CHAPTER 1: INTRODUCTION

The Wallowa County Transportation System Plan (TSP) guides the management of existing transportation facilities and the design and implementation of future facilities 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 established by the Department of Land Conservation and Development. It identifies and prioritizes transportation projects for inclusion in the Oregon Department of Transportation’s (ODOT’s) Statewide Transportation Improvement Program (STIP).

PLANNING AREA

The Wallowa County Transportation System Plan planning area covers Wallowa County and the four incorporated jurisdictions therein: Enterprise, Joseph, Lostine, and Wallowa. The planning area is shown on Figure 1-1. Roadways included in the Transportation System Plan fall under several jurisdictions: the individual cities, Wallowa County, the State of Oregon and the US Forest Service.

Wallowa County is located in the extreme northeastern corner of Oregon. It is 3,153 square miles in area and has a population of 7,250. Enterprise is the county seat and the largest urban area in Wallowa County with almost 28 percent of the population. The county is bordered by the State of Washington to the north, and is separated from Idaho by the Snake River to the east. It also borders three other counties in Oregon: Umatilla and Union Counties to the west and Baker County to the south. Approximately one fourth of Wallowa County lies within Hell’s Canyon National Recreation Area, the site of the nation’s deepest canyon, and approximately one third lies within Wallowa-Whitman National Forest. The elevation at Enterprise is 3,757 feet above mean sea level; however, peaks in the Wallowa Mountains rise to almost 10,000 feet in elevation and the Snake River dips to only about 1,000 feet above mean sea level.

The main route through the county is State Highway 82. Enterprise, Joseph, Lostine and Wallowa all lie along this route. The Idaho Northern Pacific Railroad roughly parallels Highway 82.

Agriculture, timber production and processing, and recreational uses are the three most important county industries. Employment in agriculture and the timber industry has been decreasing; however, a growth in tourism has resulted in increased employment in that sector. Employment in all three industries is subject to seasonal variations, with noticeably higher unemployment in the winter months. There is a burgeoning art community in the City of Joseph, home to several bronze foundries.

PLANNING PROCESS

The Wallowa County Transportation System Plan was prepared as part of an overall effort in Wallowa County to prepare TSPs for Wallowa County and the four municipalities: Enterprise, Joseph, Lostine, and Wallowa. Each plan was developed through a series of technical analyses
combined with systematic input and review by the county, the cities, the Local Working Group, the Transportation Advisory Committee (TAC), ODOT, and the public. The TAC consisted of staff, elected and appointed officials, residents, and business people from Wallowa County, and the cities of Enterprise, Joseph, Lostine, and Wallowa. Key elements of the process include:

- Involving the Wallowa County community (Chapter 1)
- Defining goals and objectives (Chapter 2)
- Reviewing existing plans and transportation conditions (Chapters 3 and 4; Appendices A, B, and C)
- Developing population, employment, and travel forecasts (Chapter 5; Appendices D and E)
- Developing and evaluating potential transportation system improvements (Chapter 6)
- Developing the Transportation System Plan (Chapter 7)
- Developing a capital improvement program (Chapter 8)
- Developing recommended policies and ordinances (Chapter 9)

Community Involvement
Community involvement is an integral component in the development of a TSP for Wallowa County and the other 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, 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 this committee. This group met three times during the course of the project.

The second part of the community involvement effort involved the consultant team meeting individually with representatives of each jurisdiction. The purpose of these meetings was to collect information specific to each jurisdiction and to discuss the development of the individual cities and county TSPs. The consultant team met two times with each jurisdiction during the project.

The third part consisted of community meetings within Wallowa County. The first set of public meetings was held in early January in Joseph, Enterprise, and Wallowa. The general public was invited to learn about the TSP planning process and provide input on transportation issues and concerns. A second set of public meetings was held in Wallowa County in late April. The final set of public meetings, which consisted of presentations to the management team and TAC, was held during the month of June. 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 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 Wallowa 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 the Wallowa County area, including the street 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 arterial and collector street 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. The evaluation of the potential transportation improvements was 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 local working group, 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 street 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. Chapter 7 details the plan elements for each mode.

**Funding Options**

Wallowa County will need to work with ODOT and the four 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 TPR.

**Related Documents**

The Wallowa County TSP addresses the regional and rural transportation needs in the county. There are several other documents which address specific transportation elements or areas in Wallowa County.

**Small City Transportation System Plans**

Four small city TSPs have been prepared for communities in Wallowa County. These documents are:

- City of Enterprise TSP
- City of Joseph TSP
- City of Lostine TSP
- City of Wallowa TSP

The city TSPs address the needs of the community within each Urban Growth Boundary (UGB). They provide street standards, access management standards, and modal plans. In some cases, a project may be identified in a city TSP which then needs to be addressed in the Wallowa County TSP as well. These projects include:

- A multi-use path along the Idaho Northern Pacific Railroad right-of-way. (Enterprise, Joseph, and Wallowa TSPs)
- A bicycle facility on Hurricane Creek Road. (Enterprise and Joseph TSPs)

**Transportation System Maintenance Plan**

Wallowa County, the US Forest Service, and ODOT formulated a cooperative transportation system maintenance plan concurrent with the Wallowa County TSP. Work on the cooperative plan was initiated in 1995 by Wallowa County because there was an identified need for the different agencies to coordinate road construction and maintenance activities. A decision was made to incorporate the cooperative maintenance agreement into the Wallowa County TSP as an appendix. The cooperative plan will be implemented through the amendment of the existing Memorandum of Understanding (MOU) between Wallowa County and the Wallowa-Whitman National Forest and the approval of an Intergovernmental Agreement for Flexible Maintenance Services between Wallowa County and ODOT. The plan appears in Appendix F.

**Corridor Strategies**

One major highway corridor passes through Wallowa County: Highway 82. ODOT has prepared a corridor strategy for the highway. A final draft of the Oregon Highway 82 Corridor Plan was prepared in the spring of 1997. The plan builds upon objectives developed in the strategy to identify, refine, and facilitate the acceptance of specific decisions related to corridor transportation management, capital improvements and service improvements. A major component of the plan is an access management plan for Highways 82, 3, and 204. The plan provides for the identification and discussion of decisions considered to meet each objective, technical analysis of alternatives, and recommendations for action. Decisions are described in terms of scope, need, timing, cost and agency responsibility for implementation.

**Other State Plans**

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

- Oregon Transportation Plan
- Oregon Highway Plan
- Oregon Bicycle and Pedestrian Plan
- Transportation System Maintenance Agreement

**CHAPTER 2: GOALS AND OBJECTIVES**

The purpose of the TSP is to provide a guide for Wallowa 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 public concerns as 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 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. Improve access to the Hells Canyon overview.

D. Develop and adhere to a five-year road program for maintenance and improvement of the existing county road system.

E. Review and revise, if necessary, street cross section standards for local, collector, and arterial streets to enhance safety and mobility.

F. Develop access management strategies for Highways 82, 3, 350, and 351.

G. Evaluate the need for traffic control devices, particularly along Highway 82.

H. Evaluate the safety of the entrance to Wallowa Forest Products.

**Goal 3**

Improve coordination among the cities of Wallowa 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.

**Goal 4**

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

**Objectives**

A. Continue and improve service of the Wallowa Valley Stage line and the Senior Citizens’ bus program.

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.

**Goal 5**

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

**Objectives**

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

B. Cooperate with airport master planning efforts.

C. Incorporate airport master plans into local Comprehensive Plans.

**Goal 6**

Encourage the continued and improved rail transportation of goods.

**Objective**
TRANSPORTATION SYSTEM INVENTORY

As part of the planning process, DEA conducted an inventory of the existing transportation system in Wallowa County. This inventory covered the street 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 Wallowa County transportation system, which consists almost entirely of roadway facilities for cars and trucks. The street system will most likely continue to be the basis of the transportation system for at least the 20-year planning period; therefore, the emphasis of this plan is on improving the existing street system for all users.

The existing road system inventory was reviewed for all highways, arterial roadways, and collector roadways within Wallowa County that are included in the Transportation System Plan planning area. Some of the county roads were driven to verify inventory information. Inventory elements include:

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

Appendix B lists the complete inventory prepared by the Wallowa County Road Department. Figure 3-1 shows the state and county road system with average daily traffic volumes (discussed in Chapter 4) shown for the state highways.

Roadway Classification

The roads in the unincorporated or rural areas of Wallowa County fall under three jurisdictions: state, county, and US Forest Service (USFS). The state highways generally function as major or principal arterials through the county. The county roads are divided into three classification levels: major collector, minor collector, and local streets. The USFS roads are broken down into five "maintenance levels" based on their function, physical condition, and use.

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 which distributes traffic between cities. Generally, major arterial streets are high capacity roadways which carry high traffic volumes with minimal localized activity. In Wallowa County, the state highways/major arterial streets often serve statewide, regional and local traffic demands.

Discussion of the Wallowa County street system must include the state highways that traverse the planning area. Although Wallowa County has no direct control over the state highways, adjacent development as well as traffic patterns are heavily influenced by the highways. Wallowa County is served by four state highways: Highway 82, Highway 3, Highway 350, and Highway 351. 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.

Wallowa County has two highways of statewide importance: Highways 82 and 351; and two highways of district importance: Highways 3 and 350. According to the OHP, 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 district highway is to "serve local traffic and land access." For highways of district significance, emphasis is placed on preserving safe and efficient higher speed through travel in rural areas, and moderate- to low-speed operations 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.

To simplify references to the state highways, a summary of the analysis for each highway is
Highway 82

Highway 82 (Wallowa Lake Highway) is a highway of statewide importance. Beginning at I-84 in La Grande (Union County) and continuing to Joseph, this route is the main arterial for the entire county. Highway 82 extends directly through Enterprise, Joseph, Lostine, and Wallowa. The Highway 82 Corridor lies within portions of the Oregon Scenic Waterway and the National Wild and Scenic Study Corridor, tied to the Minam and Wallowa River system. Highway 82 is a designated Access Oregon Highway (AOH), which ensures that this highway receives top priority for funding improvements in the statewide Level of Importance system. The goal of the AOH system is to provide for the economic growth of Oregon by moving through traffic safely and efficiently through and between geographic and major economic areas within Oregon, between Oregon and adjacent states, and to and through major metropolitan areas. The highway is a two-lane roadway with a speed limit of 55 mph, except within the four cities where traffic is subject to the lower city speed limits.

Highway 82 has recently been designated as a part of the Hells Canyon Oregon Scenic Byway. To assist in the preservation and interpretation of the Byway, an inventory of scenic resources along the corridor will be developed in collaboration with the USFS, Oregon State Parks (OSP), the Umatilla and Nez Perce Indian Tribes, local jurisdictions and other appropriate natural resource agencies. The inventory document will include a model ordinance for resource protection by local governments and guidance for ODOT managers related to preserving significant viewsheds.

In 1995, an ODOT study team and Corridor Management Team developed the Highway 82 Interim Corridor Strategy, an overall corridor strategy and objectives for managing, operating, and improving the transportation corridor between La Grande and Wallowa Lake over the next 20 years. The second phase of the corridor planning process was to develop the Oregon Highway 82 Corridor Plan, a plan which builds upon objectives developed in the strategy to identify, refine, and facilitate the acceptance of specific decisions related to corridor transportation management, capital improvements, and service improvements. A major component of the plan is an access management plan for Highways 82, 3, and 204. The plan provides for the identification and discussion of decisions considered to meet each objective, technical analysis of alternatives, and recommendations for action. Decisions are described in terms of scope, need, timing, cost and agency responsibility for implementation. Capital, service, and management improvements in Wallowa County are described in Chapters 6 and 7 of the TSP.

Highway 351

Highway 351 (Wallowa Lake Highway) is a highway of statewide importance. Beginning in Joseph and ending at the southern end of Wallowa Lake, this is the last link of the Wallowa Lake Highway, the rest of which is comprised of Highway 82. Currently, this route provides the only access to the commercial and residential areas at the southern end of the lake, as well as Wallowa Lake State Park. Due to the nature of the Wallowa Lake Basin which surrounds this highway, the majority of use on this facility is for recreational purposes. Highway 351 is also a designated Access Oregon Highway. The highway is a two-lane roadway with a speed limit of 55 mph, except in Joseph where traffic is subject to the lower city speed limits. The highway is also part of the Highway 82 corridor.

Highway 3

Highway 3 (Enterprise-Lewiston Highway) is a highway of district importance. Beginning in Enterprise and extending north-south through the Wallowa-Whitman National Forest it continues north to the Washington State line, where it becomes Washington State Highway 129. Highway 129 then continues north to Lewiston, Idaho. It is a two-lane roadway with a speed limit of 55 mph, except in Enterprise where traffic is subject to the lower city speed limits.

Highway 350

Highway 350 (Little Sheep Creek Highway) is a highway of district importance. Beginning in Joseph, this route serves traffic to the unincorporated town of Imnaha to the northeast. The majority of this highway is comprised of sharp corners, is of narrow width and has truck load restrictions. It is a two-lane roadway with a speed limit of 55 mph, except in Joseph where traffic is subject to the lower city speed limits.

Description

In the rural areas of the county, all four highways are two-lane facilities, with average unpaved shoulder widths of around four feet, and posted speed limits of 55 mph. Lower speed limits are posted in areas where potentially hazardous conditions may exist due to steep grades, road curvature, and icy conditions. Inside the urban areas of incorporated cities and service centers, each highway typically remains a two-lane facility, but with lower speed limits. In some cities, sidewalks border the highway. Land along the rural sections of these highways are primarily zoned for agricultural, farming, and forestry uses with numerous county and forest service roads accessing the highways. In the urban centers of the four incorporated cities, development is more dense with other land uses bordering the highways such as light industrial, commercial, public, and residential.

Pavement Conditions

Pavement conditions along the four state highways vary in both the rural and urban areas. Approximately 68.4 percent of the highways have pavement in Good or Very Good condition while 22.1 percent have pavement in Fair condition. Another 9.5 percent have pavement in Poor condition. Roughly, one-third of the Poor condition pavement lies along Highways 82 and 3, inside the city limits of Enterprise. Another third lies between Prairie Creek and the City of Joseph on Highway 82. The last third lies between the Oregon-Washington State Line and Buford Canyon, also on Highway 3. Table 3-1 summarizes the state highway pavement conditions as of 1995.
TABLE 3-1
STATE HIGHWAY PAVEMENT CONDITIONS

<table>
<thead>
<tr>
<th>Highway</th>
<th>Milepost</th>
<th>Section Description</th>
<th>Pavement Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>82</td>
<td>30.00—33.60</td>
<td>Union/Wallowa County Line to Wallowa River</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>33.60-33.68</td>
<td>Minam Bridge</td>
<td>Fair</td>
</tr>
<tr>
<td></td>
<td>33.68-49.40</td>
<td>Wallowa River to Spring Creek</td>
<td>Fair</td>
</tr>
<tr>
<td></td>
<td>49.40-64.64</td>
<td>Spring Creek to Enterprise City Limits (West)</td>
<td>Good</td>
</tr>
<tr>
<td>64.64-65.81</td>
<td>Enterprise City Street</td>
<td>Poor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>65.81-68.12</td>
<td>Enterprise City Limits (East) to Prairie Creek</td>
<td>Fair</td>
</tr>
<tr>
<td>68.12-71.42</td>
<td>Prairie Creek to Joseph at Wallowa Avenue</td>
<td>Poor</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0.00-5.00</td>
<td>State Line to Buford Canyon</td>
<td>Poor</td>
</tr>
<tr>
<td></td>
<td>5.00-41.20</td>
<td>Buford Canyon to Enterprise</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>41.20-43.19</td>
<td>Enterprise City Street</td>
<td>Poor</td>
</tr>
<tr>
<td>350</td>
<td>0.00-17.00</td>
<td>Junction Highway 10 to County Road M.P. 17.00</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>17.00-18.65</td>
<td>County Road M.P. 17.00 to Lightning Creek</td>
<td>Fair</td>
</tr>
<tr>
<td></td>
<td>18.65-20.97</td>
<td>Lightning Creek to Forest Boundary</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>20.97-29.36</td>
<td>Forest Boundary to Upper Imnaha Road</td>
<td>Very Good</td>
</tr>
<tr>
<td>351</td>
<td>0.00-6.94</td>
<td>Joseph to Wallowa Lake Power House</td>
<td>Fair</td>
</tr>
</tbody>
</table>

Source: Oregon Department of Transportation - 1995 Pavement Conditions Statewide.

Bridges

The state has 62 bridges located on state highways in both rural and urban Wallowa County. Table 3-2 summarizes the bridge inventory data as of May 1997. Three mutually exclusive elements from the inventory data are summarized in the table. The first identifies how many bridges are structurally deficient. This element 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. The second element identifies how many bridges are functionally obsolete. This element is determined based on the appraisal rating for the deck geometry, underclearances, approach roadway alignment, structural condition, or waterway adequacy. The third element summarizes the number of bridges which have a sufficiency rating of 55 or less. 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. Bridges with ratings under 50 may be nearing a structurally deficient condition.

TABLE 3-2
STATE HIGHWAY BRIDGE INVENTORY SUMMARY

<table>
<thead>
<tr>
<th>Highway</th>
<th>Total</th>
<th>Structurally Deficient</th>
<th>Functionally Obsolete</th>
<th>Sufficiency Rating &lt; 55</th>
</tr>
</thead>
<tbody>
<tr>
<td>82</td>
<td>33</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>350</td>
<td>15</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>351</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>62</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Oregon Department of Transportation.

Currently, no state-owned bridges are identified as structurally deficient, and only two are identified as functionally obsolete. Also, no bridges have an identified sufficiency rating below 55. The two functionally obsolete bridges include:

- Highway 82 (River Street) over Prairie Creek (milepost 65.33) in the City of Enterprise.
- Highway 350 over the Imnaha River (milepost 29.34) in Imnaha.

County Roads

Although the state highway system forms the backbone of the roadway system in Wallowa County, county roads are an important part of the circulation system.

Description

Wallowa County has 130 roads under its jurisdiction covering more than 630 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.

County roads are generally two lanes wide with a 20- to 24-foot travel surface and two- to four-foot gravel shoulders. Some of the county roads are primitive roads, which consist of a 14-foot travel surface with turnouts.

The Wallowa County Road Department has developed an independent roadway classification system for all roads under county jurisdiction. All roadways under county jurisdiction are classified into three categories: major collectors, minor collectors, and local streets. The classification of these roadways is based on the intended function and observed traffic volumes.

- Major Collectors — The primary function of a major collector is to tie US Forest Service roads, minor collectors, and local roads to nearby highways or arterial roadways. These roads also provide access to agricultural, forest, and recreational areas. Major collector roads are usually unpaved in the rural areas and partially to fully paved in the urban areas of the county with traffic volumes reaching up to 400 vehicles per day.
  - Minor Collectors — County roads classified as minor collectors are shorter distance roads which branch off from a highway, arterial, or major collector and provide access to agricultural, forest, and recreational areas, and possibly a few rural residential homes. Minor collectors are mostly unpaved with very little traffic.
  - Local Streets — Local county roads are short distance roads which may serve as a short logging road or a driveway to one or a few homes. They are unpaved and carry very low traffic volumes as well.

