6	--	--	1.2
M1	9510	126	53.1	I	53.1	--	52.0	--	--	1.1
M7	9511	102	489.5	I	8.3	--	8.3	--	--	0.0
M8	9511	116	349.9	I	6.9	--	3.5	--	--	3.4
M7	9511	124	296.5	I	3.6	--	3.6	--	--	0.0
M7	9511	125	105.3	I	95.2	--	47.7	--	--	47.5
M7	9511	127	60.0	I	55.9	--	55.9	--	--	0.0
M7	9511	128	17.0	I	6.6	--	6.6	--	--	0.0
M7	9511	129	17.3	I	17.3	--	17.3	--	--	0.0
M7	9511	130	99.6	I	19.6	--	8.8	--	--	10.8
M7	9511	131	20.0	I	20.0	--	20.0	--	--	0.0
M7	9511	137	3,406.0	TC	19.6	19.6	--	0.0	123,441	--
M7	9511	143	483.6	TC	8.8	0.0	--	8.8	0	--
M7				I	95.5	--	73.6	--	--	21.9
M7	9511	144	11.4	I	11.4	--	0.0	--	--	11.4
M7	9511	146	102.5	I	29.3	--	7.3	--	--	22.0
C3	9511	152	71.9	TC	10.8	5.0	--	5.8	31,490	--
M7	9511	157	246.4	I	83.5	--	56.8	--	--	26.7
M7				TC	33.4	33.4	--	0.0	210,353	--
M7	9511	158	62.5	I	8.7	--	0.0	--	--	8.7
M8	9511	514	39.0	I	27.3	--	13.7	--	--	13.6
M8	9511	515	80.6	I	26.2	--	3.9	--	--	22.3
M8	9511	516	122.8	I	122.8	--	110.5	--	--	12.3
M8	9511	530	22.7	I	22.7	--	17.2	--	--	5.5
M8	9511	531	4.0	I	4.0	--	0.0	--	--	4.0
M8	9511	532	6.9	I	6.9	--	0.0	--	--	6.9
M8	9511	533	54.6	I	54.6	--	54.6	--	--	0.0
M8	9511	535	16.3	I	16.3	--	16.3	--	--	0.0
M8	9511	536	18.0	I	18.0	--	14.4	--	--	3.6
M8	9511	537	1.7	I	1.7	--	1.7	--	--	0.0
M8	9511	538	20.5	I	20.5	--	20.5	--	--	0.0
M8	9511	541	28.2	I	28.2	--	0.0	--	--	28.2
M8	9513	403	225.8	I	225.8	--	225.8	--	--	0.0
M8	9513	404	112.4	I	112.4	--	0.0	--	--	112.4
M8	9513	405	27.7	I	27.7	--	0.0	--	--	27.7
M8	9513	406	131.5	I	131.5	--	0.0	--	--	131.5
M8	9513	407	2.0	I	2.0	--	0.0	--	--	2.0
M8	9513	408	1.0	I	1.0	--	0.0	--	--	1.0
M8	9513	409	1.7	I	1.7	--	0.0	--	--	1.7
M8	9513	410	27.2	I	27.2	--	0.0	--	--	27.2
M8	9513	411	233.2	I	233.2	--	0.0	--	--	233.2
M8	9513	412	13.1	I	13.1	--	13.1	--	--	0.0
M8	9513	413	11.4	I	11.4	--	11.4	--	--	0.0
M8	9513	414	62.5	I	62.5	--	0.0	--	--	62.5
M8	9513	485	14.6	I	14.6	--	0.0	--	--	14.6
M8	9513	486	10.9	I	10.9	--	0.0	--	--	10.9
TOTAL	N/A	N/A	N/A	N/A	4,080	201	2,243	235	2,048,700	1,400

TABLE 3: SUMMARY TABLE - RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL LAND OUTSIDE OF URBAN AREAS

Location: Umatilla County

	Total Residential Acres	Vacant Residential Acres	Census Block Res. Units (Existing)	Potential Buildable Units	Maximum Allowed Units	Total Commercial Acres	Vacant Commercial Acres	Leasable Commercial Square Feet	Total Industrial Acres	Vacant Industrial Acres
TOTAL	20,104	14,338	2,944	44,888	47,832	437	201	2,048,700	3,643	2,243

APPENDIX E: HUES TRANSPORTATION PRIORITIES



HUES

Transportation Priorities

August 1998

Presented by

HUES Growth Impact Strategic Planning Group
A work product of the Transportation Subcommittee

Presented to

Umatilla County Board of Commissioners
Oregon Department of Transportation
and
Other interested parties

HUES
Transportation Subcommittee

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HUES

Transportation Priorities

August 1998

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 - C. Safety
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 - E. Bicycle/Pedestrian

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L Priority Transportation Projects by Jurisdiction

The HUES Transportation Subcommittee requested that each of the HUES communities, as well as the County, submit a list of transportation priority projects. The subcommittee then consolidated the lists in order to identify areas of connectivity and potential project coordination. The subcommittee did not, however, prioritize these projects within the region. Instead, each entity's priorities are listed separately and the areas of common interest and connectivity are presented as general areas of most need.

Hermiston

1. Umatilla River Bridge Improvements at Punkin Center Road
2. Fourth Street improvements and signalization
3. Eleventh/Elm improvements

Umatilla

1. Powerline Road improvements from Highway 730 to I-82
2. Bridge & intersection improvements at the intersection of Highway 730 and Powerline Road
3. Solution to the double-signalized highway intersection in front of the ODOT weigh station at Highway 730 and I-82

Echo

1. Improvement and widening of Echo access road from I-84 & Highway 395
2. Solution to the Railroad's impact on transit [vehicle and pedestrian crossings]
3. Development of Bike/Pedestrian Paths along Highway 320 (Echo-Lexington Hwy) and Thielsen Street north and south of the 320
4. Pave Smith Drive/Club Addition Access Road
5. Overlay City Streets with 2" overlay over the next ten years
6. Develop hiking/walking trail system along Feed Canal and Furnish Ditch with access points on Smith Drive, Arboretum and Cemetery Road
7. Follow-up application for State Scenic Road designation and coordination of the nomination with other Cities and County for Umatilla County Scenic-Historic Road #1, in particular, Echo to Pendleton section following Reith Road *[Not included in narrative section]*

Stanfield

1. Improve access & signalization along Highway 395 corridor from I-84 to South Edwards Road
2. Signalization on Highway 395 at 850 feet north of Rosalynn Drive
3. Continue Bike Path from Stanfield to Hermiston
4. Improve Dunne Street (south) through to Highway 395

Umatilla County

1. Construction of the Umatilla River Bridge at Punkin Center Road and extension of Punkin Center to I-82, *And* improve East Punkin Center Road from Highway 395 to Diagonal Road
2. Powerline Road improvements
3. Sagebrush Road extension to Highway 730
4. ~~intersection~~ improvements at Westland Road/I-82 junction
5. Improve South First Street & River Road from Feedville Road to Highway 730
6. Feedville Road improvements
7. Improve Edwards Road from Highway 395 to Diagonal Road

General Areas of Need

- 1. Powerline Road south from Highway 730 to Punkin Center Road and Punkin Center Road east from I-82 to Diagonal Road, including a bridge across the Umatilla River
- 2. Highway 395 north from Echo to South Hermiston

II. Priority Project Narratives by Project Classification

In this section each project maintains its priority number according to the entity submitting it, thus, in some cases, there will be two or more projects listed as number "1" or "2" within the same project classification. All of the projects listed above correspond to one or more of the following classifications as determined by the Department of Transportation (ODOT): Modernization, Preservation/Maintenance, Safety, Bridge, and Bicycle/Pedestrian. Several of the projects will appear in more than one of the classifications since they satisfy multiple objectives. Each project narrative is followed by the entity or entities that submitted it. The first entity mentioned corresponds to the author of the narrative.

A. Modernization

- 1. Umatilla River Bridge Improvements at Punkin Center Road

The need to provide emergency services and improved access corridors because of the concern generated by the multi-year incineration of nerve gas at the Umatilla Army Depot is a primary driver in proposing a bridge across the Umatilla River. One of the most critical issues is to provide access to Hermiston's Good Shepherd Community Hospital and medical facilities in the most expedient manner possible. Recent articles in the Seattle Times and the Oregonian stress concern for the ability to construct the nerve gas incinerator and neutralize existing on-site chemical weapons over a 10-year life span prior to a potential release of gas. This perspective is being factored into the City's Transportation System Plan (TSP) and State Transportation Improvement Program (STIP) submittal. The proposed bridge would provide lifeline access to emergency facilities that would be called upon in the event of a disaster at the Depot.

A second objective for the proposed bridge is to provide increased area access and exit corridors. The City's major concern for meeting these two objectives is indicated by the City placing its highest transportation improvement priority on construction of a bridge across the Umatilla River at Punkin Center Road. This bridge is a critical "lifeline" link to Good Shepherd Community Hospital and other Hermiston facilities. [Hermiston, Umatilla County]

- 1. Powerline Road improvements from Highway 730 to I-82

Most of the residential growth in Umatilla is occurring adjacent to Powerline Road. There is currently a 50-lot subdivision under construction, with the potential of over 400 additional lots being developed in the future. While not all of these front on Powerline, all will use this county road as their access. Powerline is currently only about 24' of paved surface and is not capable of handling the projected traffic flows. Improvements to both the paved surface and bike/pedestrian facilities will be required to move people safely through this area. [Umatilla, Umatilla County]

(Modernization continued)

1. Improvement and widening of Echo access road from I-84 & Highway 395

The access road from I-84 into Echo is a narrow county road that is both a safety problem and a development issue. It provides access to nearly all of the city's urban growth area. There is a 200-acre site adjacent to the freeway designated for Tourist Commercial and Light Industrial that would need access from this road. We also feel that the traffic conditions at the Pilot Truck Station on the north side of the freeway affect our citizens use of this access road and limit our future development. The county road and state highway problems need to be addressed to open this up for development. The County needs to acquire additional right-of-way and provide a more stable surface than the current chip seal. There is too much traffic volume for the chip seal. There is too much traffic volume for the chip seal. [Echo]