**Maintenance Levels**

The Wallowa County Director of Public Works has created maintenance levels for the county road system which will be implemented this year. These levels include:

- Maintenance Level 3 (Rural Major Collector) — There are currently 164 miles of road within this level with an average daily traffic of 100 vehicles. County roads under this maintenance level will be maintained as needed to provide safe driving conditions for the general public traveling county roads. Signing, clearing of right-of-way, grading, drainage, patching, striping and snow removal will be accomplished on an annual basis.
  - Maintenance Level 2 (Rural Minor Collector) — There are currently 110 miles of road within this level with an average daily traffic of 50 vehicles. County roads under this maintenance level will be maintained at a minimum of six times per year to provide safe driving conditions for the general public as described in Maintenance Level 3.
  - Maintenance Level 1 (Rural Local Streets) — Currently 358 miles of road make up this level with an average daily traffic of 25 vehicles. County roads under this maintenance level will be maintained at a minimum of three times per year to provide safe driving condition for the general public as described in Maintenance Level 3.

The criteria utilized for Maintenance Level designations include: traffic types and volume; economics; functional classification (major, minor, or local route); mail/school bus route; commerce/recreation route; 911 route; and safety.

**Bridges**

Wallowa County has 59 bridges which are included in the state bridge inspection inventory. Currently, seven county-owned bridges are identified as structurally deficient, including:

- CR #515 (Bear Creek Road) over Bear Creek (milepost 3.0) south of Highway 82
- CR #528 (Wade Gulch Road) over the Wade Gulch River (milepost 7.03) north west of Highway 82
- CR #570 (Dorrence Lane) over the Wallowa River (milepost 0.9) west of Highway 82
- CR #B631 over the Grande Ronde River (milepost 15.15) west of Highway 3
- CR #B642 (Imnaha Road) over the Imnaha River (milepost 19.27) south of Imnaha
- CR #B642 (Imnaha Road) over the Imnaha River (milepost 21.08) south of Imnaha
- CR #735 over the Imnaha River (milepost 35.00) northeast of Junction FAP 7

Eleven more are identified as functionally obsolete, including:

- CR #B638 (Hurricane Creek Road) over the Wallowa River (milepost 0.39) in Joseph
- CR #509 over the Wallowa River (milepost 0.12) near Highway 82
- CR #534 (Evans Leap Road) over the Wallowa River (milepost 0.25) east of Jim Town
- CR #551 (Lostine River Road) over the Lostine River (milepost 0.00) south of Highway 82
- CR #572 (Egglesson Road) over the Wallowa River (milepost 1.00) west of Highway 82
- CR #572 (Egglesson Road) over the Wallowa River (milepost 1.08) west of Highway 82
- CR #B639 over Trout Creek (milepost 0.71) north of FAP 7
- CR #B642 (Imnaha Road) over Grouse Creek (milepost 18.41) south of Highway 350
- CR #676 (Camp Creek Road) over Trail Creek (milepost 1.69) west of Highway 350
- CR #784 (Hersel Jones Road) over the Lostine River (milepost 0.00) south of Highway 82
- CR # Frontage Road over Bear Creek (milepost 0.04) west of Highway 82
There is one county bridge which has a sufficiency rating less than 55 which was not identified as either being structurally deficient or functionally obsolete:

- CR #1000 Campground Road over the Wallowa River (milepost 0.10) south of Wallowa Lake Methodist Congregation.

**US Forest Service Roads**

The US Forest Service currently has jurisdiction over 2,580 miles of differing types of roads in Wallowa 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 the road in a usable condition to a level acceptable to the public. Appropriate traffic management strategies are "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. These roads may be single lane with turnouts and spot surfacing. Some roads in this maintenance level are typically low speed, single lane with turnouts and spot surfacing. Some roads may be fully surfaced with 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 level of user comfort and convenience, 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.

**Flood Damage**

Forest Service Loop Road #39, an important link in the Wallowa County roadway system, was closed by floods in January 1997. Prior to that, a large number of tourists traveled from Baker City through Wallowa County along the road in the summer and it was a viable alternative to Highway 82 and I-84 between the Enterprise/Joseph area and Baker City, as well as a scenic drive through some of the most beautiful areas in Oregon. It is a US Forest Service road with a northern terminus at Little Sheep Creek Highway (Highway 350) east of Joseph, and which continues south through the Wallowa-Whitman National Forest and Hell's Canyon National Recreation Area and has a southern terminus at Highway 86 east of Halfway, in Baker County.

Because the road is under the jurisdiction of the US Forest Service; neither ODOT nor Wallowa County has the authority to make any flood repairs. Further compounding the problem, Congress has cut the Forest Service's operating and maintenance budget every year since 1990 and the Forest Service does not have the funds to repair the road. The Federal Highway Authority will be taking over the responsibility of funding the repair from the Forest Service.

**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 and not planned as an essential component of the transportation system.

The majority of pedestrian traffic is found within the cities themselves. There is little, if any, demand
for pedestrian facilities between the cities. Attempts to encourage people to walk the six to ten miles between these destinations would likely be ineffective. The one exception to this fact is found on Highway 351, since this highway parallels the east side of Wallowa Lake. In these scenic surroundings which have traditionally been dedicated to recreational use, there is a high level of pedestrian traffic.

The only pedestrian facilities that exist in the county are the many hiking trails found in Hells Canyon National Recreation Area, Wallowa-Whitman National Forest, and Eagle Cap Wilderness Area.

**BIKEWAY SYSTEM**

Like pedestrians, bicyclists are often overlooked when considering transportation facilities. Bicycles are thought of by many as children’s toys. 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 to reduce the use of automobiles for short trips in order to reduce some of the negative aspects of urban growth. 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.

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

While the cities do see some recreational users, the majority of them are found on state and county roads. There is existing bicycle traffic between the cities and an improvement in facilities would help to support and enlarge this use. The back roads between Joseph and Enterprise receive a respectable level of recreational bicycle use.

Wallowa County prepared a draft bikeway master plan through an earlier TGM grant, but it was never completed. The plan sets forth goals and objectives for the county which include providing safe and efficient bicycle access, reducing conflicts between bicyclists and motorized vehicle traffic, developing a system dedicated to bicycles, providing opportunities for recreational bicycle use, supplying information to the public about the location of bicycle facilities, and promoting citizen involvement through the development of a citizen bicycle committee and holding meetings in an open forum. The plan lists desirable projects and prioritizes them based on financial aspects, current use, and safety considerations. The projects given the highest priority of the fourteen projects listed are on Highway 351, Fish Hatchery Lane, Hurricane Creek Road, Highway 3, and Highway 82.

**PUBLIC TRANSPORTATION**

Public transportation in Wallowa County consists of the Wallowa Valley Stage Line and Dial-A-Ride service for senior citizens and the disabled.

The Wallowa Valley Stage Line is operated by the Moffit Brothers and is based in Lostine. It provides van service which transports passengers to Enterprise, Joseph, Lostine, Wallowa, and several cities in Union County, including La Grande. In La Grande, passengers can connect to Greyhound bus service. In addition to transporting passengers, the line also transports packages. It provides regularly scheduled service, with a westbound trip departing from Joseph at 6:30 a.m. and an eastbound trip departing from La Grande at 11:55 a.m. daily, except Sundays and holidays. The one-way fare between Joseph and La Grande is $8.80, and the round trip fare is $15.85; lower fares are charged for shorter trips.

The senior citizens and disabled Dial-A-Ride service is provided by Community Connections. It operates two 12-passenger, lift-equipped buses, one based in Enterprise and one based in Wallowa. The buses make one trip per day between Enterprise and Joseph and between Wallowa and Lostine; the one-way fare is $1.50. On Mondays, Wednesdays, and Fridays, the buses transport senior citizens and the disabled to meal sites in Enterprise and Wallowa for $0.35 one-way. On Tuesdays and Thursdays, the general public can use the service as well. On Tuesdays, the bus based in Wallowa goes to Enterprise. The operator estimates that the service is currently underutilized.

Another type of public transportation service available in the county is client transportation, which is provided by a social service or health care agency to individuals participating in the agency’s service program. This type of public transportation is offered by the Wallowa County Health Care District and the Wallowa County Nursing Home. A volunteer driver program is also administered in Wallowa County by each of these social service and health care agencies as well as the Department of Human Resources Volunteer Program. A volunteer driver program is a community based program to provide drivers to transport specific client groups.

The county has no local fixed-route transit service at this time. The rural nature of the county along with the low density population of approximately 2.3 people per square mile and low traffic volumes on the roadway system indicate that mass transit is not necessary nor economically feasible at this time. One of the findings in the Wallowa County Comprehensive Plan is that few people in the county are transportation disadvantaged.

**RAIL SERVICE**

Wallowa County has no passenger rail service. Until recently, AMTRAK service was available in La Grande (Union County) along the rail line which follows the Interstate 84 corridor from Portland to Boise, Idaho and points east. AMTRAK passenger service along the line was terminated in May 1997. This line serves only freight traffic now.

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The Idaho Northern Pacific Railroad (INP) has a freight line which traverses the county from Elgin (Union County) to Joseph. INP is currently pursuing abandonment of the line. The Federal Surface Transportation Board recently granted INP an exemption from regulation restricting railroad abandonments in rural areas. With the exemption, INP can operate the railroad or rip it out and sell the rails and ties as scrap. However, the rails and bridges are in good condition and retaining freight service on the line is a goal of the local jurisdictions. Discussions among INP, ODOT, local jurisdictions, and shippers concerning the future of the rail line and right-of-way are on-going.

AIR SERVICE

Wallowa County is served by Enterprise Municipal Airport and Joseph State Airport. The county is also home to two US Forest Service landing strips and several private landing strips. Enterprise Municipal Airport is located six blocks from downtown Enterprise and is under the jurisdiction of the city. Joseph State Airport is located one mile from downtown Joseph and is under the jurisdiction of the Oregon Department of Transportation, Aeronautics Section. ODOT is currently negotiating a cooperative management agreement with the Wallowa County Public Works Department, which currently provides some maintenance services at Joseph State Airport such as snow removal and spraying of noxious weeds. Both airports provide a multitude of services including recreational transportation, search and rescue, medical transport, fire fighting as well as some types of commerce transport.

Both airports have just one runway and currently provide no commercial air service. The Pendleton Airport, 110 miles west of Enterprise, is the closest commercial airport. Scheduled air service and daily non-stop flights are available to Portland and, from there, throughout the western United States.

At Joseph State Airport the ODOT Aeronautics Section recently replaced the runway surface on the existing runway and extended the runway. This project improved the condition and safety of this airport. The airport is now able to accommodate the majority of business class aircraft. Aircraft operation have grown from 1,100 take-offs and landings in 1989 to an estimated 1,980 operations in 1993. With the runway extension that was completed in 1996, the number of operations is expected to increase. Currently, there is no attendant nor aviation fuel at the airport. Ground access to the airport is provided from Highway 82 in downtown Joseph on Hurricane Creek Road which is a two-lane facility. Ground transportation for itinerant aircraft passengers is typically prearranged.

The City of Enterprise has received funding from the USDA Forest Service and private donations for the recently completed resurfacing of the existing runway at Enterprise Municipal Airport. The runway is equipped with a Low Intensity Runway Lighting (LIRL) system for night operation, but it has no instrument approach equipment or procedures. The runway length, width, and taxiway dimension for the airport are less than federal standards and topographical constraints limit the development of the runway to meet those standards. Although the airport does not meet the minimum FAA standards for a General Utility airport, the paved runway does meet the state’s requirements for a "Community Airport" and seems to be adequate for small single engine aircraft that are based at and use the airport. Because the runway can not be extended to meet minimum FAA standards, Enterprise Municipal Airport is not identified in the National Plan of Integrated Airports System (NPIAS). As such, Enterprise Municipal Airport is not eligible for federal grant assistance. There is one Fixed Base Operator (FBO) at the airport that provides aviation fuel, aircraft maintenance, and air charter services. Ground access to the airport is provided from Highway 82 in downtown Enterprise on Greenwood Street which is a two-lane facility. Passengers can easily walk the six blocks from downtown Enterprise to the airport; however, an airport courtesy car is available for short trips into town.

Because the airports are governed by the Oregon Department of Transportation and the City of Enterprise, recommendations for their improvements fall into the scope of this Transportation System Plan. Both airports are an essential part of the economy of the area. It is necessary to include the airports when considering future development proposals for the surrounding land. In many localities, uses have been allowed around airports that are not compatible with air traffic.

There are two other small airfields, both US Forest Service landing strips, in Wallowa County which are available for public use. They are the Memaloose Landing Strip, located approximately 12 miles southeast of Imnaha, and the Red Horse Ranch Landing Strip, located approximately 16 miles south of Wallowa.

PIPELINE SERVICE

Although not often considered as 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. There are currently no pipelines serving Wallowa County. Interest has been expressed in extending a natural gas line from Elgin to Wallowa County.

WATER TRANSPORTATION

Wallowa County has no waterborne transportation services; however, Wallowa Lake and the Snake River provide purely recreational boating opportunities.

CHAPTER 60: 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 Wallowa County. Census data were examined to determine travel mode distributions.
TRAFFIC VOLUMES

A large base of traffic volume counts exists for Wallowa County. Extensive 24-hour counts were performed by ODOT on the state highways throughout the county.

**Average Daily Traffic**

The 1995 Average Daily Traffic (ADT) volumes on the state highways in Wallowa County were shown previously in Figure 3-1. Traffic volumes are highest in the cities and drop off significantly in the rural sections.

The volumes shown in Figure 3-1 are average volumes for the year. Summertime is the season when volumes are highest. ODOT data on Highway 82 west of Wallowa County indicated that during the summer season, volumes are about 20 to 30 percent higher than average volumes. Rural highway sections in Wallowa County are assumed to follow the same pattern, with smaller increases in the urban areas.

**Highway 82**

Highway 82 carries the highest traffic volumes in Wallowa County. Traffic volumes on this roadway range from 1,500 vehicles per day (vpd) at the western county line to 6,400 vpd in Enterprise. Traffic volumes reach 4,700 vpd in Joseph, 2,300 vpd in Lostine, and 3,000 vpd in Wallowa. Sections of the highway between the cities carry fewer vehicles.

**Highway 351**

Highway 351 carries the second highest traffic volumes in the county. Traffic volumes are highest where Highway 82 ends and Highway 351 begins, in Joseph, where traffic volumes are 4,300 vpd. Traffic volumes drop significantly, to 1,500 vpd at the southern city limits of Joseph.

**Highway 3**

Traffic volumes on Highway 3 are highest where the highway begins, in Enterprise, where traffic volumes are 2,300 vpd and then drop to 860 vpd at the north city limits of Enterprise. Volumes continue to drop to the north to 300 vpd at the Oregon-Washington state line.

**Highway 350**

The highest volumes on Highway 350 are found where the highway begins, in Joseph, where traffic volumes are 1,600 vpd. Volumes decrease to 200 vpd in the Wallowa-Whitman National Forest and increase to 420 vpd in the town of Imnaha, where the highway ends.

**County Roads**

The major collectors in the county carry average daily traffic volumes of 100 vpd. The minor collectors carry average daily traffic volumes of 50 vpd. Traffic volumes on the local streets are very low, approximately 25 vpd.

**US Forest Service Roads**

Traffic volumes on Forest Service roads are intermittent and can range from 0 to 100 vpd or more.

**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. Six standards have been established ranging from Level A where traffic flow is relatively free-flowing, to Level F, where the street system is totally saturated with traffic and movement is very difficult. Table 4-1 presents the level of service criteria for two-lane highways, Table 4-2 presents the level of service criteria for arterial roadways.

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### TABLE 4-1

**LEVEL OF SERVICE CRITERIA FOR TWO-LANE HIGHWAY**

<table>
<thead>
<tr>
<th>Service Level</th>
<th>Typical Traffic Flow Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>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.</td>
</tr>
<tr>
<td>B</td>
<td>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.</td>
</tr>
<tr>
<td>C</td>
<td>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.</td>
</tr>
<tr>
<td>D</td>
<td>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</td>
</tr>
</tbody>
</table>
| E             | 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.

Heavily congested flow with traffic demand exceeding capacity.


### TABLE 4-2
LEVEL OF SERVICE CRITERIA FOR ARTERIAL AND COLLECTOR STREETS

<table>
<thead>
<tr>
<th>Service Level</th>
<th>Typical Traffic Flow Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Relatively free flow of traffic with some stops at signalized or stop sign controlled intersections. Average speeds would be at least 30 miles per hour.</td>
</tr>
<tr>
<td>B</td>
<td>Stable traffic flow with slight delays at signalized or stop sign controlled intersections. Average speed would vary between 25 and 30 miles per hour.</td>
</tr>
<tr>
<td>C</td>
<td>Stable traffic flow with delays at signalized or stop sign controlled intersections. Delays are greater than at level B but still acceptable to the motorist. The average speeds would vary between 20 and 25 miles per hour.</td>
</tr>
<tr>
<td>D</td>
<td>Traffic flow would approach unstable operating conditions. Delays at signalized or stop sign controlled intersections would be tolerable and could include waiting through several signal cycles for some motorists. The average speed would vary between 15 and 20 miles per hour.</td>
</tr>
<tr>
<td>E</td>
<td>Traffic flow would be unstable with congestion and intolerable delays to motorists. The average speed would be approximately 10 to 15 miles per hour.</td>
</tr>
<tr>
<td>F</td>
<td>Traffic flow would be forced and jammed with stop and go operating conditions and intolerable delays. The average speed would be less than 10 miles per hour.</td>
</tr>
</tbody>
</table>


The Oregon Highway Plan (OHP) establishes operating level of service standards for the state highway system. Highways of statewide importance, such as Highway 82, should operate at LOS C or better (i.e., average speeds between 20 and 25 mph) in urban and urbanizing areas and at LOS B or better in rural areas (i.e., average speeds equal to or greater than 55 mph). For highways of district importance, such as Highway 3, the roadways should operate at LOS D (i.e., average speeds between 15 and 20 mph) in both urban and urbanizing areas and at LOS C (i.e., average speeds equal to or greater than 52 mph) or better in rural areas.

The operations analysis of Wallowa 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 intersecting local streets or driveways. No urban sections of roadway were addressed as part of this analysis. The urban section analyses can be found in the separate TSP reports prepared for each city.

**Rural Roadway Operations**

The traffic operation of mainstream traffic 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. Analysis of a rural two-lane highway takes 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 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.

The operations on the rural sections of the highway were analyzed for a typical peak hour condition. The resulting level of service for each highway segment is shown in Table 4-3. All rural segments of the state highways operate at LOS B or better.