1. Improve access & signalization along Highway 395 corridor from I-84 to South Edwards Road

This section is being impacted by the Pilot Truck Station traffic as well as local auto and truck traffic. Additional development is currently being planned along this corridor. There will be at least a motel and restaurant plus other truck and tourist support facilities on both sides of Highway 395 in the near future. Plans should be made to accommodate both cars and trucks, local and through traffic with minimum crossing interference. [Stanfield]

1. Improve East Punkin Center Road from Highway 395 to Diagonal Road [Umatilla County]

2. Fourth Street improvements and signalization

Beyond the Umatilla River bridge, Hermiston's single greatest transportation concern is the rapidly growing traffic volume along Hermiston's primary access corridor, Highway 395. This four-lane highway with center turn lane runs north-south through the heart of the City and is Hermiston's lifeblood. After the Umatilla River bridge, the City's next highest priorities emphasize alternate parallel routes intended to prolong the traffic carrying capacity of Highway 395. These two routes include Fourth Street on the east side of Highway 395 and Eleventh/Elm on the west. The City is pursuing right-of-way to construct a signal at Fourth and Elm and to extend Fourth Street from Elm to Punkin Center Road. Improvements to Fourth Street are intended to reduce traffic on Highway 395, improving safety and extending both the life of Highway 395 and its capacity. [Hermiston]

20 1. Bridge & intersection improvements at the intersection of Highway 730 and Powerline Road

The point where Powerline Road intersects Highway 730 is basically at the foot of the highway bridge which crosses the Umatilla River. Two problems exist here. The sight distance for cars attempting a left-hand turn off of Powerline onto 730 is poor. Secondly, the bridge itself is only two lanes with undersized pedestrian/bike ways. This bridge needs to be widened to at least provide a left-turn refuge for traffic traveling east on 730 attempting to turn onto Powerline and to provide for safer pedestrian/bike access. [Umatilla, Umatilla County]

(Modernization continued)

2. Solution to the Railroad's impact on transit [vehicle and pedestrian crossings]

Echo is cut in half by the Union Pacific Railroad. We currently have an average of 24 trains per day and with the expansion at the Hinkle humpyard, this traffic will increase considerably. The railroad has tended to use the Echo siding as a place to store trains when the yard is too full at Hinkle, which leads to problems of blocked crossings and the resulting safety and transportation hazards. As we only have one fire station, this means that fire and emergency response efforts can be blocked.

There are also problems with children crossing the railroad tracks to access the school and playground. In addition, the community is concerned about the unsightliness of the railroad's vast holdings, which are located in the center of town. Our comprehensive plan calls for efforts to have the railroad landscape this area. [Echo]

3. Eleventh/Elm improvements

Similarly, the Eleventh Street corridor that parallels Highway 395 on the west side of Hermiston is being proposed for improvement. This corridor, if properly developed from Highland Avenue north along Eleventh Street to Elm then easterly across Highway 395 to an interconnect with Highway 207 at Diagonal Road, can greatly improve through traffic in Hermiston and aid in maintaining Highway 395's traffic carrying capacity. [Hermiston]

3. Sagebrush Road extension to Highway 730 [Umatilla County]

4. Improve Dunne Street (south) through to Highway 395 [new access]

Plans call for future development of Dunne Street to connect with Highway 395 as an alternate north/south route for local traffic. Currently there is a problem crossing or turning onto Highway 395 due to an increase in traffic volumes. [Stanfield]

4. Intersection improvements at Westland Road/I-82 junction [Umatilla County]

5. Improve South First Street & River Road from Feedville Road to Highway 730 [Umatilla County]

6. Feedville Road improvements [Umatilla County]

7. Improve Edwards Road from Highway 395 to Diagonal Road [Umatilla County]

B. Preservation/Maintenance

5. Overlay City Streets with 2" overlay over the next ten years

- a. Buckley, Halstead, Front Street sections.
- b. Front, Dupont Street, and balance of west side streets.
- c. College, Garfield, Perry streets.
- d. Jane, Hiestand.

(Preservation/Maintenance continued)

- e. Buckley, Main, Bridge and Sprague streets.
- f-j. Begin applying new overlay over streets such as Dupont, Bridge and Bonanza, overlaid in 1980's and early 1990's through Small City Allotment grants.

Most of Echo's streets are in a deteriorated condition. Although the City has been working over the last twelve years to improve this situation, the amount of gas tax we receive limits our annual paving program. We have supplemented this with four Small City Allotment grants, but much remains to be done. Many of the streets only have a paved section 11 to 15 feet wide. Our paving or overlay program also involves widening the streets to at least 22 feet. By the time we finish the initial overlays, it will be time to repave the sections listed as items f-j above. [Echo]

C. Safety

1. Improve access & signalization along Highway 395 corridor from I-84 to South Edwards Road

This section is being impacted by the Pilot Truck Station traffic as well as local auto and truck traffic. Additional development is currently being planned along this corridor. There will be at least a motel and restaurant plus other truck and tourist support facilities on both sides of Highway 395 in the near future. Plans should be made to accommodate both cars and trucks, local and through traffic with minimum crossing interference. [Stanfield]

2. Signalization on Highway 395 at 850 feet north of Rosalynn Drive. (Panoramic Ridge subdivision)

When the planned subdivision of 247 homes is completed as well as the development of the approximately 300' wide commercially-zoned properties on both sides of Highway 395, additional traffic control will become a necessity. A traffic study is in the final stages of completion showing a four-way intersection approximately 1200' north of Rosalynn Drive with a straightening of Canal Road to cross at 90° angles from the east. [Stanfield]

2. Fourth Street improvements and signalization

Beyond the Umatilla River bridge, Hermiston's single greatest transportation concern is the rapidly growing traffic volume along Hermiston's primary access corridor, Highway 395. This four-lane highway with center turn lane runs north-south through the heart of the City and is Hermiston's lifeblood. After the Umatilla River bridge, the City's next highest priorities emphasize alternate parallel routes intended to prolong the traffic carrying capacity of Highway 395. These two routes include Fourth Street on the east side of Highway 395 and Eleventh/Elm on the west. The City is pursuing right-of-way to construct a signal at Fourth and Elm and to extend Fourth Street from Elm to Punkin Center Road. Improvements to Fourth Street are intended to reduce traffic on Highway 395, improving safety and extending both the life of Highway 395 and its capacity. [Hermiston]

(Safety continued)

3. Solution to the double-signalized highway intersection in front of the ODOT weigh station at Highway 730 and I-82

These two traffic signals are located so close to one another that it is difficult for truck traffic to travel through this intersection. With the volume of truck traffic frequenting the weigh station and the truck stop across the road, this situation has become very dangerous. In addition, we have a high volume of passenger car traffic in this mix, both off of the I-82 and Highway 730. Hopefully our TSP, which should be completed in October, will identify some potential solutions. [Umatilla]

D. Bridge

1. Umatilla River Bridge Improvements at Punkin Center Road

The need to provide emergency services and improved access corridors because of the concern generated by the multi-year incineration of nerve gas at the Umatilla Army Depot is a primary driver in proposing a bridge across the Umatilla River. One of the most critical issues is to provide access to Hermiston's Good Shepherd Community Hospital and medical facilities in the most expedient manner possible. Recent articles in the Seattle Times and the Oregonian stress concern for the ability to construct the nerve gas incinerator and neutralize existing on-site chemical weapons over a 10-year life span prior to a potential release of gas. This perspective is being factored into the City's Transportation System Plan (TSP) and State Transportation Improvement Program (STIP) submittal. The proposed bridge would provide lifeline access to emergency facilities that would be called upon in the event of a disaster at the Depot.

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2. Bridge & intersection improvements at the intersection of Highway 730 and Powerline Road

The point where Powerline Road intersects Highway 730 is basically at the foot of the highway bridge which crosses the Umatilla River. Two problems exist here. The sight distance for cars attempting a left-hand turn off of Powerline onto 730 is poor. Secondly, the bridge itself is only two lanes with undersized pedestrian/bike ways. This bridge needs to be widened to at least provide a left-turn refuge for traffic traveling east on 730 attempting to turn onto Powerline and to provide for safer pedestrian/bike access. [Umatilla, Umatilla County]

E. Bicycle/Pedestrian

3. Development of Bike/Pedestrian Paths along Highway 320 (Echo-Lexington Hwy) and Thielsen Street north and south of the 320.

This project is both a safety and recreational need. Highway 320 is the main thoroughfare through town and is used by the children of Echo, bicyclists, and pedestrians on a regular basis, but there is no sidewalk and inadequate shoulders in most locations. [Echo]

3. Continue Bike Path from Stanfield to Hermiston

Stanfield recently completed a bicycle/pedestrian path project from downtown north to Rosalynn Drive and would like to continue this project north to connect with Hermiston. This will encourage alternate methods of transportation between the cities. [Stanfield]

6. Develop hiking/walking trail system along Feed Canal and Furnish Ditch with access points on Smith Drive, Arboretum and Cemetery Road.

This project is a livability and recreational issue. The proposed pathway provides a scenic walk for recreation, health, wildlife viewing, etc. It would also provide a walkway away from the state highway from town to the golf course. [Echo]