### TABLE 4-3
SUMMARY OF OPERATIONS ON TWO-LANE HIGHWAYS

<table>
<thead>
<tr>
<th>Location</th>
<th>1995 LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highway 82 between County Line and Wallowa</td>
<td>A</td>
</tr>
<tr>
<td>Highway 82 between Wallowa and Lostine</td>
<td>B</td>
</tr>
<tr>
<td>Highway 82 between Lostine and Enterprise</td>
<td>B</td>
</tr>
<tr>
<td>Highway 82 between Enterprise and Joseph</td>
<td>B</td>
</tr>
<tr>
<td>Highway 3 between Washington State and Enterprise</td>
<td>A</td>
</tr>
<tr>
<td>Highway 350 between Joseph and Imnaha</td>
<td>A</td>
</tr>
</tbody>
</table>
Operations at Intersections

The traffic operation was determined at intersections or driveways along the rural highway sections using the 1994 Highway Capacity Software for unsignalized intersections. Since all intersecting streets and driveways are controlled by stop signs in these areas, the analysis was performed for an unsignalized intersection.

The traffic operations were analyzed for a typical intersection located along the highest volume rural section of the state highways. Traffic operations were analyzed using a peak hour two-way traffic volume of roughly 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. Where side street traffic volumes were unavailable, an assumed volume of 30 vph was used.

Under these assumptions, the minor approaches to the highways operates well, at LOS B or better. This indicates that all other roads or driveways accessing any rural portion of the highways are operating at LOS B or better as well. The resulting level of service for each highway segment is shown in Table 4-4.

### TABLE 4-4
SUMMARY OF OPERATIONS AT CRITICAL INTERSECTIONS

<table>
<thead>
<tr>
<th>Location</th>
<th>Movement</th>
<th>1995 LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highway 82 — County Line to Wallowa</td>
<td>Eastbound; Left, Through, Right</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Westbound; Left, Through, Right</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Northbound; Left</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Southbound; Left</td>
<td>A</td>
</tr>
<tr>
<td>Highway 82 — Wallowa to Lostine</td>
<td>Eastbound; Left, Through, Right</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Westbound; Left, Through, Right</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Northbound; Left</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Southbound; Left</td>
<td>A</td>
</tr>
<tr>
<td>Highway 82 — Lostine to Enterprise</td>
<td>Eastbound; Left, Through, Right</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Westbound; Left, Through, Right</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Northbound; Left</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Southbound; Left</td>
<td>A</td>
</tr>
<tr>
<td>Highway 82 — Enterprise to Joseph</td>
<td>Eastbound; Left, Through, Right</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Westbound; Left, Through, Right</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Northbound; Left</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Southbound; Left</td>
<td>A</td>
</tr>
<tr>
<td>Highway 3 — State Line to Enterprise</td>
<td>Eastbound; Left, Through, Right</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Westbound; Left, Through, Right</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Northbound; Left</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Southbound; Left</td>
<td>A</td>
</tr>
<tr>
<td>Highway 350 — Joseph to Imnaha</td>
<td>Eastbound; Left, Through, Right</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Westbound; Left, Through, Right</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Northbound; Left</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Southbound; Left</td>
<td>A</td>
</tr>
<tr>
<td>Highway 351 — Joseph to Wallowa Lake</td>
<td>Eastbound; Left, Through, Right</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Westbound; Left, Through, Right</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Northbound; Left</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Southbound; Left</td>
<td>A</td>
</tr>
</tbody>
</table>

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

In general, the rural sections of the state highways currently operate very well. Both the two-lane highway analysis and the unsignalized intersection analysis indicated that traffic flows smoothly and operates at LOS B or better.

**TRANSPORTATION DEMAND MANAGEMENT MEASURES**

In addition to inventorying the transportation facilities in Wallowa County, transportation demand management measures that are currently in place were also reviewed.

**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 4-5). Almost one third of the total
employees depart for work between 7:00 and 8:00 a.m. Another third depart in either the hour before or the hour after the peak.

**TABLE 4-5**
DEPARTURE TO WORK DISTRIBUTION

<table>
<thead>
<tr>
<th>Departure Time</th>
<th>Trips</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00 a.m. to 4:59 a.m.</td>
<td>151</td>
<td>5.9</td>
</tr>
<tr>
<td>5:00 a.m. to 5:59 a.m.</td>
<td>310</td>
<td>12.1</td>
</tr>
<tr>
<td>6:00 a.m. to 6:59 a.m.</td>
<td>408</td>
<td>15.9</td>
</tr>
<tr>
<td>7:00 a.m. to 7:59 a.m.</td>
<td>840</td>
<td>32.7</td>
</tr>
<tr>
<td>8:00 a.m. to 8:59 a.m.</td>
<td>407</td>
<td>15.9</td>
</tr>
<tr>
<td>9:00 a.m. to 9:59 a.m.</td>
<td>120</td>
<td>4.7</td>
</tr>
<tr>
<td>10:00 a.m. to 10:59 a.m.</td>
<td>48</td>
<td>1.9</td>
</tr>
<tr>
<td>11:00 a.m. to 11:59 a.m.</td>
<td>29</td>
<td>1.1</td>
</tr>
<tr>
<td>12:00 p.m. to 3:59 p.m.</td>
<td>161</td>
<td>6.3</td>
</tr>
<tr>
<td>4:00 p.m. to 11:59 p.m.</td>
<td>91</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Total 2,565 100.0

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 the Wallowa County area, some other modes are used as well. Modal split data is not available for all types of trips; however, the 1990 census data does include statistics for journey to work trips as shown in Table 4-6. The census data reflects the predominant use of the automobile.

Most Wallowa County residents travel to work via a private vehicle. In 1990, 79.1 percent of all trips to work were in an auto, van, or truck. Trips in single-occupancy vehicles made-up 75.9 percent of all trips, and carpooling accounted for 10.6 percent.

Bicycle usage was lower than many other counties (approximately 0.9 percent) in 1990. Since the census data does not include trips to school or other non-work activities overall bicycle usage may be even greater. There are no roadways in Wallowa County with dedicated bicycle lanes on them. In addition to bicycle lanes, bicycle parking, showers, and locker facilities can help to encourage bicycle commuting.

Pedestrian activity was at a high level (10.2 percent of trips to work) in 1990. Again, census data do not include trips to school or other non-work activities.

**TABLE 4-6**
JOURNEY TO WORK TRIPS

<table>
<thead>
<tr>
<th>Trip Type</th>
<th>Trips</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Vehicle</td>
<td>2,219</td>
<td>79.1</td>
</tr>
<tr>
<td>Drove Alone</td>
<td>1,948</td>
<td>67.8</td>
</tr>
<tr>
<td>Carpoled</td>
<td>271</td>
<td>12.2</td>
</tr>
<tr>
<td>Public Transportation</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Motorcycle</td>
<td>5</td>
<td>0.2</td>
</tr>
<tr>
<td>Bicycle</td>
<td>25</td>
<td>0.9</td>
</tr>
<tr>
<td>Walk</td>
<td>286</td>
<td>10.2</td>
</tr>
<tr>
<td>Other</td>
<td>30</td>
<td>1.1</td>
</tr>
<tr>
<td>Work at Home</td>
<td>240</td>
<td>8.5</td>
</tr>
</tbody>
</table>

Total 2,805 100.0
ODOT collects detailed accident information on an annual basis along Highways 82, 3, 350, and 351 in Wallowa 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 traveled along that segment of roadway.

**Historic**

Table 4-7 shows the accident rates for Highways 82, 3, 350, and 351 in Wallowa County as well as the Oregon statewide average for rural non-freeway primary state highways from January 1, 1993 to December 31, 1995.

### Table 4-7
**HISTORIC ACCIDENT RATES FOR STATE HIGHWAYS**
**(Accidents per Million Vehicle Miles Traveled)**

<table>
<thead>
<tr>
<th>Highway</th>
<th>1995</th>
<th>1994</th>
<th>1993</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highway 82 from Union County Line to Wallowa</td>
<td>0.96</td>
<td>1.65</td>
<td>1.10</td>
</tr>
<tr>
<td>Highway 82 from Wallowa to Lostine</td>
<td>0.46</td>
<td>1.63</td>
<td>0.41</td>
</tr>
<tr>
<td>Highway 82 from Lostine to Enterprise</td>
<td>0.13</td>
<td>1.04</td>
<td>0.89</td>
</tr>
<tr>
<td>Highway 82 from Enterprise to Joseph</td>
<td>1.81</td>
<td>0.90</td>
<td>1.09</td>
</tr>
<tr>
<td>Highway 3 from Washington State Line to Enterprise</td>
<td>0.15</td>
<td>0.30</td>
<td>N/A</td>
</tr>
<tr>
<td>Highway 350 from Joseph to Imnaha</td>
<td>N/A</td>
<td>0.24</td>
<td>0.48</td>
</tr>
<tr>
<td>Highway 351 from Joseph to end of highway</td>
<td>0.70</td>
<td>N/A</td>
<td>0.54</td>
</tr>
<tr>
<td><strong>Average for all Rural Non-freeway Primary State Highways</strong></td>
<td><strong>0.89</strong></td>
<td><strong>0.81</strong></td>
<td><strong>0.87</strong></td>
</tr>
</tbody>
</table>

Source: Oregon Department of Transportation Accident Rate Tables.

The accident rates for the four rural segments of Highway 82 during those three years are generally higher than the statewide average for similar highways; however, there are some segments where the rate lower than the statewide average.

The 1994 and 1995 accident rates for Highway 3 are significantly lower than the statewide average. The accident rate for 1993 is unavailable.

No 1995 accident data is available for Highway 350. Accident rates on this highway in 1993 and 1994 are lower than the statewide average for those years.

The 1993 and 1995 accident rates for Highway 351 are lower than the statewide average for similar highways. No accident rate for the year 1994 is available.

Table 4-8 contains detailed accident information on Highways 82, 3, 350 and 351 in Wallowa County from January 1, 1993 to December 31, 1995. It 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 Wallowa County.

### Table 4-8
**ACCIDENT SUMMARIES FOR HIGHWAYS 82, 3, 350, AND 351**
**(January 1, 1993 to December 31, 1995)**

<table>
<thead>
<tr>
<th>Location</th>
<th>Fatalities</th>
<th>Injuries</th>
<th>Property Damage Only</th>
<th>Total Accidents</th>
<th>Accident Frequency (acc/mi/yr)</th>
<th>Accident Rate (acc/mvm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highway 82 (MP 33.00 to 46.46)</td>
<td>2</td>
<td>28</td>
<td>15</td>
<td>28</td>
<td>.69</td>
<td>1.21</td>
</tr>
<tr>
<td>Highway 82 (MP 47.67 to 54.45)</td>
<td>0</td>
<td>2</td>
<td>9</td>
<td>11</td>
<td>0.54</td>
<td>0.85</td>
</tr>
<tr>
<td>Highway 82 (MP 55.5 to 64.06)</td>
<td>1</td>
<td>9</td>
<td>9</td>
<td>16</td>
<td>0.63</td>
<td>0.69</td>
</tr>
<tr>
<td>Highway 82 (MP 66.29 to 70.97)</td>
<td>0</td>
<td>25</td>
<td>10</td>
<td>24</td>
<td>1.71</td>
<td>1.22</td>
</tr>
<tr>
<td>Highway 3 (MP 0.00 to 42.66)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0.02</td>
<td>0.19</td>
</tr>
<tr>
<td>Highway 350 (MP 0.26 to 37.99)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0.03</td>
<td>0.17</td>
</tr>
<tr>
<td>Highway 351 (MP 0.80 to 6.94)</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>0.22</td>
<td>0.48</td>
</tr>
</tbody>
</table>
On the four rural segments of Highway 82 during the three-year period there was a total of 79 accidents, 43 of which were reported as resulting in property damage only. There were three fatalities and 64 injuries on these roadway segments during the period. Six of the accidents occurred at intersections and 24 occurred on icy pavement. The accidents were scattered along the roadway segments and there were no particular locations which showed a consistent accident pattern. The accident rates on two of the segments are lower than the statewide average, indicating that these segments do not have any significant safety problems. The accident rates on the other two segments are some 30 to 40 percent higher than the statewide average and were analyzed further, to see if there were any patterns in the accident locations, types or causes.

The segment between the Union County Line and Wallowa (MP 33.00 to 46.46) had 28 accidents between 1993 and 1995. The accidents were scattered along this thirteen-mile segment and only three occurred at intersections. No single accident type comprised a majority of the accidents; however, eight of the 28 accidents involved vehicles hitting fixed objects. Most accidents (21) occurred during daylight hours and wet or icy pavement was reported as the cause of 13 accidents. Ten of the accidents involved trucks. Overall, there were not any patterns in the accident locations, types or causes.

The segment between Lostine and Enterprise (MP 55.55 to 64.06) had 16 accidents between 1993 and 1995. The accidents were scattered along this segment and none of the accidents occurred at intersections. Ten of the accidents occurred during daylight hours and ten occurred on wet or icy pavement. No single accident location or type comprised a significant amount of the accidents; however, the weather was responsible for more than half of the accidents.

There were only three accidents on the rural section of Highway 3 during the three-year period. These consisted of one accident with injuries and two with property damage only. Two of the accidents occurred when there was ice on the road. The accidents were scattered along the roadway segment and there were no particular locations which showed a consistent accident pattern. The accident rate on Highway 3 is significantly lower than the statewide average, indicating that this segment does not have any significant safety problems.

The same is true for Highway 350. Between 1993 and 1995 there were three accidents on the rural section east of Joseph. These consisted of one accident with injuries and two with property damage only. The accidents were scattered along the roadway segment and there were no particular locations which showed a consistent accident pattern. The accident rate on Highway 350 is significantly lower than the statewide average, indicating that this segment does not have any significant safety problems.

On the rural segment of Highway 351 during the three-year period there was a total of four accidents, two of which were reported as resulting in property damage only. There were no fatalities and three injuries on the highway during the three years. Three of the accidents occurred during daylight hours on dry pavement. The accidents were scattered along the roadway segments and there were no particular locations which showed a consistent accident pattern. The accident rate on this segment is lower than the statewide average, indicating that this segment does not have any significant safety problems.

### CHAPTER 61: TRAVEL FORECASTS

The traffic volume forecasts for Wallowa County are based on historic growth on the state highway system, historic population growth, 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 roads in the county.

**LAND USE**

Land use and population growth play an important part in projecting future traffic volumes. Historic trends and their relationship to historic traffic demand are the basis of those projections. 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 is designed.

A more detailed description of existing and future land use projections is contained in the Population and Employment Analysis located in Appendix D. Both historic and projected population for Wallowa County are summarized in Table 5-1.

**TABLE 5-1**

<table>
<thead>
<tr>
<th>WALLOWA COUNTY POPULATION TRENDS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td><strong>1970</strong></td>
</tr>
<tr>
<td>Wallowa County:</td>
</tr>
<tr>
<td>6,247</td>
</tr>
</tbody>
</table>

Incorporated Cities:
Historic
Population levels in most of Eastern Oregon are close to, or actually lower than, those experienced earlier in the century. Counties included in this phenomenon include Baker, Harney, Union, Grant, and Wallowa Counties. The population of Wallowa County actually declined in the 1960s and 1980s, reflecting the general slowdown in the state’s economy during these time periods. As a result of this activity, the population of Wallowa County declined by 3 percent between the 1960 and 1990 Censuses (from 7,102 in 1960 to 6,911 in 1990).

Projected
Population projections in Wallowa County are based on historic growth rates and forecasts by the State of Oregon Office of Economic Analysis. Factors that will affect the future growth rate of Wallowa County include employment opportunities, available land area for development, and community efforts to manage growth.

Wallowa County is expected to experience small population gains for the next 20 years. Like much of Eastern Oregon, the economy of Wallowa County remains largely seasonal, with more than 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 population of Wallowa County is expected to increase by 11 percent over the next 20 years, from the 1995 estimate of 7,250 to an estimated 8,025 in year 2015. The only jurisdiction expected to grow faster is Joseph, with a forecast increase of nearly 23 percent over 20 years, from 1,190 in 1995 to 1,460 in 2015.

Potential Development Impact Analysis
To supplement the demographic forecast and determine more specifically where growth is expected to occur in Wallowa County, a review of ODOT’s Potential Development Impact Analysis (PDIA) was also performed. The PDIA identifies areas of potential growth based on land use. Potential growth areas or “polygons” are identified around the county based on zoning. A detailed summary of the PDIA is contained in Appendix E.

Wallowa County contains 17 PDIA polygons. The polygons were determined by county zones using a minimum lot size of 10 acres or less. These included seven zones: Rural Residential (R-1); Recreation Residential (R-2); Rural Service (R-3); Commercial Recreation (CR-2); Rural Commercial (R-C); Industrial (M-1), and Existing Lot (EL-1).

### TABLE 5-2

<table>
<thead>
<tr>
<th>Polygon</th>
<th>Zoning</th>
<th>Acreage</th>
<th>Built</th>
<th>Vacant</th>
<th>Existing</th>
<th>Potential</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise Periphery</td>
<td>R-1</td>
<td>444.0</td>
<td>330.0</td>
<td>114.0</td>
<td>66</td>
<td>22</td>
<td>88</td>
</tr>
<tr>
<td>North Joseph</td>
<td>R-1</td>
<td>319.9</td>
<td>130.0</td>
<td>189.9</td>
<td>26</td>
<td>37</td>
<td>63</td>
</tr>
<tr>
<td>Joseph Airport</td>
<td>R-1</td>
<td>196.3</td>
<td>80.8</td>
<td>115.5</td>
<td>16</td>
<td>23</td>
<td>39</td>
</tr>
<tr>
<td>North Wallowa</td>
<td>R-1</td>
<td>28.0</td>
<td>25.0</td>
<td>3.0</td>
<td>5</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>West Wallowa</td>
<td>R-1</td>
<td>410.3</td>
<td>205.0</td>
<td>205.3</td>
<td>41</td>
<td>41</td>
<td>82</td>
</tr>
<tr>
<td>South Wallowa Lake</td>
<td>R-2</td>
<td>130.0</td>
<td>18.9</td>
<td>111.1</td>
<td>110</td>
<td>644</td>
<td>754</td>
</tr>
<tr>
<td>West Wallowa Lake</td>
<td>R-2</td>
<td>129.4</td>
<td>13.1</td>
<td>116.3</td>
<td>76</td>
<td>674</td>
<td>750</td>
</tr>
<tr>
<td>Wahluana Terrace</td>
<td>R-2</td>
<td>15.8</td>
<td>1.6</td>
<td>14.2</td>
<td>9</td>
<td>82</td>
<td>91</td>
</tr>
<tr>
<td>Imnaha</td>
<td>R-3</td>
<td>18.0</td>
<td>12.0</td>
<td>6.0</td>
<td>12</td>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td>Troy</td>
<td>R-3</td>
<td>23.7</td>
<td>22.0</td>
<td>1.7</td>
<td>22</td>
<td>1</td>
<td>23</td>
</tr>
<tr>
<td>Minam</td>
<td>R-3</td>
<td>5.5</td>
<td>3.0</td>
<td>2.5</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>South Wallowa Lake</td>
<td>CR-2</td>
<td>137.5</td>
<td>9.6</td>
<td>127.9</td>
<td>56</td>
<td>744</td>
<td>800</td>
</tr>
<tr>
<td>North Joseph</td>
<td>R-C</td>
<td>82.5</td>
<td>60.0</td>
<td>22.5</td>
<td>12</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Enterprise Periphery</td>
<td>M-1</td>
<td>316.0</td>
<td>168.4</td>
<td>147.6</td>
<td>31</td>
<td>29</td>
<td>60</td>
</tr>
<tr>
<td>Joseph Airport</td>
<td>M-1</td>
<td>231.8</td>
<td>188.7</td>
<td>43.1</td>
<td>21</td>
<td>8</td>
<td>29</td>
</tr>
<tr>
<td>North Wallowa</td>
<td>M-1</td>
<td>55.2</td>
<td>31.0</td>
<td>24.2</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>
Table 5-3 summarizes the historic average AADT volumes between 1975 and 1995, an average annual growth rate on each of these sections.

Before projecting future traffic growth, it is important to examine past growth trends on the Wallowa County roadway system. Historic data is only available for the state highway system in Wallowa County; however, these roadways carry far more traffic than any other streets in the city. The Oregon Department of Transportation (ODOT) collects traffic count data on the state highways (rural and urban sections) every year at the same locations. These counts have been conducted at four locations on Highway 82, one location on Highway 3, one location on Highway 350 and one location on Highway 351 outside of the incorporated cities in Wallowa County.

Historical growth trends on the state highways in and around Wallowa County were established using the average annual daily traffic (AADT) volume information presented in the ODOT Traffic Volume Tables for the years 1975 through 1995. 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 1975 and 1995, an average annual growth rate was determined.

Table 5-3 summarizes the historic average growth rate on each of these sections.

Residential development accounts for more than half (57 percent) of the potential growth in Wallowa County, followed by commercial development (27 percent), existing lot development (14 percent) and Industrial development (2 percent).

There are two polygons, both zoned Recreation Residential R-2, which have the highest potential for residential development in Wallowa County and account for 86 percent of potential residential growth:

South Wallowa Lake is located at the south end of Wallowa Lake and includes two different land use zones, R-2 and CR-2. The area was platted into several subdivisions totaling 579 lots under 322 ownerships. Approximately one-half of the area is devoted to residential use. There are 110 existing units in the polygon and there is a potential for an additional 644 units.

West Wallowa Lake is located along the west side of Wallowa Lake. There are 76 existing units in the polygon and there is a potential for an additional 674 units.

Nearly all of the potential commercial development is located in one polygon:

- South Wallowa Lake is located at the south end of Wallowa Lake and includes two different land use zones, R-2 and CR-2. The area was platted into several subdivisions totaling 579 lots under 322 ownerships. Approximately one-half of the area is devoted to commercial recreation which includes outfitting stations, lodges, go-cart tracks, miniature golf, restaurants, public land, and state parks. There are 56 existing units in the polygon and there is a potential for an additional 744 units.

One polygon accounts for more than 70 percent of the potential industrial development:

- Enterprise Periphery is comprised of numerous small lots approximately five acres in size. The polygon is zoned Rural Residential R-1 and Industrial M-1. A majority of the lots are in residential and hobby farm use. Because of the area’s marginal value as farmland due to poor drainage, generally flat terrain, and close proximity to Enterprise, the area has historically developed as rural-residential. The polygon includes two different land use zones, rural residential and industrial. The industrial zone does have a minimum lot size standard which varies according to the availability of city services. There are 31 existing industrial units in the polygon and there is a potential for an additional 29 units.

One polygon accounts for more than 72 percent of the potential existing lot development:

- Imnaha River Woods is located in eastern Wallowa County and was platted in 1967 as a recreation residential development. The lots are approximately one acres each, but often a landowner must purchase an adjacent lot to obtain DEQ approval of subsurface sewage disposal. Because the polygon is zoned Existing Lot EL-1, total buildout is equal to the number of separate ownerships within the polygon. There are 13 existing units in the polygon and there is a potential for an additional 275 units.

TRAFFIC VOLUMES

Traffic volume projections are based on historic growth trends for highway volumes and land use and on the future land use projections.

Historic

Before projecting future traffic growth, it is important to examine past growth trends on the Wallowa County roadway system. Historic data is only available for the state highway system in Wallowa County; however, these roadways carry far more traffic than any other streets in the city. The Oregon Department of Transportation (ODOT) collects traffic count data on the state highways (rural and urban sections) every year at the same locations. These counts have been conducted at four locations on Highway 82, one location on Highway 3, one location on Highway 350 and one location on Highway 351 outside of the incorporated cities in Wallowa County.

Historical growth trends on the state highways in and around Wallowa County were established using the average annual daily traffic (AADT) volume information presented in the ODOT Traffic Volume Tables for the years 1975 through 1995. 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 1975 and 1995, an average annual growth rate was determined.

Table 5-3 summarizes the historic average growth rate on each of these sections.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Alder Slope</td>
<td>353.6</td>
<td>188.5</td>
<td>165.1</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>Southeast Enterprise</td>
<td>864.8</td>
<td>534.1</td>
<td>330.7</td>
<td>55</td>
<td>34</td>
</tr>
<tr>
<td>Demosh</td>
<td>229.0</td>
<td>136.8</td>
<td>92.2</td>
<td>18</td>
<td>12</td>
</tr>
<tr>
<td>Lostine River Acres</td>
<td>281.0</td>
<td>140.5</td>
<td>140.5</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>Lostine/Evans</td>
<td>22.4</td>
<td>11.2</td>
<td>11.2</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Oxbow Subdivision</td>
<td>269.2</td>
<td>80.8</td>
<td>188.4</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>Flora</td>
<td>52.7</td>
<td>24.1</td>
<td>28.6</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Imnaha River Woods</td>
<td>279.0</td>
<td>12.5</td>
<td>266.5</td>
<td>13</td>
<td>275</td>
</tr>
</tbody>
</table>

Total Residential           | 1720.9    | 841.4     | 879.5     | 386       | 1533      | 1919      |
Total Commercial            | 220.0     | 69.6      | 150.4     | 68        | 748       | 816       |
Total Industrial            | 60.30     | 388.1     | 214.9     | 54        | 41        | 95        |
Total Existing Lot          | 2351.7    | 1128.5    | 1223.2    | 139       | 380       | 519       |
TABLE 5-3
HISTORIC GROWTH RATES ON STATE HIGHWAYS

<table>
<thead>
<tr>
<th>Highway Section</th>
<th>Average Annual Growth Rate</th>
<th>Total Growth 1975-1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highway 82 between County Line and Wallowa</td>
<td>2.2%</td>
<td>53%</td>
</tr>
<tr>
<td>Highway 82 between Wallowa and Lostine</td>
<td>1.8%</td>
<td>43%</td>
</tr>
<tr>
<td>Highway 82 between Lostine and Enterprise</td>
<td>3.2%</td>
<td>88%</td>
</tr>
<tr>
<td>Highway 82 between Enterprise and Joseph</td>
<td>1.9%</td>
<td>44%</td>
</tr>
<tr>
<td>Highway 3 between State Line and Enterprise</td>
<td>2.0%</td>
<td>50%</td>
</tr>
<tr>
<td>Highway 350 between Joseph and Imnaha</td>
<td>4.0%</td>
<td>111%</td>
</tr>
<tr>
<td>Highway 351 between Joseph and Wallowa Lake</td>
<td>6.2%</td>
<td>235%</td>
</tr>
</tbody>
</table>

Over the past 20 years, growth on the rural sections of Highway 82 in Wallowa County has ranged between 1.8 and 3.2 percent per year. North of Enterprise, traffic on Highway 3 has been growing at a rate of 2.0 percent per year. Highway 350 between Joseph and Imnaha has been growing at a rate of 4.0 percent per year. Traffic on Highway 351, between Joseph and Wallowa Lake, has been growing at a rate of 6.2 percent per year.

In all cases, growth on the highways far exceeded the population growth in Wallowa County itself. This relationship reflects the modern trend toward an increase in per capita vehicle miles traveled and the increase in tourist traffic.

**Forecasting Methodology**

It was decided that the most appropriate growth rates to project future traffic are those calculated from the historic traffic growth and not those calculated from the historic and future population and employment forecasts. Using the same linear regression analysis used to calculate the historic growth rate of traffic, forecasts were made for the years 1997 through 2017. Traffic volumes are expected to grow at a rate of 1.3 to 1.9 percent per year (29 to 45 percent over the next 20 years) on Highway 82, at 1.4 percent per year (32 percent over the next 20 years) on Highway 3, at 1.6 percent per year (38 percent over the next 20 years) on Highway 350 and at 2.6 percent per year (66 percent over the next 20 years) on Highway 3. All of these growth rates are higher than either of the estimated population and employment growth rates as described earlier in this chapter, and provide a more conservative estimate. Also, much of the traffic on these highways in Wallowa County is tourist traffic, whose growth is not directly determined by the population and employment growth in the study area.

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.

**HIGHWAY SYSTEM CAPACITY**

Both existing and future level-of-service analyses were performed on the rural sections of State Highways in Wallowa County. The analysis was performed for the years 1995 and 2017 by applying the overall growth expected in the 20-year forecast period to the 1995 traffic volumes.

**Rural Roadway Operations**

The two-lane highway analyses indicated that all of the highway segments analyzed operate at level-of-service B (LOS B) or better and will continue to operate at LOS B or better through the 20-year study period except for the segment of Highway 82 between Enterprise and Joseph in the year 2017, which would operate at LOS C. Level-of-service C still represents acceptable conditions to drivers. The results of the two-lane highway analyses are shown in Table 5-4.

**TABLE 5-4
SUMMARY OF OPERATIONS ON RURAL HIGHWAY SEGMENTS**

<table>
<thead>
<tr>
<th>Location</th>
<th>1995 LOS</th>
<th>2017 LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highway 82 between Union County and City of Wallowa</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Highway 82 between Wallowa and Lostine</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Highway 82 between Lostine and Enterprise</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Highway 82 between Enterprise and Joseph</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>Highway 3 between Washington State Line and Enterprise</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Highway 350 between Joseph and Imnaha</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Highway 351 between Joseph and Wallowa Lake.</td>
<td>A</td>
<td>B</td>
</tr>
</tbody>
</table>

**Operations at Intersections**

Unsignalized intersection analyses were performed at representative intersections on the highways for both the existing and future conditions. The analyses indicated that all of the intersections are expected to meet ODOT standards over the 20-year forecast period.

In general, the representative unsignalized intersections on the rural sections of the state highways
in Wallowa County operate very well. All movements operate at LOS B or better in both the existing and future conditions. The results of the unsignalized intersection analyses are shown in Table 5-5.

### TABLE 5-5
SUMMARY OF OPERATIONS AT REPRESENTATIVE INTERSECTIONS

<table>
<thead>
<tr>
<th>Location</th>
<th>Movement</th>
<th>1995 LOS</th>
<th>2017 LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highway 82</td>
<td>Eastbound; Left, Through, Right</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>County Line to Wallowa</td>
<td>Westbound; Left, Through, Right</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Northbound; Left</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Southbound; Left</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Wallowa to Lostine</td>
<td>Eastbound; Left, Through, Right</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Westbound; Left, Through, Right</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Northbound; Left</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Southbound; Left</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Highway 82</td>
<td>Eastbound; Left, Through, Right</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Lostine to Enterprise</td>
<td>Westbound; Left, Through, Right</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Northbound; Left</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Southbound; Left</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Enterprise to Joseph</td>
<td>Eastbound; Left, Through, Right</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Westbound; Left, Through, Right</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Northbound; Left</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Northbound; Left</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Highway 3</td>
<td>Eastbound; Left, Through, Right</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>State Line to Enterprise</td>
<td>Westbound; Left, Through, Right</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Northbound; Left</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Southbound; Left</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Highway 350</td>
<td>Eastbound; Left, Through, Right</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Joseph to Imnaha</td>
<td>Westbound; Left, Through, Right</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Northbound; Left</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Southbound; Left</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Highway 351</td>
<td>Eastbound; Left, Through, Right</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Joseph to Wallowa Lake</td>
<td>Westbound; Left, Through, Right</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Northbound; Left</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Southbound; Left</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

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

### CHAPTER 65: IMPROVEMENT OPTIONS ANALYSIS

As required by the Oregon Transportation Planning Rule, transportation alternatives were formulated and evaluated for the Wallowa County Transportation System Plan. These potential improvements were developed with the help of the TAC, and the individual communities and attempt to address the concerns specified in the goals and objectives (Chapter 2).

Each of the transportation system improvements options was developed to address specific deficiencies or access concerns. The following list includes all of the potential transportation system improvements considered. Improvement Options 1 through 6 are illustrated in Figure 6-1.

The proposed transportation system improvements recommended for the Wallowa County TSP include both state highway and local road projects. This section of the TSP describes the individual improvements and their associated costs. Improvement options evaluated include:

1. Construct the projects in the Oregon Highway 82 Corridor Plan.
2. Construct the projects in the County’s Five-Year Road Program.
3. Repair US Forest Service Loop Road #39 which was closed by floods in January 1997.
4. Upgrade structurally deficient and functionally obsolete bridges.
5. Provide a bikeway on Highway 82 or Hurricane Creek Road between Enterprise and Joseph.
6. Protect the Idaho Northern Pacific Railroad right-of-way.
7. Implement Transportation Demand Management Strategies.
As discussed in the remaining sections of this chapter, all of these considered improvements were recommended. These recommendations were based on costs and benefits relative to traffic operations, the transportation system, and the community livability.

**EVALUATION CRITERIA**

The evaluation of the potential transportation improvements was based on a qualitative review of safety, environmental, socioeconomic, and land use impacts, as well as estimated cost. The effect of each potential project on traffic patterns was not evaluated since existing and future traffic projections for the city indicate there will be no deficiencies in the capacity of the street system over the next 20 years.

Safety was the first qualitative factor to be evaluated. Although driver safety is considered in these projects, pedestrian and bicycle safety are a critical concern for the city. Environmental factors were also evaluated, such as air quality, noise, and water quality. Evaluation of socioeconomic and land use impacts considered right-of-way requirements, impacts to adjacent lands, and community livability. The final factor in the evaluation of each potential transportation improvement was cost.

Costs were estimated in 1997 dollars based on preliminary alignments for each potential transportation system improvement.

**STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM PROJECTS**

The Oregon Department of Transportation 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.

The 1998-2001 STIP, published in 1996, identified eight major highway improvements in Wallowa County as listed below.

- Little Sheep Creek Highway Bridges — Bridges #1909 and #1924, between milepost 13.6 and 14.5 on Little Sheep Creek Highway (Highway 350), are scheduled to be replaced in fiscal year 1998 at an estimated cost of $490,000.
- Little Sheep Creek Highway Solution Package — This planned improvement for the fiscal year 2000 includes preservation and safety corrections on Little Sheep Creek Highway (Highway 350) between milepost 0.0 and 29.3 at an estimated cost of $934,000.
- Wallowa Lake Highway Solution Package — This planned improvement for the fiscal year 2001 includes preservation, rockfall corrections, and safety corrections on Wallowa Lake Highway (Highway 82) between milepost 30.7 and 49.4 at an estimated cost of $2,343,000.
- Wallowa River/Hayes Bridge — Bridge #2725, on Hurricane Creek Road between milepost 0.3 and 0.4, is scheduled to be replaced in fiscal year 1998 at an estimated cost of $337,000.
- Imnaha River Road — Two structures are scheduled to be replaced and the base and surface will be upgraded on Imnaha River Road between milepost 12.8 and 24.0 in fiscal year 1999 at an estimated cost of $3,150,000.
- Wallowa River/Gulch Road Bridge — Bridge #63C019, located at milepost 7.0 on Wade Gulch Rd, is scheduled to be replaced in fiscal year 2001 at an estimated cost of $269,000.
- Bear Creek/Wallowa Road Bridge — Bridge #63C01, on Wallowa Road is scheduled to be replaced in fiscal year 1998 at an estimated cost of $269,000.
- Wallowa River/George Woods Bridge — Bridge #063C20, located at milepost 0.2 on Woods Road/School Flat, is scheduled to be replaced in fiscal year 1998 at an estimated cost of $249,000.

The STIP projects are also shown in Figure 6-1.

**IMPROVEMENT OPTIONS EVALUATION**

Through the transportation analysis and input provided from the public involvement program, several other improvement projects were identified. These options included reconstructing existing intersections and providing improved pedestrian and bicycle facilities.

**Option 1. Construct the Projects in the Oregon Highway 82 Corridor Plan**

Several capital improvement projects have been suggested for Highway 82 in Wallowa County in the Oregon Highway 82 Corridor Plan. The list of potential projects includes construction of passing lanes, six-foot shoulders, and scenic turnouts.

The Oregon Highway 82 Corridor Plan and the 1996 Highway 82 Passing Lane Study describe passing lane projects between Minam (Union County) and Wallowa, Wallowa and Lostine, Lostine and Enterprise, and Enterprise and Joseph. The projects include widening Highway 82 from a two-lane, 28-foot wide section, to either a three-lane, 48-foot wide section, or a four-lane, 60-foot wide section. This would include shoulder widening from two to six feet. The cost estimate in the Oregon Highway 82 Corridor Plan is approximately $2.5 million (1995 dollars) per section. These projects are listed as medium priority (for the next 5 to 10 years). Where passing lanes currently do not exist or cannot be developed due to environmental constraints, slow-moving vehicle turnouts will be constructed.

The four passing lane projects are as follows:

- Minam to Wallowa Passing Lane — Option 1 is a westbound passing lane from approximately MP 43.4 to MP 44.4; estimated cost $1.2 million. Option 2 is an eastbound passing lane from approximately MP 44.4 to MP 45.6; estimated cost $1.2 million. Option 3 is a four-lane section from approximately MP 43.3 to MP 44.4; estimated cost $2.4 million. The best performing scenario would be a combination of Option 1 and Option 2.
- Wallowa to Lostine Passing Lane — Option 1 is an eastbound passing lane from approximately MP 49.5 to MP 50.7; estimated cost $1.2 million. Option 2 is a westbound passing lane from
approximately MP 51.7 to MP 52.6; estimated cost $1.3 million. Option 3 creates both east- and westbound passing lanes from approximately MP 51.7 to MP 52.6; estimated cost $2.1 million. The best performing scenario would be a combination of Option 1 and Option 2.

- Lostine to Enterprise Passing Lane — This project would create a westbound passing lane between approximately MP 55.7 to MP 56.9; estimated cost $1.9 million. Option 2 is from approximately MP 60.0 to MP 61.4; estimated cost $2.4 million. Option 3 is from MP 61.4 to MP 62.6; estimated cost $2.2 million. The best performing segment would be Option 2.

- Enterprise to Joseph Passing Lane — This project would create eastbound and westbound passing lanes between approximately MP 66.5 and MP 67.5; estimated cost $2.4 million.

The passing lane projects address the goal to preserve the function, capacity, level of service, and safety of the state highways. Level of service on two-lane rural highways is highly dependent on the ability to pass slow-moving vehicles. This is of particular importance on winding, mountainous roads such as Highway 82.