8. Develop Bike Path from Stanfield to Echo on Highway 395 [Umatilla County]

III. Transportation Priorities Matrix (attached)

HUES Transportation Priorities - August 1998

Oct-07-98 03:39P

Project Classification	Entity				
	Hermiston	Umatilla	Echo	Stanfield	Umatilla County
1. Modernization	1. Construction of the Umatilla River Bridge at Punkin Center Rd and extension of Punkin Center to I-82. 2. Signalization and Improvements to E. 4th Street through to Theatre Lane. 3. Improvements to W. 11th Street and Elm Avenue.	1. Powerline Rd. Improvements from Hwy 730 to I-82. 2. Bridge & Intersection Improvements at Hwy 730/Powerline Rd. junction [width, pedestrians]	1. Improvements and widening of Echo access road from I-84 & Hwy 395 (County Road) 2. Solution to the Railroad's impact on transit - pedestrian crossings, vehicle crossings. 4. Pave Smith Drive/Club Addition Access Road.	1. Access & Signalization - Corridor from Pilot to Edwards Rd. 4. Dunne Street Continuation to Hwy 395 (New Access).	1. Construction of the Umatilla River Bridge at Punkin Center Rd and extension of Punkin Center to I-82. And Improve E. Punkin Center Rd from Hwy 395 to Diagonal Rd. 2. Powerline Rd. Improvements. 3. Sagebrush Rd. Extension to 730 4. Intersection Improvements @ Westland Rd./I-82 junction. 5. Improve S. First Street & River Rd. from Feedville to Hwy 730. 6. Feedville Road Improvements 7. Improve Edwards Rd. from 395 to Diagonal rd.
2. Preservation/Maintenance			5. Overlay City Streets with 2" overlay over next ten years.		
3. Safety	2. Signalization and Construction Improvements to E. 4th Street to Theatre Lane	3. Solution to the Double-Signaled Hwy Section in front of the Weigh Station at Hwy 730 & I-82.		1. Access & Signalization - Corridor from Pilot to Edwards Rd. 2. Signalization on Hwy 395 @ 850 feet North of Rosalynn Street (Panoramic Ridge Subdivision)	
4. Bridge	1. Construction of the Umatilla River Bridge at Punkin Center Rd	2. Bridge & Intersection Improvements at Hwy 730/Powerline Rd. junction [width, pedestrians]			1. Construction of the Umatilla River Bridge at Punkin Center Rd
5. Bicycle/Pedestrian			3. Development of Bike/Pedestrian Paths along Hwy 320 (Echo-Lexington) and Thielson St. north & south of Hwy 320 6. Develop Hiking/Walking Trail System along Feed Canal & Furnish Ditch	3. Continue Bike Path to Hermiston.	

UMATILLA COUNTY 20-YEAR CAPITAL IMPROVEMENT PROGRAM

This document includes a 20-year Capital Improvement Program (CIP) for each of the five transportation districts identified in the Umatilla County TSP. Each CIP is designed to reflect the immediate and future needs for all modes of transportation in Umatilla County over the next 20 years.

The Umatilla County Board of Commissioners decided to produce and adopt this document separately from the Umatilla County TSP. This was done so that the projects identified in the CIP could be updated and prioritized on a yearly basis, rather than a five year interval when a TSP is typically updated. The Board of Commissioners believes this will create a more flexible and proactive implementation program capable of responding to the needs of the five transportation districts.

The timing for each transportation district's CIP is organized into two time periods:

- Phase 1, 2000-2004 (next 5 years)
- Phase 2, 2005-2019 (next 6 to 20 years)

Phase 1 of each district's CIP reflects the immediate and short-term needs of the transportation system. Projects identified in the Phase 1 category are of highest priority, and should be implemented within the next five years, starting with the first project listed and ending with the last project listed. All projects listed under Phase 1 should be implemented before projects listed under Phase 2. Projects listed under Phase 2 reflect long-term needs in each district. It should be noted that the prioritization of Phase 2 projects has not yet been determined. The following schedule may be modified only through the annual CIP update process.

Tables 1 through 5 summarize the CIP's for each of the five transportation districts. Each table lists Phase 1 and Phase 2 projects with cost information. The cost estimates for all projects listed were based on 1998 dollars. These costs include design, construction, and some contingency costs. They are preliminary estimates and generally do not include right-of-way acquisition, water or sewer facilities, or adding or relocating public utilities. For a more detailed description of each project, refer to Chapter 7 (Modal Plans) of the Umatilla County TSP.

Umatilla County has identified a total of 137 projects within all five transportation districts with total costs estimated at around \$86.3 million. A total of 29 projects have been identified for construction within the next five years at a total cost of around \$32.1 million, and a total of 108 projects within the next six to twenty years at a total cost of around \$54.2 million.

Several assumptions were made when allocating project costs to four different jurisdictions: city, county, state, and private. One of these assumptions was to allocate 100 percent of the cost for a roadway improvement to a city jurisdiction where it is assumed the improvement involves a transfer of ownership from county to a city jurisdiction. For improvements where a specific roadway section is targeted for an urban upgrade, and where ownership of the roadway will be maintained by the County and falls within a city UGB, 50/50 percent split in funding was assumed.

Based on a conversation with an ODOT official in the Bridge Engineering Section, many of the bridge replacement projects identified in the Umatilla County CIP are expected to qualify for federal funding under the Highway Bridge Replacement and Rehabilitation Program (HBRR). A portion of this program is allocated for the improvement of bridge structures under the jurisdiction of counties such as Umatilla. Bridges that may qualify must have an existing deck length of 20 feet or more and must be either structurally deficient, functionally obsolete, or have a sufficiency rating of less than 55, as identified in the State Bridge Inspection Inventory. The HBRR program provides 80 percent of the total cost, and requires both the local (Umatilla County) and state jurisdictions each to match 10 percent of the cost. Since federal dollars are distributed through the state system, 90 percent of the total bridge replacement costs were allocated to the state system.