The Oregon Highway 82 Corridor Plan describes a shoulder widening program on Highway 82 to increase the safety and access to bicyclists, motorists, and road maintenance crews while supporting related state and federal mandates. It would widen and restripe all substandard shoulders on Highway 82 to six feet unless there are physical width limitations, where a minimum four foot shoulder may be used. This could be accomplished as a singular project or as part of other improvement projects. This project is listed as a low priority project (for the next 10 to 20 years) and cost $27 million (1995 dollars), assuming 33 miles of shoulder are constructed.

The Oregon Highway 82 Corridor Plan also explores the feasibility and cost of developing safe, environmentally and culturally responsible locations for scenic turnouts along the Highway 82 corridor. Possible locations include the entrance to the Wallowa Canyon, near the Wallowa Mountains Visitor Center located in Enterprise, and near Prairie Creek between Enterprise and Joseph. This project is listed as a medium priority project (for the next 5 to 10 years) and cost $300,000 (1995 dollars), assuming three sites are constructed.

The estimated cost for these projects were originally based on 1995 construction costs. These estimates have then been increased by 10 percent to reflect present day (1997) dollars. Table 6-1 summarizes the cost estimates for completing the improvements. The total estimated cost to construct the improvements recommended for the state road system is $40.7 million.

### TABLE 6-1
OREGON HIGHWAY 82 CORRIDOR PLAN PROJECTS

<table>
<thead>
<tr>
<th>Project</th>
<th>1995 $</th>
<th>1997 $</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Passing Lane Projects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minam to Wallowa Passing Lane (combination of Option 1 and Option 2)</td>
<td>$2,400,000</td>
<td>$2,640,000</td>
</tr>
<tr>
<td>Wallowa to Lostine Passing Lane (combination of Option 1 and Option 2)</td>
<td>$2,500,000</td>
<td>$2,750,000</td>
</tr>
<tr>
<td>Lostine to Enterprise Passing Lane (Option 2)</td>
<td>$2,400,000</td>
<td>$2,640,000</td>
</tr>
<tr>
<td>Enterprise to Joseph Passing Lane</td>
<td>$2,400,000</td>
<td>$2,640,000</td>
</tr>
<tr>
<td><strong>Shoulder Widening Projects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33 miles of shoulder are constructed</td>
<td>$27,000,000</td>
<td>$29,700,000</td>
</tr>
<tr>
<td><strong>Scenic Turnout Projects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Three sites are constructed</td>
<td>$300,000</td>
<td>$330,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$37,000,000</td>
<td>$40,700,000</td>
</tr>
</tbody>
</table>

These improvements primarily address safety on Highway 82; however, in addition, the passing lane projects address level of service and capacity, the shoulder widening project addresses access by bicyclists and pedestrians, and the scenic turnouts address socioeconomic issues by providing cultural amenities. Therefore, these improvement options are recommended for inclusion in the plan.

**Option 2. Construct the Projects in the County’s Five-Year Road Program**

The Wallowa County Road Department implemented a five-year road program several years ago, and several of the projects identified at that time have been completed (flood damage repairs have been made to Troy Road, and projects on Russell Lane, Sam Wade Road, Deer Creek Road, and Bear Creek Road have also been completed). Work is in progress to repair flood damage on Imnaha River Road ($1.75 million has been spent and $1 million in Federal Highway Administration reimbursement is expected) and on Grande Ronde River Road ($500,000 in Federal Highway Administration reimbursement is expected). The list of proposed improvements is reviewed...
periodically and updated with changes in priority. Projects currently on the County’s list for improvement are shown in Table 6-2. The total cost to make all of the improvements is approximately $9.1 million. It is expected that the Federal Highway Administration would fund the $8.3 million for the Upper Imnaha River Road and Zumwalt Road projects and the Oregon State Marine Board would fund the $207,000 for the boat launch and parking lot at Wallowa Lake. The other improvements, expected to cost $585,000 (1997 dollars), would be funded by the county.

### TABLE 6-2

**WALLOWA COUNTY FIVE-YEAR ROAD PROGRAM**

<table>
<thead>
<tr>
<th>Project</th>
<th>Estimated Cost (1997 $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td></td>
</tr>
<tr>
<td>Sunrise Road — reconstruct road 1/2 mile south of Highway 82</td>
<td>$25,000</td>
</tr>
<tr>
<td>Ant Flat Road — 1/2 mile of reconstruction</td>
<td>$50,000</td>
</tr>
<tr>
<td>1998</td>
<td></td>
</tr>
<tr>
<td>Tucker Down — 5-mile resurfacing</td>
<td>$160,000</td>
</tr>
<tr>
<td>1999</td>
<td></td>
</tr>
<tr>
<td>Expand parking lot at the foot of Wallowa Lake</td>
<td>$50,000</td>
</tr>
<tr>
<td>Reconstruct boat launch facility at the foot of Wallowa Lake</td>
<td>$157,000</td>
</tr>
<tr>
<td>Hurricane Creek Road — Widen by 5-6 feet for 5-6 miles</td>
<td>$200,000</td>
</tr>
<tr>
<td>2000</td>
<td></td>
</tr>
<tr>
<td>Upper Imnaha River Road — Road Improvements (MP 12.8 - 24.0)(^1)</td>
<td>$3,100,000</td>
</tr>
<tr>
<td>Crow Creek Road — 10 miles of chip seal surfacing</td>
<td>$100,000</td>
</tr>
<tr>
<td>Rancho Road — 1+ mile of resurfacing</td>
<td>$50,000</td>
</tr>
<tr>
<td>After 2000:</td>
<td></td>
</tr>
<tr>
<td>Zumwalt Road — reconstruction/resurfacing</td>
<td>$5,200,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$9,092,000</strong></td>
</tr>
</tbody>
</table>

Note:

1) 1998-2001 STIP Project.

All of these roadway improvements are recommended for the next five years. Priority for these projects will be determined by the County Public Works Director depending on each road’s traffic level, the type of improvement needed, the estimated cost and the availability of funding.

**Option 3. Repair US Forest Service Loop Road #39**

Loop Road #39 is a US Forest Service road with a northern terminus at Little Sheep Creek Highway (Highway 350) east of Joseph, and which continues south through the Wallowa-Whitman National Forest and Hell’s Canyon National Recreation Area and has a southern terminus at Highway 86 east of Halfway, in Baker County. Prior to being closed by floods in January 1997, this road was a viable alternative to Highway 82 and I-84 for trips between the Enterprise/Joseph area and Baker City, as well as Boise, Idaho. A large number of tourists travel from Baker City through Wallowa County along the road in the summer.

The road is an important link in the Wallowa County roadway system, therefore, its repair should be given high priority. Because the road is under the jurisdiction of the US Forest Service; neither ODOT nor Wallowa County has the authority to make any flood repairs. Further compounding the problem, Congress has cut the Forest Service’s operating and maintenance budget every year since 1990 and the Forest Service does not have the funds to repair the road. The Federal Highway Authority will be taking over the responsibility of funding the repair from the Forest Service.

The Forest Service is in the process of preparing an Environmental Impact Statement for the flood repairs which are expected in late 1997 or early 1998. The estimated cost of the repairs is $6 to $8 million.

This improvement is recommended because of the route’s importance to the region.

**Option 4. Upgrade Structurally Deficient and Functionally Obsolete Bridges**

Both the state and the county have bridges which have deficiencies that need to be addressed as soon as possible. These bridges have been identified as structurally deficient (no state bridges and seven county bridges) or functionally obsolete (two state bridges and eleven county bridges). In addition to the immediate need, one county bridge has a sufficiency rating below 55, indicating that it may reach a deficient level in the near future. Bridges which fall into any of these three categories will need to be repaired or replaced some time in the next 20 years.

Structurally deficient bridges have been identified as unsafe through inventories of the various structural elements. They need to be replaced or repaired in order to safely serve the traffic demands of the area. Bridges with this rating may have the greatest need for upgrades.

Functionally obsolete bridges cannot adequately service the demand placed on them because of some design deficiency such as being too narrow for today’s standards. They need to be upgraded.
as well, which could involve improving or replacing the existing facility. If these bridges serve a high traffic demand, they may be a high priority for upgrades.

Bridges with sufficiency ratings below 55 are not currently deficient but may become so in the future. If the bridges are not repaired or replaced, limitations on usage may affect users of the facilities. This could include long routes to divert traffic off bridges which cannot safely service demand. Limitation on bridge use could affect the economy of some of the resource-based industries in the area.

The estimated cost for the bridge upgrades is based on formulas used by ODOT Bridge Section and are originally based on typical 1994 construction costs. These estimates have then been increased by 15 percent to reflect present day (1997) dollars. The total estimated cost to repair or replace the deficient bridges on the state road system is $1.9 million. The total estimated cost to repair or replace the deficient bridges on the county road system is $10.7 million. Table 6-3 summarizes the cost estimates for upgrading the bridges. The improvements have been grouped by state highway or county road and show bridges by roadway number and milepost. The reason for the upgrade is shown in the classification.

### TABLE 6-3

**STRUCTURALLY DEFICIENT AND FUNCTIONALLY OBSOLETE BRIDGES**

<table>
<thead>
<tr>
<th>Bridge Location</th>
<th>Upgrade Classification</th>
<th>Improvement</th>
<th>Estimated Cost 1994</th>
<th>Estimated Cost 1997</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>State Highways</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highway 82 (River Street) over Prairie Creek (MP 65.33) in the City of Enterprise</td>
<td>Functionally Obsolete</td>
<td>Repair</td>
<td>$1,107,000</td>
<td>$1,273,000</td>
</tr>
<tr>
<td>Highway 350 (Little Sheep Creek Highway) over the Imnaha River (MP 29.34) in Imnaha</td>
<td>Functionally Obsolete</td>
<td>Repair</td>
<td>$546,000</td>
<td>$628,000</td>
</tr>
<tr>
<td><strong>County Roads</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CR #515 (Bear Creek Road) over Bear Creek (MP 3.0) south of Highway 82</td>
<td>Structurally Deficient</td>
<td>Replace</td>
<td>$541,000</td>
<td>$622,000</td>
</tr>
<tr>
<td>CR #528 (Wade Gulch Road) over the Wade Gulch River (MP 7.03) northwest of Highway 82</td>
<td>Structurally Deficient</td>
<td>Replace</td>
<td>$649,000</td>
<td>$746,000</td>
</tr>
<tr>
<td>CR #570 (Dorrence Lane) over the Wallowa River (MP 0.9) west of Highway 82</td>
<td>Structurally Deficient</td>
<td>Replace</td>
<td>$476,000</td>
<td>$547,000</td>
</tr>
<tr>
<td>CR #631 over the Grande Ronde River (MP 15.15) west of Highway 3</td>
<td>Structurally Deficient</td>
<td>Replace</td>
<td>$2,453,000</td>
<td>$2,821,000</td>
</tr>
<tr>
<td>CR #642 (Imnaha Road) over the Imnaha River (MP 19.27) south of Imnaha</td>
<td>Structurally Deficient</td>
<td>Replace</td>
<td>$898,000</td>
<td>$1,033,000</td>
</tr>
<tr>
<td>CR #642 (Imnaha Road) over the Imnaha River (MP 21.08) south of Imnaha</td>
<td>Structurally Deficient</td>
<td>Replace</td>
<td>$979,000</td>
<td>$1,126,000</td>
</tr>
<tr>
<td>CR #735 over the Imnaha River (MP 35.00) northeast of Junction FAP 7</td>
<td>Structurally Deficient</td>
<td>Replace</td>
<td>$606,000</td>
<td>$697,000</td>
</tr>
<tr>
<td>CR #638 (Hurricane Creek Road over the Wallowa River (MP 0.39) in Joseph</td>
<td>Functionally Obsolete</td>
<td>Repair</td>
<td>$408,000</td>
<td>$469,000</td>
</tr>
<tr>
<td>CR #509 over the Wallowa River (MP 0.12) near Highway 82</td>
<td>Functionally Obsolete</td>
<td>Repair</td>
<td>$419,000</td>
<td>$482,000</td>
</tr>
<tr>
<td>CR #534 (Evans Leap Road) over the Wallowa River (MP 0.25) east of Jim Town</td>
<td>Functionally Obsolete</td>
<td>Repair</td>
<td>$272,000</td>
<td>$313,000</td>
</tr>
<tr>
<td>CR #551 (Lostine River Road) over the Lostine River (MP 0.00) south of Highway 82</td>
<td>Functionally Obsolete</td>
<td>Repair</td>
<td>$311,000</td>
<td>$358,000</td>
</tr>
<tr>
<td>CR #572 (Egglesson Road) over the Wallowa River (MP 1.00) west of Highway 82</td>
<td>Functionally Obsolete</td>
<td>Repair</td>
<td>$200,000</td>
<td>$230,000</td>
</tr>
<tr>
<td>CR #572 (Egglesson Road) over the Wallowa River (MP 1.08) west of Highway 82</td>
<td>Functionally Obsolete</td>
<td>Repair</td>
<td>$205,000</td>
<td>$236,000</td>
</tr>
<tr>
<td>CR #639 over Trout Creek (MP 0.71) north of FAP 7</td>
<td>Functionally Obsolete</td>
<td>Repair</td>
<td>$135,000</td>
<td>$155,000</td>
</tr>
<tr>
<td>CR #642 (Imnaha Road) over Grouse Creek (MP 18.41) south of Highway 350</td>
<td>Functionally Obsolete</td>
<td>Repair</td>
<td>$157,000</td>
<td>$181,000</td>
</tr>
<tr>
<td>CR #676 (Camp Creek Road) over Trail Creek (MP 1.69) west of Highway 350</td>
<td>Functionally Obsolete</td>
<td>Repair</td>
<td>$113,000</td>
<td>$130,000</td>
</tr>
</tbody>
</table>
$209,000  
$240,000  
$1,901,000  
$300,000  
$10,731,000  
$9,331,000  
$1,653,000  
Transportation Board granted INP an exemption from INP $163,000  
$345,000  
more than 20 bridges. It removing the rails and the ties, INP must confer with the Army Corps of Engineers on the removal of 1993 for the sole purpose of ripping out the rails and the ties and selling them for scrap. Before removing the rails and the ties, INP must confer with the Army Corps of Engineers on the removal of more than 20 bridges. It must also confer with the county to make sure that salvage operations do Options 1A, 2A, and 3 were dropped from the plan. Options 1B, 2B, and 3 were described below:

- Option 1A — At-grade shoulder widening project on the east side of the Lake along Highway 351. Estimated cost: $5.2 million (1995 dollars).
- Option 1B — A grade-separated bike path on the east side of the lake placed on a bench fill created by placing retaining walls next to the pavement.
- Option 2A — A paved bike path on the west side of the lake via a private road and county roads into Joseph.
- Option 2B — An unpaved bike path using the same route as Option 2A. Estimated cost: $80,000 (1995 dollars).
- Option 3 — Alignment would continue down the west side of the lake, cross over the dam structure and connect to Highway 82 through the county park.

Options 1A and 2B were recommended for further study. Options 1B, 2A, and 3 were dropped from further consideration due to cost and potential environmental impact.

This facility is necessary to accommodate cyclists traveling between the state park and the City of Joseph. The existing roadway presents a safety hazard to cyclists and vehicular traffic. Therefore, this project is recommended. This project is listed as a medium priority project (for the next 5 to 10 years).

For estimating purposes, the higher cost option (Option 1A) was assumed, and the cost estimate was increased by 10 percent to reflect present day (1997) dollars. The resulting cost of this project would be $5.72 million.

Option 6. Protect the Idaho Northern Pacific Railroad Right-of-Way

The Idaho Northern Pacific Railroad (INP) is attempting to abandon the railroad right-of-way between Elgin and Joseph. If the abandonment is successful, a recreational trail could be constructed in the right-of-way as a "Rails to Trails" project.

In March 1997, the Federal Surface Transportation Board granted INP an exemption from regulations restricting railroad abandonments in rural areas. With the exemption, INP can operate the railroad or rip it out. The company bought the branch line from the Union Pacific Railroad in 1993 for the sole purpose of ripping out the rails and the ties and selling them for scrap. Before removing the rails and the ties, INP must confer with the Army Corps of Engineers on the removal of more than 20 bridges. It must also confer with the county to make sure that salvage operations do

Option 5. Provide a Bikeway on Highway 82 or Hurricane Creek Road

Highway 82 carries a significant amount of bicycle traffic, especially on the section between the cities of Enterprise and Joseph. Goals and objectives of the county’s bicycle plan include reducing conflicts between bicyclists and motorized vehicle traffic, developing a system dedicated to bicycles, and providing opportunities for recreational bicycle use. Two options for meeting these goals include widening the shoulders on Highway 82 and adding a bike facility to Hurricane Creek Road. The Hurricane Creek Road option is the County’s preferred option.

Bike lanes are generally not recommended on rural highways with posted speed limits of 55 mph. Shoulder bikeways are the appropriate facility for these roads. Providing a shoulder bikeway on Highway 82 would improve bicyclist safety and could encourage more bicycle trips within Wallowa County by improving the cycling experience by taking bike trips out of the general flow traffic lanes.

During one of the community meetings in Enterprise, it was suggested that a bike lane be installed on Hurricane Creek Road between Enterprise and Joseph and that route be promoted as the best route for bikes between the two cities. In rural areas without curbs and sidewalks, the typical recommended facility is a shoulder bikeway, where a six-foot standard paved shoulder is provided for bicycles. According to the Oregon Bicycle and Pedestrian Plan, the guideline for rural collectors with an ADT of less than 400 vpd, the paved shoulder can be as little as two feet wide. Hurricane Creek Road would not meet the traffic volume requirement for a separate bike lane, but a two-foot-wide paved shoulder for bikes is recommended.

The Oregon Highway 82 Corridor Plan describes a bike route project on Hurricane Creek Road. This county road would not need widening but would require appropriate signage and an overlay to provide a smooth surface. An exception from the policies of the Oregon Bicycle and Pedestrian Plan would be required to implement this option. The estimated cost for a bike route on Hurricane Creek Road is $200,000 (1995 dollars). The project is listed as a near-term priority (for the next five years).

The plan also recommends a bicycle facility between Wallowa Lake State Park and the City of Joseph. Five options were reviewed, ranging in cost from $80,000 to $5.2 million (1995 dollars), and are described below:

- Option 5. Provide a Bikeway on Highway 82 or Hurricane Creek Road

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Cost (1995 dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>Shoulder widening</td>
<td>$80,000</td>
</tr>
<tr>
<td>1B</td>
<td>Grade-separated bike path</td>
<td>$5.2 million</td>
</tr>
<tr>
<td>2A</td>
<td>Paved bike path</td>
<td>$80,000</td>
</tr>
<tr>
<td>2B</td>
<td>Unpaved bike path</td>
<td>$5.2 million</td>
</tr>
<tr>
<td>3</td>
<td>Alignment</td>
<td>$5.2 million</td>
</tr>
</tbody>
</table>

All of these bridges are recommended for improvement over the next 20 years. Priority for bridge improvements will be a function of several factors including severity of deficiency, demand for the facility, and availability of funding.

Functionality Summary

<table>
<thead>
<tr>
<th>Bridge</th>
<th>Functionality</th>
<th>Repair Cost (1995 dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR #784 (Hersel Jones Road) south of Highway 82</td>
<td>Functionally Obsolete</td>
<td>$209,000</td>
</tr>
<tr>
<td>CR # Frontage Road over Bear Creek west of Highway 82</td>
<td>Functionally Obsolete</td>
<td>$300,000</td>
</tr>
<tr>
<td>CR #1000 (Campground Road) south of Wallowa Lake River</td>
<td>Sufficiency Rating &lt; 65</td>
<td>$163,000</td>
</tr>
</tbody>
</table>

Total for State Highways | $1,653,000 |
Total for County Roads | $9,331,000 |

Total for all bridges: $10,731,000.
not violate any provisions of the Wallowa County Nez Perce Salmon Recovery Plan.

There is a grassroots effort to raise the money to buy out INP and preserve the freight rail service. Also, ODOT is looking into obtaining funding through the Intermodal Surface Transportation Efficiency Act to purchase the right-of-way and convert it into a multi-use path and Oregon State Parks has submitted a letter of interest in allowing trail use.

There is strong community interest in Wallowa County to protect the railroad right-of-way for other uses if the rail line is abandoned by INP. Options that have been discussed include using the right-of-way for utility systems and as a recreational trail. It may be possible that the right-of-way could serve as both a linear utility corridor and as a non-motorized path.

Wallowa County has identified the need to extend natural gas and fiber optic telecommunication lines into the county to encourage the diversification of the local economy. Business recruiters have informed the Wallowa County Court that both natural gas service and an improved telecommunication system are essential for new businesses selecting development sites within the county. Presently, the natural gas line stops at Elgin and fiber optics have not been extended beyond La Grande. The INP rail right-of-way has the potential to serve as a utility corridor for these two utility systems.

Conversion to a recreational trail may be an option because it provides both recreational opportunities and a transportation system for non-motorized vehicles. However, this option, known as "Rails to Trails," may not even be possible because of the uncertainty of whether the easement on the privately-owned land in the right-of-way ends when the rail line is abandoned.

In addition, public use of the right-of-way has not been embraced county-wide. Some residents expressed concerns about a hiking or riding trail along the abandoned rail lines because of increased risk of fire, compromises in safety and security, the possibility of more trash along the right-of-way, and a general dislike of public access through private property.

It is estimated that a "Rails to Trails" improvement option would have high construction costs. The cost of the right-of-way between Elgin and Joseph (approximately 50 miles) was estimated at $2.5 million (1995 dollars) in the Oregon Highway 82 Corridor Plan. This estimate was increased by 10 percent, to $2.75 million, to reflect present day (1997) dollars. The cost to clear, prepare, and construct a 10-foot-wide asphalt path is around $16 per linear foot. This assumes the pathway is composed of two inches of asphalt and four inches of aggregate. The cost to pave this 50-mile trail in Wallowa County would be $4.2 million. The total construction cost, including right-of-way, would be $6.95 million. A less costly option would be to not pave the path.

If the line is abandoned, and the rails and ties ripped out and sold as scrap as planned, efforts should be made to retain the right-of-way for utilities and as a possible recreational trail. The existing right-of-way can be preserved through a Public Use Condition with Interim Trail Use granted by the Interstate Commerce Commission. Such a situation would preserve the integrity of the right-of-way and the possibility of future rail service while also allowing trail use. The Transportation Planning Rule requires that jurisdictions protect right-of-ways for future operation of transportation corridors.

There is community interest in pursuing this project because of its benefits to the community and the region. In spite of some opposition by the property owners along the alignment of the proposed multi-use path, it is recommended for inclusion in the plan. Efforts to implement this project will need to be coordinated with the county, the state, and INP.

Option 7. Implement Transportation Demand Management Strategies

Transportation demand management (TDM) strategies change the demand on the transportation system by providing facilities for modes of transportation other than single occupant passenger vehicles, implementing carpooling programs, altering work shift schedules, and applying other demand management measures within the community. The TPR recommends that cities should evaluate TDM measures as part of their Transportation System Plans.

TDM strategies are most effective in large, urban cities; however, some strategies can still be useful in rural areas. For example, staggering work shift schedules at local businesses may not be appropriate in Wallowa County since there are no large employers in the county; however, provisions for alternative modes of transportation, such as bike lanes, and implementing a county-wide carpooling program can be beneficial for residents of the county. In rural communities, TDM strategies include providing mobility options.

Wallowa County can implement TDM strategies by requiring all future street 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 street improvement projects should also consider bicycle facilities as well.

Implementing a carpool program in Wallowa County is possible. Residents who live in one of the four cities or in rural areas should be encouraged to carpool with a fellow coworker or someone who works in the same area.

Although the primary goal of these measures is to reduce the number of vehicle trips made within the city, especially during peak periods, street capacity for automobiles and trucks is generally not an issue in Wallowa County. However, providing adequate facilities for pedestrians and bicyclists improves traffic and pedestrian 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, this option is recommended.

Costs associated with implementing TDM strategies were not determined.
Table 6-4 summarizes the recommendations of the street 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 the Wallowa County area.

### TABLE 6-4
TRANSPORTATION IMPROVEMENT OPTIONS: RECOMMENDATION SUMMARY

<table>
<thead>
<tr>
<th>Option</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construct the Projects in the Oregon Highway 82 Corridor Plan</td>
<td>Implement</td>
</tr>
<tr>
<td>Construct the Projects in the County’s Five-Year Road Program</td>
<td>Implement</td>
</tr>
<tr>
<td>Repair US Forest Service Loop Road #39</td>
<td>Implement, US Forest Service has jurisdiction</td>
</tr>
<tr>
<td>Upgrade structurally deficient and functionally obsolete bridges</td>
<td>Implement</td>
</tr>
<tr>
<td>Provide a Bikeway on Highway 82 or Hurricane Creek Rd.</td>
<td>Implement where volumes warrant bike lane; otherwise provide paved shoulder</td>
</tr>
<tr>
<td>Protect the Idaho Northern Pacific Railroad Right-of-Way</td>
<td>Implement</td>
</tr>
<tr>
<td>Implement Transportation Demand Management Strategies</td>
<td>Implement</td>
</tr>
</tbody>
</table>

### CHAPTER 25: TRANSPORTATION SYSTEM PLAN

The purpose of this chapter is to provide detailed operational plans for each of the transportation systems within the county. The Wallowa County TSP covers all the transportation modes that exist and are interconnected throughout the county. Components of the TSP include roadway classification standards, access management recommendations, transportation demand management measures, modal plans, and a system plan implementation program.

#### EXISTING ROADWAY STANDARDS

Roadway standards relate the design of a roadway to its function. The function is determined by operational characteristics such as traffic volume, operating speed, safety, and capacity. Roadway standards are 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 majority of Wallowa county roads exist in a 60-foot right-of-way, although in some cases it is wider. Paved county roads are 22 feet wide with gravel shoulders. Gravel roads are of a similar width with no shoulders.

#### RECOMMENDED RURAL ROADWAY STANDARDS

The development of the Wallowa County Transportation System Plan provides the County with an opportunity to review and revise roadway design standards to more closely fit with the functional roadway classification, and the goals and objectives of the Transportation System Plan. The recommended roadway standards are shown graphically in Figure 7-1 and summarized in Table 7-1. Since the Wallowa County Transportation System Plan applies to land outside the urbanized, incorporated cities, rural road standards should be applied in these outlying areas.

### TABLE 7-1
RECOMMENDED RURAL ROADWAY DESIGN STANDARDS

<table>
<thead>
<tr>
<th>Classification</th>
<th>Pavement Width</th>
<th>Right-of-Way Width</th>
<th>Min. Posted Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local</td>
<td>24-36 ft.</td>
<td>60 ft.</td>
<td>25 mph</td>
</tr>
<tr>
<td>Collector</td>
<td>32-40 ft.</td>
<td>60 ft.</td>
<td>25-35 mph</td>
</tr>
<tr>
<td>Arterial</td>
<td>36-40 ft.</td>
<td>60 ft.</td>
<td>35-55 mph</td>
</tr>
</tbody>
</table>

#### Rural Local Roadways

The recommended standard for a rural local roadway is a 24 to 36-foot roadway within a 60-foot right-of-way, as shown on Figure 7-1. The width of the roadway and right-of-way is determined by the width of the shoulder, assuming two 10-foot travel lanes as a constant.

The narrower roadways and travel lanes generally improve the neighborhood aesthetics, and discourage speeding. They also reduce right-of-way needs, construction cost, stormwater runoff, and vegetation clearance. The width of the shoulder is determined by anticipated traffic volumes, as shown in the table in Figure 7-1. It is expected that on rural local roadways, parking will be off-pavement.

For the most part, rural local roadways 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 Collector Roadways
Collector roadways are primarily intended to serve abutting lands and local access needs of neighborhoods. Depending on traffic volumes, collector roadways can be classified as minor or major. Figure 7-1 shows a cross section with a 60-foot right-of-way and a 32 to 40-foot paved width. This width allows two twelve-foot travel lanes and four- to eight-foot shoulders. The width of the roadway and right-of-way is determined by the width of the shoulder. The width of the shoulder is determined by anticipated traffic volumes, as shown in the table in Figure 7-1. It is expected that on rural collector roadways, parking will be off-pavement.

For the most part, rural collectors 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 Arterial Roadways**

Arterial roadways form the primary roadway network within and through a region. They provide a continuous roadway system which distributes traffic between different neighborhoods and districts. Generally, arterial roadways are high capacity roadways which carry high traffic volumes with minimal localized activity.

Figure 7-1 shows a cross section with 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. The width of the roadway and right-of-way is determined by the width of the shoulder. The width of the shoulder is determined by anticipated traffic volumes, as shown in the table in Figure 7-1. No on-roadway parking should be allowed on arterial roadways.

For the most part, rural arterial roadways 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.

**Bike Lanes**

For the most part, rural roadways do not require separate bikeway facilities. Bicyclists shall be accommodated on the shared roadway or on a shoulder, depending on traffic volumes. In areas with high 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.

**Sidewalks**

Rural roadways generally do not require separate pedestrian facilities. Pedestrians shall be accommodated on the shoulder of the roadway. In areas with high pedestrian activity, 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.

**ACCESS MANAGEMENT**

Access management is an important tool for maintaining a transportation system. Too many access points can diminish the function of an arterial, mainly due to delays and safety hazards created by turning movements. Traditionally, the response to this situation is to add lanes to the roadway. However, this can lead to increases in traffic and, in a cyclical fashion, require increasingly expensive capital investments to continue to expand the roadway.

Reducing capital expenditures is not the only argument for access management. Additional driveways along arterial roadways lead to an increased number of potential conflict points between vehicles entering and exiting the driveway, and through vehicles on the arterial roadways. This not only leads to increased vehicle delay and a deterioration in the level of service on the arterial, but also leads to a reduction in safety.

Research has shown a direct correlation between the number of access points and collision rates. In addition, the wider arterial roadways that can ultimately result from poor access management can diminish the livability of a community. Therefore, it is essential that all levels of government maintain the efficiency of existing arterial roadways through better access management.

**Access Management Techniques**

The number of access points to an arterial can be restricted through the following techniques:
- Restrict spacing between access points (driveways) based on the type of development and the speed along the arterial.
- Share access points between adjacent properties.
- Provide access via collector or local roadways where possible.
- Construct frontage roads to separate local traffic from through traffic.
- Provide service drives to prevent spill-over of vehicle queues onto the adjoining roadways.
- Provide acceleration, deceleration, and right turn only lanes.
- Offset driveways to produce T-intersections to minimize the number of conflict points between traffic using the driveways and through traffic.
- Install median barriers to control conflicts associated with left turn movements.
- Install side 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 roadways for access purposes, parking and loading at the local and minor collector level. Table 7-2 describes recommended general access management guidelines by roadway functional classification.

**TABLE 7-2**

**RECOMMENDED ACCESS MANAGEMENT STANDARDS FOR COUNTY ROADS**

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Functional Classification</th>
<th>Public Road</th>
<th>Private Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Type</td>
<td>Spacing</td>
<td>Type</td>
</tr>
<tr>
<td>Rural Arterial</td>
<td>at-grade</td>
<td>1 mile</td>
<td>L/R Turns</td>
</tr>
<tr>
<td>Rural Collector</td>
<td>at-grade</td>
<td>1/4 mile</td>
<td>L/R Turns</td>
</tr>
<tr>
<td>Rural Local</td>
<td>at-grade</td>
<td>200-400 feet</td>
<td>L/R Turns</td>
</tr>
</tbody>
</table>

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.

Application

These access management guidelines should be applied to county roads. They 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, the access to roadways will meet these guidelines. 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

Access management is important to promoting safe and efficient travel for both local and long distance users along State Highways 82, 3, 350, and 351 in Wallowa County. The 1991 Oregon Highway Plan specifies an access management classification system for state facilities. Although Wallowa 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 Oregon Highway Plan. This section of the Transportation System Plan describes the state highway access categories and specific roadway segments where special access areas may apply.

Highways 82 and 351 through Wallowa County are state highways of statewide level of importance. Within the Wallowa County limits, and outside the UGBs of the incorporated cities, Oregon Highway Plan Category 4, "Limited Control" applies. This classification permits at-grade intersections or interchanges at a minimum spacing of one mile. Private driveways should have a minimum spacing of 1,200 feet from each other and from intersections. These requirements are similar to the general access management guidelines specified for major arterial roadways.

Highways 3 and 350 through Wallowa County are state highways of district level of importance. Within the Wallowa County limits, and outside the UGBs of the incorporated cities, Oregon Highway Plan Category 6, "Partial Control" applies. This classification permits at-grade intersections or interchanges at a minimum spacing of one-quarter mile. Private driveways should have a minimum spacing of 300 feet from each other and from intersections. Traffic signals are permitted at a minimum of one-half mile spacing.

The highways and the appropriate access management standards are summarized in Table 7-3.

On Highways 82 and 351, OHP Category 4, "Limited Control" for statewide/regional highways is most appropriate. On Highways 3 and 350, OHP Category 6, "Partial Control" for district highways is most appropriate.

**TABLE 7-3**

**STATE HIGHWAY ACCESS MANAGEMENT STANDARDS**

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Urban/ Public Road</th>
<th>Private Drive</th>
<th>Signal</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highway</td>
<td>Category</td>
<td>Type</td>
<td>Spacing</td>
<td>Type</td>
</tr>
<tr>
<td>82 &amp; 351</td>
<td>4</td>
<td>Urban at-grade/itch</td>
<td>½ mile</td>
<td>L/R Turns</td>
</tr>
<tr>
<td></td>
<td>Rural at-grade/itch</td>
<td>1 mile</td>
<td>L/R Turns</td>
<td>1,200 feet</td>
</tr>
</tbody>
</table>
The Oregon Highway 82 Corridor Plan considers reclassifying the Highway 82 level of importance from statewide to regional. This classification permits at-grade intersections or interchanges at a minimum spacing of one-half mile, private driveway spacing at a minimum of 500 feet from each other and from intersections and permit signals at a minimum of one-half mile spacing on Highway 82. This classification gives more options for access management; however, there are trade-offs with funding options for improvements.

**MODAL PLANS**

The Wallowa County modal plans have been formulated using information collected and analyzed through a physical inventory, forecasts, goals and objectives, and input from area residents. The plans consider transportation system needs for Wallowa County during the next 20 years assuming the growth projections discussed in Chapter 5. The timing for individual improvements will be guided by the changes in land use patterns and growth of the population in future years. Specific projects and improvement schedules may need to be adjusted depending on where growth occurs within Wallowa County.

**Roadway System Plan**

The improvements to the roadway system are summarized in Table 7-4.

The implementation program, described later in this chapter, provides a prioritized list of these improvements.

**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 Wallowa County can not safely accommodate pedestrians. Therefore, as Wallowa County’s roads and the state highways are paved, repaved, or reconstructed, shoulders should be widened to meet the standards shown in Figure 7-1. New roads should be constructed with adequate shoulders.

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

Multi-use paths are popular in rural areas, especially when they provide a viable alternative to a busy highway. Paths should follow the design standards of the Oregon Pedestrian and Bicycle Plan (1995). No paved separated paths are found in Wallowa County at this time; however, one project has been identified as part of the transportation plan:

A separated path along the Idaho Northern Pacific (INP) Railroad right-of-way has been suggested; however, the feasibility of such a path may be limited by the extent of the INP abandonment, the cost of the right-of-way and path construction, and the concern for access across private land. The estimated cost for the project is $6.95 million. The path is recommended for inclusion as a low priority project in the plan at this time, if feasible.