TABLE 1

Umatilla County 20-Year Capital Improvement Program

**CAPITAL IMPROVEMENT PROGRAM
TRANSPORTATION DISTRICT 1 (WESTERN COUNTY)**

Timing	Project No.	Project Name	Costs (\$ X 1,000)				Total
			City	County	State	Private	
Phase 1 (2000-2004)							
	22	Umatilla River Bridge					14,800.0 ⁽⁵⁾
	3	Powerline Rd. /North of I-82	\$864.0 ⁽¹⁾	\$864.0			\$1,728.0
	4	Powerline Rd./US 730 Phase I	\$25.0 ⁽¹⁾	\$25.0	\$100.0		\$150.0
	65	Thielsen Rd.	\$90.1 ⁽²⁾	\$811.2	\$1,040.0		\$1,941.3
	7	Punkin Center Rd.	\$1,998.0 ⁽³⁾	\$2,173.5			\$4,171.5
	24	Powerline Rd./South of I-82		\$1,200.0			\$1,200.0
	34	Hermiston Canal Bridge		\$25.8			\$25.8
	35	Stanfield Bridge		\$5.7	\$50.8		\$56.5
	36	SE 9th Irrigation Ditch Bridge		\$3.1	\$27.7		\$30.8
	37	Maxwell Ditch Bridge		\$3.4	\$30.5		\$33.9
	38	Emigrant Butte/Hunt Ditch Bridge		\$4.8	\$43.1		\$47.9
Subtotal:			\$2,977.1	\$5,116.5	\$1,292.1	\$0.0	\$24,185.7
Phase 2 (2005-2019)							
	1	Bensel Rd.		\$600.0			\$600.0
	2	Highland Ave.			\$209.0		\$209.0
	5	Powerline Rd./US 730 Phase II	\$330.0 ⁽³⁾	\$330.0	\$1,340.0		\$2,000.0
	6	Umatilla River Rd./US 730	\$21.4 ⁽¹⁾	\$21.4	\$87.2		\$130.0
	8	Westland Rd.		\$250.0			\$250.0
	9	Umatilla River Rd. Phase I	\$592.0 ⁽³⁾	\$2,032.0			\$3,512.0
			\$888.0 ⁽¹⁾				
	10	Hermiston-Hinkle Rd.	\$2,149.0 ⁽³⁾	\$187.0		\$45.0	\$2,381.0
	11	Feedville Rd.		\$394.5			\$394.5
	12	Edwards Rd.		\$1,110.0			\$1,110.0
	13	Gettman Rd.	\$1,954.0 ⁽³⁾				\$1,954.0
	14	Umatilla River Rd. Phase II	\$1,155.0 ⁽³⁾				\$1,155.0
	15	East 10th St. I	\$2,542.0 ⁽³⁾				\$2,542.0
	16	East 10th St. II	\$2,654.0 ⁽³⁾				\$2,654.0
	17	Theater Ln. Phase I	\$988.0 ⁽³⁾				\$988.0
	18	Theater Ln. Phase II	\$1,195.0 ⁽³⁾				\$1,195.0
	19	Townsend Rd.	\$1,758.0 ⁽³⁾				\$1,758.0
	20	S. Ott Rd.	\$1,386.0 ⁽³⁾				\$1,386.0
	21	Highland Ext.		\$20.0	\$180.0		\$200.0
	23	Sagebrush Rd.		\$75.0	\$675.0		\$750.0
	25	N. Ott Rd.		\$45.0	\$405.0		\$450.0
	26	E. Walls Rd.		\$84.5	\$760.5		\$845.0
	27	US 395 access to Maime Street/ Canal Road ⁽⁵⁾	\$290.0 ⁽⁴⁾		\$100.0	\$155.0	\$545.0
	28	US 395 access to new city street/ Edwards Rd. ⁽⁵⁾	\$176.0 ⁽⁴⁾		\$50.0		\$226.0
	29	Bensel Rd.			\$432.0		\$432.0
	30	Baggett Ln.			\$432.0		\$432.0
	31	Joy Ln.			\$432.0		\$432.0
	32	SE Airport Rd.			\$432.0		\$432.0
	33	Feedville Rd.		\$3,975.0	\$1,051.2		\$5,026.2
	55	Bensel Rd. Sidewalk (Umatilla)		\$442.0			\$442.0
	56	Bud Draper Rd. Sidewalk (Umatilla)		\$67.0			\$67.0

TABLE 1, Cont.
**CAPITAL IMPROVEMENT PROGRAM
TRANSPORTATION DISTRICT 1 (WESTERN COUNTY)**

Umatilla County 20-Year Capital Improvement Program

Timing	Project No.	Project Name	City	Costs (\$ X 1,000)			Total
				County	State	Private	
	57	Roxbury Ln. Sidewalk (Umatilla)		\$181.0			\$181.0
	58	Beach Access Rd. Sidewalk (Umatilla)		\$522.0			\$522.0
	59	Powerline Rd. Sidewalk (Umatilla)		\$823.0			\$823.0
	60	Umatilla River Rd. Sidewalk (Umatilla)		\$642.0			\$642.0
	61	Ford Rd. Sidewalk (Umatilla)		\$522.0			\$522.0
	62	3 rd St. Sidewalk (Umatilla)	\$481.5 ⁽¹⁾	\$481.5			\$963.0
	63	Scapelhorn Rd. Sidewalk (Umatilla)	\$151.0 ⁽¹⁾	\$151.0			\$302.0
	64	Power City Rd. Sidewalk (Umatilla)		\$415.0			\$415.0
	66	Rieth Rd. Pathway (Echo)	\$10.6 ⁽²⁾	\$95.0			\$105.6
	67	Bud Draper Pathway (Umatilla)		\$180.0			\$180.0
	68	McNary Beach Recreation Area Pathway (Umatilla)		\$200.0			\$200.0
	69	Powerline Rd. to "F" St. Pathway (Umatilla)		\$83.0			\$83.0
	70	Powerline Rd. Pathway (Umatilla)		\$50.0			\$50.0
	39	Furnish Ditch Bridge		\$3.4	\$30.3		\$33.7
	40	Feed Canal Bridge		\$111.6			\$111.6
	42	Stanfield Drain Bridge		\$60.9			\$60.9
	42	Stanfield Drain Bridge		\$42.4			\$42.4
	43	Furnish Ditch Bridge		\$33.7			\$33.7
	44	Hunt Ditch Bridge		\$67.6			\$67.6
	45	US Feed Canal Bridge		\$12.0	\$108.1		\$120.1
	46	US Feed Canal Bridge		\$8.2	\$74.1		\$82.3
	47	Stanfield Drainage Ditch Bridge		\$4.3	\$38.2		\$42.5
	48	"A" Line Canal Bridge		\$4.7	\$42.4		\$47.1
	49	"A" Line Canal Bridge		\$4.7	\$41.9		\$46.6
	50	"A" Line Canal Bridge		\$5.2	\$47.2		\$52.4
	51	Furnish Ditch Bridge		\$7.3	\$65.8		\$73.1
	52	US Feed Canal Bridge		\$6.3	\$56.8		\$63.1
	53	Furnish Ditch Bridge		\$4.3	\$38.3		\$42.6
	54	Furnish Ditch Bridge		\$4.8	\$42.9		\$47.7
Subtotal:			\$18,721.5	\$14,360.3	\$7,171.9	\$200.0	\$40,453.7
Total:			\$21,698.6	\$19,476.8	\$8,464.0	\$200.0	\$64,639.4

Notes: Costs expressed in terms of 1998 dollars.
 Funding source: (1) City of Umatilla, (2) City of Echo, (3) City of Hermiston, (4) City of Stanfield, (5) Cost allocation for the Umatilla River Bridge to be determined at a later time.

**TABLE 2
CAPITAL IMPROVEMENT PROGRAM
TRANSPORTATION DISTRICT 2 (CENTRAL COUNTY)**

Timing	Project No.	Project Name	Costs (\$ X 1,000)				Total
			City	County	State	Private	
Phase 1 (2000-2004)							
	1	SW Hailey Ave.	\$500.0 ⁽¹⁾				\$500.0
	2	SW 28th Dr. Ext.	\$594.0 ⁽¹⁾				\$594.0
	3	SW 28th Dr. and SW 30th St.	\$752.0 ⁽¹⁾				\$752.0
	4	SE 10th St.	\$681.0 ⁽¹⁾				\$681.0
	5	Southgate Pl.	\$176.0 ⁽¹⁾				\$176.0
	11	S. Fork Juniper Canyon Bridge		\$35.5			\$35.5
Subtotal:			\$2,703.0	\$35.5	\$0.0	\$0.0	\$2,738.5
Phase 2 (2005-2019)							
	6	Reith Rd. West		\$1,500.0			\$1,500.0
	7	Clopton Rd.	\$1,628.0 ⁽¹⁾				\$1,628.0
	8	Riverside Ave.	\$1,073.0 ⁽¹⁾				\$1,073.0
	9	SW 44 th St. Upgrade	\$530.0 ⁽¹⁾				\$530.0
	10	Broadlane Ave.		\$494.5			\$494.5
	12	Barnhart Bridge		\$13.7			\$13.7
	13	Vansycle Canyon Bridge		\$4.2	\$37.6		\$41.8
	14	S. Fork Cold Springs Bridge		\$4.1	\$36.5		\$40.6
	15	Rieth/Umatilla River Bridge		\$44.4	\$399.5		\$443.9
	16	S. Fork Juniper Canyon Bridge		\$4.3	\$38.2		\$42.5
	17	S. Fork Cold Springs Bridge		\$7.2	\$64.4		\$71.6
	18	McKay Creek Bridge		\$14.9	\$134.1		\$149.0
	19	Umatilla River Bridge		\$25.8	\$232.1		\$257.9
	20	Umatilla River Bridge		\$24.3	\$218.9		\$243.2
	21	Wild Horse Creek Bridge		\$14.8	\$132.9		\$147.7
	22	Furnish Ditch Bridge		\$3.9	\$35.3		\$39.2
	23	Furnish Ditch Bridge		\$5.1	\$46.0		\$51.1
Subtotal:			\$3,231.0	\$2,161.2	\$1,375.5	\$0.0	\$6,767.7
Total:			\$5,934.0	\$2,196.7	\$1,375.5	\$0.0	\$9,506.2

Notes: Costs expressed in terms of 1998 dollars.
Funding source: (1) City of Pendleton.