### TABLE 7-4

**RECOMMENDED ROADWAY SYSTEM PROJECTS**

<table>
<thead>
<tr>
<th>Project</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1998-2001 STIP Projects</strong></td>
<td></td>
</tr>
<tr>
<td>Highway 350 (Little Sheep Creek Highway) — Replace Bridges #1909 and #1924</td>
<td>$490,000</td>
</tr>
<tr>
<td>Highway 350 (Little Sheep Creek Highway) — Preservation and Safety Corrections</td>
<td>$934,000</td>
</tr>
<tr>
<td>Highway 82 — Wallowa Lake Highway Solution Package</td>
<td>$2,343,000</td>
</tr>
<tr>
<td>Hayes Bridge replacement</td>
<td>$337,000</td>
</tr>
<tr>
<td>Imnaha River Road — bridge replacements</td>
<td>$3,150,000</td>
</tr>
<tr>
<td>Wade Gulch Road Bridge replacement</td>
<td>$269,000</td>
</tr>
<tr>
<td>Wallowa Road Bridge replacement</td>
<td>$232,000</td>
</tr>
<tr>
<td>George Woods Bridge replacement</td>
<td>$249,000</td>
</tr>
<tr>
<td><strong>State Highway Roadway Projects</strong></td>
<td></td>
</tr>
<tr>
<td>Highway 82 passing lane between Minam and Wallowa</td>
<td>$2,640,000</td>
</tr>
<tr>
<td>Highway 82 passing lane between Wallowa and Lostine</td>
<td>$2,750,000</td>
</tr>
<tr>
<td>Highway 82 passing lane between Lostine and Enterprise</td>
<td>$2,640,000</td>
</tr>
<tr>
<td>Highway 82 passing lane between Enterprise and Joseph</td>
<td>$2,640,000</td>
</tr>
<tr>
<td>Highway 82 shoulder widening (33 miles)</td>
<td>$29,700,000</td>
</tr>
<tr>
<td>Highway 82 scenic turnouts (three)</td>
<td>$330,000</td>
</tr>
<tr>
<td><strong>State Highway Bridge Projects</strong></td>
<td></td>
</tr>
<tr>
<td>Highway 82 (River Street) over Prairie Creek (MP 65.33) in the City of Enterprise</td>
<td>$1,273,000</td>
</tr>
<tr>
<td>Highway 350 (Little Sheep Creek Highway) over the Imnaha River (MP 29.34) in Imnaha</td>
<td>$628,000</td>
</tr>
</tbody>
</table>
County Roadway Projects

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunrise Road — reconstruct road 1/2 mile south of Highway 82</td>
<td>$25,000</td>
</tr>
<tr>
<td>Ant Flat Road — 1/2 mile of reconstruction</td>
<td>$50,000</td>
</tr>
<tr>
<td>Tucker Down — 5-mile resurfacing</td>
<td>$160,000</td>
</tr>
<tr>
<td>Expand parking lot at the foot of Wallowa Lake</td>
<td>$50,000</td>
</tr>
<tr>
<td>Reconstruct boat launch facility at the foot of Wallowa Lake</td>
<td>$157,000</td>
</tr>
<tr>
<td>Hurricane Creek Road — Widen by 5-6 feet for 5-6 miles</td>
<td>$200,000</td>
</tr>
<tr>
<td>Upper Imnaha River Road — Road Improvements (MP 12.8 - 24.0)</td>
<td>$3,100,000</td>
</tr>
<tr>
<td>Crow Creek Road — 10 miles of chip seal surfacing</td>
<td>$100,000</td>
</tr>
<tr>
<td>Rancho Road — 1+ mile of resurfacing</td>
<td>$50,000</td>
</tr>
<tr>
<td>Zumwalt Road — reconstruction / resurfacing</td>
<td>$5,200,000</td>
</tr>
</tbody>
</table>

County Road Bridge Projects

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR #515 (Bear Creek Road) over Bear Creek (MP 3.0) south of Highway 82</td>
<td>$622,000</td>
</tr>
<tr>
<td>CR #528 (Wade Gulch Road) over the Wade Gulch River (MP 7.03) northwest of Hwy 82</td>
<td>$746,000</td>
</tr>
<tr>
<td>CR #570 (Dorrence Lane) over the Wallowa River (MP 0.9) west of Highway 82</td>
<td>$547,000</td>
</tr>
<tr>
<td>CR #B631 over the Grande Ronde River (MP 15.15) west of Highway 3</td>
<td>$2,621,000</td>
</tr>
<tr>
<td>CR #B642 (Imnaha Road) over the Imnaha River (MP 19.27) south of Imnaha</td>
<td>$1,033,000</td>
</tr>
<tr>
<td>CR #B642 (Imnaha Road) over the Imnaha River (MP 21.08) south of Imnaha</td>
<td>$1,126,000</td>
</tr>
<tr>
<td>CR #735 over the Imnaha River (MP 35.00) northeast of Junction FAP 7</td>
<td>$697,000</td>
</tr>
<tr>
<td>CR #B638 (Hurricane Creek Road) over the Wallowa River (MP 0.39) in Joseph</td>
<td>$469,000</td>
</tr>
<tr>
<td>CR #509 over the Wallowa River (MP 0.12) near Highway 82</td>
<td>$482,000</td>
</tr>
<tr>
<td>CR #534 (Evans Leap Road) over the Wallowa River (MP 0.25) east of Jim Town</td>
<td>$313,000</td>
</tr>
<tr>
<td>CR #551 (Lostine River Road) over the Lostine River (MP 0.00) south of Highway 82</td>
<td>$358,000</td>
</tr>
<tr>
<td>CR #572 (Egglesson Road) over the Wallowa River (MP 1.00) west of Highway 82</td>
<td>$230,000</td>
</tr>
<tr>
<td>CR #572 (Egglesson Road) over the Wallowa River (MP 1.08) west of Highway 82</td>
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</tr>
<tr>
<td>CR #B639 over Trout Creek (MP 0.71) north of FAP 7</td>
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<tr>
<td>CR #B642 (Imnaha Road) over Grouse Creek (MP 18.41) south of Highway 350</td>
<td>$181,000</td>
</tr>
<tr>
<td>CR #676 (Camp Creek Road) over Trail Creek (MP 1.69) west of Highway 350</td>
<td>$130,000</td>
</tr>
<tr>
<td>CR #784 (Hersel Jones Road) over the Lostine River (MP 0.00) south of Highway 82</td>
<td>$240,000</td>
</tr>
<tr>
<td>CR # Frontage Road over Bear Creek (MP 0.04) west of Highway 82</td>
<td>$345,000</td>
</tr>
<tr>
<td>CR #1000 (Campground Road) over the Wallowa River (MP 0.10) south of Wallowa Lake</td>
<td>$187,000</td>
</tr>
</tbody>
</table>

US Forest Service Projects

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loop Road #39 — Repair Flood Damage</td>
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</tr>
<tr>
<td>Total for STIP Projects</td>
<td>$8,004,000</td>
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<tr>
<td>Total for State Highways</td>
<td>$42,601,000</td>
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<tr>
<td>Total for County Roads</td>
<td>$20,010,000</td>
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<tr>
<td>Total for US Forest Service Roads</td>
<td>$8,000,000</td>
</tr>
<tr>
<td>Total</td>
<td>$78,615,000</td>
</tr>
</tbody>
</table>

Bicycle System Plan

At present, bicyclists in Wallowa 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. Therefore, as Wallowa County’s roads and the state highways are paved, repaved, resurfaced, or reconstructed, shoulders should be widened to meet the standards shown in Figure 7-1. New roads should be constructed with adequate shoulders.

The Oregon Highway 82 Corridor Plan describes a shoulder widening project for 33 miles of Highway 82 to increase the safety and access to bicyclists. This project would widen and restripe all substandard shoulders on Highway 82 to six feet unless there are physical width limitations, where a minimum four-foot shoulder may be used. This project is listed in Table 7-4 as a recommended State Highway project.

A two-foot-wide paved shoulder for bikes was recommended for Hurricane Creek Road between the cities of Enterprise and Joseph. This project is listed in Table 7-4 as a recommended County Roadway project.

There is one additional bicycle facility recommended:

- A bicycle facility between Wallowa Lake State Park and the City of Joseph is being studied by ODOT. Options range between an at-grade shoulder widening project along Highway 351 and a separated (paved or unpaved) bike path along the side of the lake. Cost estimates range between $80,000 and $5.2 million (1995 dollars). For estimating purposes, a cost of $5.72 million was assumed ($5.2 million increased by 10 percent to reflect 1997 dollars).

Bike facilities on the urban sections of Wallowa County’s roads are addressed in the city TSPs for
The Oregon Highway 82 Corridor Plan recommends collaboration among ODOT, Wallowa County, local jurisdictions, and other appropriate agencies to develop a Highway 82 corridor bicycle refinement plan. The plan will integrate municipal and county bike plans with the existing statewide plan and could be used to determine where to prioritize investment in Highway 82. A promotional strategy for the corridor bicycle system will be developed including mapping, signage and marketing.

In addition, a multi-use path project is suggested for the Idaho Northern Pacific Railroad right-of-way. This facility, which could be used for hiking, biking, or horseback riding, is listed as a recommended pedestrian improvement.

Transportation Demand Management Plan

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

In Wallowa County, where traffic volumes are low and the population and employment is small, implementing TDM strategies is not practical in most cases. However, the pedestrian and bicycle improvements recommended earlier in this chapter are also considered TDM strategies. By providing these facilities, Wallowa County is encouraging people to travel by other modes than the automobile. In rural communities, TDM strategies include providing mobility options.

Because intercity commuting is a factor in Wallowa County, residents who live in one city and work in other cities should be encouraged to carpool with a fellow coworker or someone who works in the same area. Wallowa County should consider creating a rideshare program which could further boost carpooling ridership.

No costs have been estimated for the TDM plan. Grants may be available to set up programs; other aspects transportation demand management can be encouraged through ordinance and policy.

Public Transportation Plan

Public transportation in Wallowa County consists of the Wallowa Valley Stage Line and Dial-A-Ride service for senior citizens and the disabled.

The Wallowa Valley Stage Line is operated by the Moffit Brothers and is based in Lostine. It provides van service which transports passengers to Enterprise, Joseph, Lostine, Wallowa, and several cities in Union County, including La Grande. In La Grande, passengers can connect to Greyhound bus service. In addition to transporting passengers, the line also transports packages.

The senior citizens and disabled Dial-A-Ride service is provided by Community Connections. It operates two 12-passenger, lift-equipped buses, one based in Enterprise and one based in Wallowa. The buses make one trip per day between Enterprise and Joseph and between Wallowa and Lostine. On Mondays, Wednesdays, and Fridays, the buses transport senior citizens and the disabled to meal sites in Enterprise and Wallowa. On Tuesdays and Thursdays, the general public can use the service as well. On Tuesdays, the bus based in Wallowa goes to Enterprise. The operator estimates that the service is currently underutilized.

Another type of public transportation service available in the county is client transportation, which is provided by a social service or health care agency to individuals participating in the agency’s service program. This type of public transportation is offered by the Wallowa County Health Care District and the Wallowa County Nursing Home. A volunteer driver program is also administered in Wallowa County by each of these social service and health care agencies as well as the Department of Human Resources Volunteer Program. A volunteer driver program is a community based program to provide drivers to transport specific client groups.

No specific expansions of these services are currently planned; however, intercity connections and senior citizen and disabled public transportation should be maintained and increased usage of these services should be encouraged.

The county has no local fixed-route transit service at this time. The rural nature of the county and low traffic volumes on the highways indicate that mass transit is not necessary nor economically feasible at this time. One of the findings in the Wallowa County Comprehensive Plan is that few people in the county are transportation disadvantaged.

The Transportation Planning Rule exempts communities with a population of less than 25,000 from including mass transit facilities in their development regulations. However, Wallowa County can plan for future transit services with growth patterns that support rather than discourage transit use in the future.

The existing stage line and Dial-A-Ride services already meet the required daily trip to a larger city specified for communities the size of Wallowa County in the Oregon Transportation Plan.

No costs have been estimated for this modal plan. Grants may be available to conduct feasibility studies. State and Federal funding may be available to purchase equipment.

The Oregon Highway 82 Corridor Plan calls for preparation of a Public Transportation Plan that integrates all appropriate public transit to make the most efficient use of scarce public transit resources. The product will be a comprehensive public/private transit plan for the corridor.

Rail Service Plan

Wallowa County has no passenger rail service. The Idaho Northern Pacific Railroad (INP) has a freight line which traverses the county from Elgin (Union County) to Joseph. INP is currently
pursuing abandonment of the line. The Federal Surface Transportation Board recently granted INP an exemption from regulation restricting railroad abandonments in rural areas. With the exemption, INP can operate the railroad or rip it out and sell the rails and ties for scrap. However, the rails and bridges are in good condition and retaining freight service on the line is a goal of the local jurisdictions. Discussions among INP, ODOT, local jurisdictions and shippers concerning the future of the rail line and right-of-way are on-going.

If the line is abandoned, and the rails and ties ripped out and sold as scrap as planned, efforts should be made to retain the right-of-way as a utility corridor and as a possible recreational trail. The existing right-of-way can be preserved through a Public Use Condition with Interim Trail Use granted by the Interstate Commerce Commission. Such a situation would preserve the integrity of the right-of-way and the possibility of future rail service while also allowing trail use. The Transportation Planning Rule requires that jurisdictions protect right-of-ways for future operation of transportation corridors.

The Oregon Highway 82 Corridor Plan describes a service improvement decision to work with Wallowa County and local jurisdictions, the ODOT Rail Section and INP to develop a plan that addresses the ongoing preservation of the Elgin-Joseph rail line for freight transportation. Potential alternatives considered for the line include preserving the line as a freight railroad, modifying it for an excursion train, converting it into a trail system, or as a corridor for fiber optic cables. The cost of the right-of-way between Elgin and Joseph was estimated at $2.5 million (1995 dollars).

**Air Service Plan**

Wallowa County is served by Enterprise Municipal Airport and Joseph State Airport. The county is also home to two US Forest Service landing strips and several private landing strips. Enterprise Municipal Airport is under the jurisdiction of the City of Enterprise. Joseph State Airport is under the jurisdiction of the Oregon Department of Transportation Aeronautics Division. ODOT is currently negotiating a cooperative management agreement with the Wallowa County Public Works Department, which currently provides some maintenance services at Joseph State Airport such as snow removal and spraying of noxious weeds.

Both airports provide a multitude of services including recreational transportation, search and rescue, medical transport, and fire fighting as well as some types of commerce transport. Both airports have just one runway and currently provide no commercial air service.

At Joseph State Airport the ODOT Aeronautics Section recently replaced the runway surface on the existing runway and extended the runway. This project improved the condition and safety of this airport. The airport is now able to accommodate the majority of business class aircraft. Aircraft operation have grown from 1,100 take-offs and landings in 1989 to an estimated 1,980 operations in 1993. With the runway extension that was completed in 1996, the number of operations is expected to increase. Currently there is no attendant nor aviation fuel at the airport. Ground access to the airport is provided from Highway 82 in downtown Joseph on Hurricane Creek Road which is a two-lane facility. Ground transportation for itinerant aircraft passengers is typically prearranged.

The City of Enterprise has received funding from the USDA Forest Service and private donations for the recently completed resurfacing of the existing runway at Enterprise Municipal Airport. The runway is equipped with a Low Intensity Runway Lighting (LIRL) system for night operation, but it has no instrument approach equipment or procedures. The runway length, width, and taxiway dimension for the airport are less than federal standards and topographical constraints limit the development of the runway to meet those standards. Although the airport does not meet the minimum FAA standards for a General Utility airport, the paved runway does meet the state’s requirements for a “Community Airport” and seems to be adequate for small single engine aircraft that are based at and use the airport. Because the runway can not be extended to meet minimum FAA standards, Enterprise Municipal Airport is not identified in the National Plan of Integrated Airports System (NPIAS). As such, Enterprise Municipal Airport is not eligible for federal grant assistance. There is one Fixed Base Operator (FBO) at the airport that provides aviation fuel, aircraft maintenance, and air charter services. Ground access to the airport is provided from Highway 82 in downtown Enterprise on Greenwood Street which is a two-lane facility. Passengers can easily walk the six blocks from downtown Enterprise to the airport; however, an airport courtesy car is available for short trips into town.

Because the airports are governed by the Oregon Department of Transportation and the City of Enterprise, recommendations for their improvements fall outside the scope of this Transportation System Plan. Both airports are an essential part of the economy of the area. It is necessary to include the airports when considering future development proposals for the surrounding land. In many localities, uses have been allowed around airports that are not compatible with air traffic.

There are two other small airfields, both US Forest Service landing strips, in Wallowa County which are available for public use. They are the Memaloose Landing Strip, located approximately 12 miles southeast of Imnaha, and the Red Horse Ranch Landing Strip, located approximately 16 miles south of Wallowa. Efforts should be made by the County to retain or expand its air service through compatible land use planning.

**Pipeline Service Plan**

There are currently no pipelines serving Wallowa County. There has been interest expressed in the communities of Wallowa County to extend natural gas service from Elgin.

**Water Transportation Plan**

Wallowa County has no water transportation services.
TRANSPORTATION SYSTEM PLAN IMPLEMENTATION PROGRAM

Implementation of the Wallowa County Transportation System Plan will require both changes to the County comprehensive plan and zoning code and preparation of a 20-year Capital Improvement Plan. These actions will enable Wallowa County to address both existing and emerging transportation issues throughout the county in a timely and cost effective manner. This implementation program is geared towards providing Wallowa County with the tools to amend the comprehensive plan and zoning ordinance to conform with the Oregon Transportation Planning Rule and to fund and schedule transportation system improvements.

One part of the implementation program is the formulation of a 20-year Capital Improvement Plan (CIP). The purpose of the CIP is to detail what transportation system improvements will be needed as Wallowa County grows and provide a process to fund and schedule the identified transportation system improvements. It is expected that the Transportation System Plan Capital Improvement Plan can be integrated into the existing County CIP and the ODOT STIP, and the CIPs of the various cities in Wallowa County involved in related projects. This integration is important since the Transportation System Plan proposes that both governmental agencies will fund some of the transportation improvement projects.

Model policy and ordinance language that conforms with the requirements of the Transportation Planning Rule is included in Chapter 9. The proposed ordinance amendments will require approval by the Board of County Commissioners.

20-Year Capital Improvement Program

The CIP is shown with the following priorities:

- High Priority (next 0 to 5 years)
- Medium Priority (5 to 10 years)
- Low Priority (10 to 20 years)

These priorities are based on current need, the relationship between transportation service needs, and the expected growth of the county. The following schedule indicates priorities and may be modified to reflect the availability of finances or the actual growth in population and employment.

The CIP is summarized in Table 7-5.

<table>
<thead>
<tr>
<th>Project Description</th>
<th>County Cost</th>
<th>State Cost</th>
<th>Federal Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Priority</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highway 350 (Little Sheep Creek Highway) — Replace</td>
<td>$490,000</td>
<td>$490,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bridges #1909 and #1924¹</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Highway 350 (Little Sheep Creek Highway) — Preservation and Safety Corrections¹</td>
<td>$934,000</td>
<td>$934,000</td>
<td></td>
<td></td>
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<tr>
<td>Highway 82 — Wallowa Lake Highway Solution Package¹</td>
<td>$2,343,000</td>
<td>$2,343,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hayes Bridge replacement¹</td>
<td>$337,000</td>
<td>$337,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Imnaha River Road — bridge replacements¹</td>
<td>$3,150,000</td>
<td>$3,150,000</td>
<td></td>
<td></td>
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<tr>
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<td>$269,000</td>
<td>$269,000</td>
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<tr>
<td>Wallowa Road Bridge replacement¹</td>
<td>$232,000</td>
<td>$232,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Transportation System Maintenance Plan

Wallowa County, the Wallowa-Whitman National Forest, and ODOT District 13 have worked together on a cooperative maintenance agreement concurrent with development of the transportation system plan. The work on the maintenance plan was initiated because of an understanding of each agency that maintenance issues extended beyond jurisdictional boundaries. This is of particular importance in Wallowa County because a majority of the land area is managed by the US Forest Service and all access into and out of the county is dependent on the state highway system. There was also a realization that forest management activities, such as timber sales, have an impact on the county road system. Because of this interdependence, each of the three agencies agreed to prepare a cooperative maintenance agreement. A decision was also made by the three agencies that this maintenance plan should be implemented by amending the existing Wallowa County and Forest Service MOU and approval of a flexible maintenance services agreement between Wallowa County and ODOT. The three agencies also decided that the transportation system maintenance plan should be incorporated into the Wallowa County TSP as an appendix (Appendix F).