**TABLE 3
CAPITAL IMPROVEMENT PROGRAM
TRANSPORTATION DISTRICT 3 (EASTERN COUNTY)**

Timing	Project No.	Project Name	Costs (\$ X 1,000)				Total
			City	County	State	Private	
Phase 1 (2000-2004)							
	1	Key Rd.		\$300.0			\$300.0
	2	Ballou Rd.		\$350.0			\$350.0
	3	Adams Rd.		\$1,800.0			\$1,800.0
	4	Sunquist Rd.		\$250.0			\$250.0
	5	Milton Cemetery Rd.		\$900.0			\$900.0
	29	N. Main Street Sidewalk (Milton-Freewater)	\$40.0 ⁽¹⁾				\$40.0
	14	West Fork Greasewood Bridge		\$3.4	\$30.5		\$33.9
	15	Drain Ditch Bridge		\$1.2	\$10.6		\$11.8
	16	Wildhorse Creek Bridge		\$2.2	\$19.8		\$22.0
	17	Buchanon Bridge		\$3.4	\$30.9		\$34.3
	18	Irrigation Ditch Bridge		\$1.4	\$12.2		\$13.6
Subtotal:			\$40.0	\$3,611.6	\$104.0	\$0.0	\$3,755.6
Phase 2 (2005-2019)							
	6	Ferndale Rd.		\$208.0			\$208.0
	7	Crockett Rd.		\$47.0			\$47.0
	8	Tum-A-Lum Rd.		\$4.0			\$4.0
	9	Appleton Rd.		\$4.0			\$4.0
	10	Locust Rd.		\$24.0			\$24.0
	11	Cobb Rd.		\$4.0			\$4.0
	12	Couse Creek Rd.		\$750.0			\$750.0
	13	Kirk Rd.		\$600.0			\$600.0
	30	Walla Walla Valley Rail Pathway (Milton-Freewater)		\$304.5			\$304.5
	19	Greasewood Creek Bridge		\$4.3	\$38.5		\$42.8
	20	Fir Creek Bridge		\$32.3			\$32.3
	21	Dry Creek Bridge		\$11.4	\$102.3		\$113.7
	22	Greasewood Creek Bridge		\$3.4	\$30.9		\$34.3
	23	Milton Nursery/W-W River Bridge		\$41.0	\$369.4		\$410.4
	24	Dry Creek Bridge		\$7.1	\$63.5		\$70.6
	25	Pine Creek Bridge		\$6.8	\$60.9		\$67.7
	26	Walla Walla River Bridge		\$29.1	\$262.0		\$291.1
	27	Walla Walla River Bridge		\$20.4	\$183.1		\$203.5
	28	Wild Horse Creek Bridge		\$10.0	\$90.3		\$100.3
Subtotal:			\$0.0	\$2,111.3	\$1,200.9	\$0.0	\$3,312.2
Total:			\$40.0	\$5,722.9	\$1,304.9	\$0.0	\$7,067.8

Notes: Costs expressed in terms of 1998 dollars.
Funding Source: (1) City of Milton-Freewater.

Umatilla County 20-Year Capital Improvement Program

**TABLE 4
CAPITAL IMPROVEMENT PROGRAM
TRANSPORTATION DISTRICT 4 (SOUTHERN COUNTY)**

Timing	Project No.	Project Name	Costs (\$ X 1,000)				Total
			City	County	State	Private	
Phase 1 (2000-2004)		None					
Subtotal:			\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Phase 2 (2005-2019)							
	1	Boylen/W. Birch Creek Bridge		\$3.4	\$30.9		\$34.3
	2	W. Birch Creek Bridge		\$5.9	\$53.2		\$59.1
Subtotal:			\$0.0	\$9.3	\$84.1	\$0.0	\$93.4
Total:			\$0.0	\$9.3	\$84.1	\$0.0	\$93.4

Notes: Costs expressed in terms of 1998 dollars.

**TABLE 5
CAPITAL IMPROVEMENT PROGRAM
TRANSPORTATION DISTRICT 5 (UMATILLA INDIAN RESERVATION)**

Timing	Project No.	Project Name	Costs (\$ X 1,000)				Total
			City	County	State	Private	
Phase 1 (2000-2004)							
	1	Emigrant Rd.		\$1,400.0			\$1,400.0
Subtotal:				\$1,400.0			\$1,400.0
Phase 2 (2005-2019)							
	2	River Rd.		\$314.9			\$314.9
	3	White Rd.		\$164.9			\$164.9
	4	North Cayuse Rd.		\$194.9			\$194.9
	5	Mann Rd.		\$494.8			\$494.8
	6	Motanic Rd.		\$719.8			\$719.8
	7	Sumac Rd.		\$494.8			\$494.8
	8	McKay Creek Rd.		\$614.8			\$614.8
	9	Kash Kash Rd./St. Andrews Rd.		\$367.5			\$367.5
	10	Gtibbon/Umatilla River Bridge		\$18.9	\$170.2		\$189.1
	11	Thorn Hollow Cattle Pass Bridge		\$3.4	\$30.9		\$34.3
	12	Wild Horse Creek Bridge		\$4.4	\$39.5		\$43.9
Subtotal:				\$3,393.1	\$240.6		\$3,633.7
Total:			\$0.0	\$4,793.1	\$240.6		\$5,033.7

Notes: Costs expressed in terms of 1998 dollars.

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