TABLE 7-5
PRIORITYZED CAPITAL IMPROVEMENT PROGRAM (1997) DOLLARS
<table>
<thead>
<tr>
<th>Project Description</th>
<th>County Cost</th>
<th>State Cost</th>
<th>Federal Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>George Woods Bridge replacement[^1]</td>
<td>$249,000</td>
<td>$249,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunrise Road — reconstruct road 1/2 mile south of Highway 82</td>
<td>$25,000</td>
<td>$25,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ant Flat Road — 1/2 mile of reconstruction</td>
<td>$50,000</td>
<td>$50,000</td>
<td></td>
<td></td>
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<td>$160,000</td>
<td>$160,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expand parking lot at the foot of Wallowa Lake</td>
<td>$50,000</td>
<td>$50,000</td>
<td></td>
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<tr>
<td>Reconstruct boat launch facility at the foot of Wallowa Lake</td>
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<td>$157,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hurricane Creek Road — Widen by 5-6 feet for 5-6 miles</td>
<td>$200,000</td>
<td></td>
<td></td>
<td>$200,000</td>
</tr>
<tr>
<td>Upper Imnaha River Road — Road Improvements (MP 12.8 - 24.0)</td>
<td>$3,100,000</td>
<td>$3,100,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crow Creek Road — 10 miles of chip seal surfacing</td>
<td>$100,000</td>
<td>$100,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rancho Road — 1+ mile of resurfacing</td>
<td>$50,000</td>
<td>$50,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bridge Repair on Highway 82 (River Street) over Prairie Creek (MP 65.33) in the City of Enterprise</td>
<td>$1,273,000</td>
<td>$1,273,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bridge Repair on CR #B638 (Hurricane Creek Road) over the Wallowa River (MP 0.39) in Joseph</td>
<td>$469,000</td>
<td>$469,000</td>
<td></td>
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</tr>
<tr>
<td>US Forest Service Loop Road #39 — Repair Flood Damage</td>
<td>$8,000,000</td>
<td>$8,000,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Medium Priority</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highway 82 passing lane between Minam and Wallowa</td>
<td>$2,640,000</td>
<td>$2,640,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highway 82 passing lane between Wallowa and Lostine</td>
<td>$2,750,000</td>
<td>$2,750,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highway 82 passing lane between Lostine and Enterprise</td>
<td>$2,640,000</td>
<td>$2,640,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highway 82 passing lane between Enterprise and Joseph</td>
<td>$2,640,000</td>
<td>$2,640,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highway 82 scenic turnouts (three)</td>
<td>$330,000</td>
<td>$330,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zumwalt Road — reconstruction/resurfacing</td>
<td>$5,200,000</td>
<td>$5,200,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Low Priority</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highway 82 shoulder widening (33 miles)</td>
<td>$29,700.00</td>
<td>$29,700.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bridge Repair on Highway 350 (Little Sheep Creek Highway) over the Imnaha River (MP 29.34) in Imnaha</td>
<td>$628,000</td>
<td>$628,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bridge Repair on CR #609 over the Wallowa River (MP 0.12) near Highway 82</td>
<td>$482,000</td>
<td>$482,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bridge Repair on CR #534 (Evans Leap Road) over the Wallowa River (MP 0.25) east of Jim Town</td>
<td>$313,000</td>
<td>$313,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[^1]: George Woods Bridge replacement is a $249,000 project. It involves the replacement of an old bridge with a new bridge on George Woods Bridge Road. The project is located in the county described in the table.
Bridge Repair on CR #551 (Lostine River Road) over the Lostine River (MP 0.00) south of Highway 82 $358,000 $358,000
Bridge Repair on CR #572 (Egglesson Road) over the Wallowa River (MP 1.00) west of Highway 82 $230,000 $230,000
Bridge Repair on CR #572 (Egglesson Road) over the Wallowa River (MP 1.08) west of Highway 82 $236,000 $236,000
Bridge Repair on CR #B639 over Trout Creek (MP 0.71) north of FAP 7 $155,000 $155,000
Bridge Repair on CR #572 (Egglesson Road) over the Wallowa River (MP 1.08) west of Highway 82 $236,000 $236,000
Bridge Repair on CR #B642 (Imnaha Road) over Grouse Creek (MP 18.41) south of Highway 350 $181,000 $181,000
Bridge Repair on CR #676 (Camp Creek Road) over Trail Creek (MP 1.69) west of Highway 350 $130,000 $130,000
Bridge Repair on CR #784 (Hersel Jones Road) over the Lostine River (MP 0.00) south of Highway 82 $240,000 $240,000
Bridge Repair on CR # Frontage Road over Bear Creek (MP 0.04) west of Highway 82 $345,000 $345,000

Construct a multi-use path in the INP Railroad right-of-way $4,200,000 $2,750,000

| Subtotal High Priority Projects | $1,054,000 | $9,484,000 | $11,100,000 | $21,638,000 |
| Subtotal Medium Priority Projects | $7,779,000 | $16,720,000 | $5,200,000 | $29,699,000 |
| Subtotal Low Priority Projects | $6,870,000 | $33,078,000 | 0 | $39,948,000 |
| Total | $15,703,000 | $59,282,000 | $16,300,000 | $91,285,000 |

Notes:
1) 1998-2001 STIP Project.
2) For this estimate it is assumed that the state would fund right-of-way acquisition and the county would fund construction of an asphalt path.

CHAPTER 39: 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, and a review of potential financing mechanisms to fund proposed transportation improvement projects. Wallowa County’s TSP identifies $91.3 million in improvements recommended over the next 20 years. This section of the Transportation System Plan provides an overview of Wallowa County’s revenue outlook and a review of some funding and financing options that may be available to the county.

Pressures from increasing growth throughout much of Oregon have created an environment of estimated improvements that remain unfunded. Wallowa County will need to work with its cities 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 area. If population growth exceeds the anticipated rate, the improvements may need to be accelerated. Slower than expected growth will relax the improvement schedule. Availability of funding will also play an important role in the implementation program.

HISTORICAL STREET 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 present the current revenue structure for transportation-related needs.

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

<table>
<thead>
<tr>
<th>Jurisdiction Level</th>
<th>State</th>
<th>County</th>
<th>City</th>
<th>Statewide Total</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Revenue Source</th>
<th>State</th>
<th>County</th>
<th>City</th>
<th>Statewide Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Road Trust</td>
<td>58%</td>
<td>38%</td>
<td>41%</td>
<td>48%</td>
</tr>
<tr>
<td>Local</td>
<td>0%</td>
<td>22%</td>
<td>55%</td>
<td>17%</td>
</tr>
<tr>
<td>Federal Road</td>
<td>34%</td>
<td>40%</td>
<td>4%</td>
<td>30%</td>
</tr>
<tr>
<td>Other</td>
<td>9%</td>
<td>0%</td>
<td>0%</td>
<td>4%</td>
</tr>
</tbody>
</table>

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, 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.

Transcottage Revenue Outlook

ODOT’s policy section recommends certain assumptions in the preparation of transportation plans. In its Financial Assumptions document prepared in March 1995, ODOT projected the revenue of the State Highway Fund through year 2018. The estimates are based on the following assumptions:

- Fuel tax (and weight-mile fee) increases of one cent per gallon per year, with an additional one cent per gallon every fourth year;
- Transportation Planning Rule goals are met; and
- Inflation occurs at an average annual rate of 3.7 percent (as assumed by ODOT).

Figure 8-1 shows the forecast in both current-dollar and inflation-deflated constant (1995) dollars. As highlighted by the constant-dollar data, the highway fund is expected to grow faster than inflation early in the planning horizon, with growth slowing to a rate somewhat less than inflation around year 2004, continuing a slight decline through the remainder of the planning horizon.

Figure 8-1
STATE HIGHWAY FUND

Source: ODOT Financial Assumptions.

The State Highway Fund is expected to remain a significant source of funding for Wallowa County during the next 20 years. Although Wallowa County has historically received revenue from this fund for transportation maintenance and improvements, the county should be cautious of relying heavily on this source, since funds are expected to decline after 2005.

Revenue Sources

In order to finance the recommended transportation system improvements in Wallowa County, it will be important to consider a range of funding sources. Recent property tax limitations have created the need for local governments to seek revenue sources other than the traditional property tax. The use of alternative revenue funding has been a trend throughout Oregon as the full implementation of Measure 5 has significantly reduced property tax revenues. This trend is expected to continue with the recent passage of Measure 47 and its revised version, Measure 50. The alternative revenue sources described in this section may not all be appropriate in Wallowa 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 sources for local governments. This dependence 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 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 changed 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 1995-96 tax minus 10 percent, or 1994-95 tax. It limits future annual property tax increase 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 and it now replaces Measure 47.

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 will 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 increasing 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.

The implementation of Measure 50 will require that cities and counties protect and prioritize funding for public safety and public education. Another major requirement of Measure 50 is that cities and counties must obtain voter approval to raise fees for services, if the increased fee revenue is a substitute for property tax support.

The Governor’s Office and state legislature are in the process of preparing the new budget for the next biennium. Based on the preliminary budget released by the Governor’s Office, cities and counties will not receive additional funding from the state to reduce the impacts of Measure 50. Instead, the new budget will focus on retaining and increasing support for basic school education programs. Again, the preliminary budget will likely be modified during the current legislative session.

**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 to 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.

Wallowa County could implement SDCs for their transportation system. The fee is collected when new building permits are issued. The cities would calculate the fee 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 the number of trips generated or on employee ratios for the type of business or industrial uses. The SDC fees will help construct and maintain of the transportation network throughout the TSP study area. The implementation of SDCs in Wallowa County is not considered a practical funding option since the rate of new development has been slow, and is not expected to grow significantly in the future.

**State Gas Taxes**

Gas tax revenues received from the state of Oregon are used by all counties and cities to fund street 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. The revenue share to cities is divided among all incorporated cities based on population. The theory is that these taxes are somewhat tied to the benefits people receive, since those who drive more would pay more. Like other Oregon counties, Wallowa County uses its State Gas Tax allocation to fund street construction and maintenance.

**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 street-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. Based on the experiences of other local jurisdictions, Wallowa County may have difficulty gaining public support for a local gas tax.

**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 allow Wallowa 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. Like fuel taxes, this fee would be somewhat tied to the benefits of the transportation system, because it would be paid by automobile owners in the county. In order for a local vehicle registration fee program to be viable in Wallowa 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 street 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 counties to construct localized projects such as streets, sidewalks or bikeways. The statutes allow formation of a district by either the local government or property owners. Counties 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 jurisdiction. Since the passage of Ballot Measure 5, counties have most often funded local improvement districts through the sale of special assessment bonds.

Grants and Loans

The majority of the grant and loan programs available today are geared towards economic development and not specifically for construction of new streets. Typically, grant programs target areas that lack basic public works infrastructure needed to support new or expanded industrial businesses. Because of the popularity of some grant programs such as the Oregon Special Public Works Fund, the emphasis has shifted to more of a loan program. Many programs require a match from the local jurisdiction as a condition of approval. Because grant programs are subject to change, they should not be considered a secure long-term funding source for Wallowa County.

These programs include the Immediate Opportunity Grant and the Oregon Special Public Works Fund program which are described below. Some special programs for public transportation and non-auto modes are also described briefly.

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 $5,000,000 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 of primary employment; and
- Ability to provide local funds to match grant (lesser matches may also be considered).

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, the 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 the 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 jurisdictions primarily for the construction of public infrastructure which supports commercial and industrial development that results 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. The maximum loan amount per project is $11,000,000 and the term of the loan cannot exceed the useful life of the project or 25 years, whichever is less. Interest rates for loans funded with the State of Oregon Revenue Bonds are based on the rate the state may borrow through the Oregon Economic Development Department Bond Bank. The department may also make loans directly from the SPWF and the term and rate on direct loans can be structured to meet project needs. The maximum grant per project is $500,000, but may not exceed 85 percent of the total project cost.

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

Public Transportation Funds

There are several different grants and loans which are available to fund public transportation, including:

- Special Transportation Fund (STF)
- Section 5311
- Community Transportation Program
Special Transportation District

These grant and loan programs require a local funding match from the participating local government agencies.

**Bicycle and Pedestrian Program Funds**

The State Bicycle and Pedestrian Program has grants available for bicycle and pedestrian system improvements. These improvements must benefit the overall transportation system by providing good, alternative transportation options to the automobile. Funds are not available for bicycle and pedestrian facilities which serve a purely recreational use. The bicycle and pedestrian grant program requires a local match to fund the identified improvements.

**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 transportation projects for a three-year funding cycle, is updated on an annual basis. Starting with the 1998 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 ISTEA 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 the Wallowa County Transportation System Plan 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. The Transportation System Plan will provide ODOT with a prioritized project list for Wallowa County for the next 20 years. Wallowa County, its 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 county, cities, and ODOT to coordinate the construction of both local and state transportation projects.

An ODOT funding technique that will likely have future application to Wallowa County’s Transportation System Plan 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 while preserving the existing function, capacity, level of service, and safety of the existing state highway.

The transportation funding program ISTEA expires at the end of this fiscal year. Congress is considering several bills which would reauthorize the program in various forms. In general, funding levels are expected to remain stable or slightly higher.

**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 Wallowa 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 bonds are voter-approved bond issues which represent the least expensive borrowing mechanism available to local jurisdictions. 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 typically used to make public improvement projects that will benefit the entire community.

State statutes require that the general obligation indebtedness of a jurisdiction not exceed three percent of the real market value of all taxable property in the county. 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 and 50 (revised Measure 47). Although new bonds must be specifically voter approved, Measure 47 provisions are not applicable to outstanding bonds, unissued voter-approved bonds, and GO bonds.
As a result, the bonds become general obligation bonds (LTGOs) are similar to general obligation bonds in that they represent an obligation of the local government. However, a jurisdiction’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 jurisdiction 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 and 47.

**Bancroft Bonds**

Under Oregon Statute, local governments are allowed to issue Bancroft bonds which pledge the county’s full faith and credit to assessment bonds. As a result, the bonds become general obligations of the county but are paid with assessments. Historically, these bonds provided a county 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 and 50 (revised Measure 47). As a result, since 1991, Bancroft bonds have not been used by jurisdictions which were required to compress their tax rates.

### CHAPTER 51: 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). The Transportation Planning Rule requires counties and cities to complete a TSP that includes policies and ordinances to implement that plan. Wallowa County's Land Use Plan was completed in 1977 and amended in 1995. Based on content, the Transportation discussion in the Land Use Plan has not been significantly updated since the implementation of the Transportation Planning Rule. The County's ordinances were not supplied for review; therefore, for the purposes of this chapter, it is assumed that they also need updating 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, to 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;
    - 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**

Policies should clarify the approval process for different types of projects. The following policies are recommended to be adopted in the Transportation Section of the Wallowa County Comprehensive Plan:

- The Transportation System Plan is an element of the Wallowa County Comprehensive Plan. It identifies the general location of transportation improvements. Changes in the specific
alignment of proposed public road and highway projects that 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 improvements designated 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 Study (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.

**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 finding 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 Wallowa 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.

---

**Standards for Transportation Improvements**

**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 approved consistent with the applicable land division ordinance.

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**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 EA (Environmental Assessment), the draft EIS or EA shall be reviewed and used as the basis for findings to comply 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. 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.

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**Time Limitation on Transportation-Related Conditional Use Permits**

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

**PROTECTING EXISTING AND FUTURE OPERATION OF FACILITIES**

Wallowa County has ordinances in place to protect its airports with an Airport Overlay Zone. 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**

- Wallowa County shall protect the function of existing and planned roadways as identified in the Transportation System Plan.
- Wallowa County shall include a consideration of a proposal's impact on existing or planned transportation facilities in all land use decisions.
- Wallowa County shall protect the function of existing or planned roadways or roadway corridors through the application of appropriate land use regulations.
- Wallowa 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.
- Wallowa 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 following ordinances are recommended to support the access management standards.

**Section _____ 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 Wallowa County and to all properties that abut these roadways. This ordinance is adopted to implement the access management policies of Wallowa County as set forth in the Transportation System Plan.

**B. 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.

**C. 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 to provide for 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. 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
responsible 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.

D. 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.

E. 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.

F. 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;
   b) Change in use or enlargements or improvements that will increase trip generation.

G. 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 Wallowa 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.

H. 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 10 feet and maximum width of 20 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.

I. 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 3 times its width (or 4 times its width in rural areas) unless there is a topographical or environmental constraint or an existing man-made feature.

J. Shared Access

1. Subdivisions with frontage on the state highway system shall be designed into 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 of a secondary road is possible, then access should not be allowed onto the state highway. If access off of a secondary road becomes available, then conversion to that access is encouraged, along with closing the state highway access.

K. 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.

L. 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. The following Airport Overlay Zone is an example of zoning that is appropriate to protect many smaller airports.

**AIRPORT OVERLAY ZONE**

A. Purpose. In order to carry out the provisions of (this/these) overlay zone(s), there are hereby created and established certain zones which include all of the land lying beneath the Airport Imaginary Surfaces as they apply to the airport in the county. This overlay zone is intended to prevent the establishment of airspace obstructions in airport approaches and surrounding areas through height restrictions and other land use controls as deemed essential to protect the health, safety, and welfare of the people of the county.

B. Special Definitions.

1. Airport Approach Safety Zone. The land that underlies the approach surface, excluding the RPZ.

2. Airport Hazard. Any structure, tree, or use of land which exceeds height limits established by the Airport Imaginary Surfaces.

3. Airport Imaginary Surfaces. Those imaginary areas in space which are defined by the Approach Surface, Transitional Surface, Horizontal Surface, and Conical Surface and in which any object extending above these imaginary surfaces is an obstruction.

4. Approach Surface. A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the Primary Surface. The inner edge of
the approach surface is the same width as the Primary Surface and extends to a width of: 1,250 feet for utility runway having only visual approaches; 1,500 feet for a runway other than a utility runway having only visual approaches; 2,000 feet for a utility runway having a nonprecision instrument approach; 3,500 feet for a nonprecision instrument runway other than utility, having visibility minimums greater than three-fourths of a statute mile; 4,000 feet for a nonprecision instrument runway having visibility minimums as low as three-fourths statute mile; and 16,000 feet for precision instrument runways. The Approach Surface extends for a horizontal distance of 5,000 feet at a slope of 20 feet outward to each foot upward (20:1) for all utility and visual runways; 10,000 feet at a slope of 34 feet outward for each foot upward (34:10) for all nonprecision instrument runways other than utility; and for all precision instrument runways extends for a horizontal distance of 10,000 feet at a slope of 50 feet outward for each foot upward (50:1); thence slopes upward 40 feet outward for each foot upward (40:1) an additional distance of 40,000 feet.

5. Conical Surface. Extends 20 feet outward for each one foot upward (20:1) for 4,000 feet beginning at the edge of the horizontal surface (5,000 feet from the center of each end of the Primary Surface of each visual and utility runway or 10,000 feet for all nonprecision instrument runways other than utility at 150 feet above and airport elevation) and upward extending to a height of 350 feet above the airport elevation.

6. Horizontal Surface. A horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging runways 5,000 feet from the center of each end of the Primary Surface of each visual or utility runway and 10,000 feet from the center of each end of the Primary Surface of all other runways and connecting the adjacent arcs by lines tangent to those arcs.

7. Noise Sensitive Area. Within 1,500 feet of an airport or within established noise contour boundaries exceeding 55 Ldn.

8. Place of Public Assembly. Structure of place which the public may enter for such purposes as deliberation, education, worship, shopping, entertainment, amusement, awaiting transportation, or similar activity.

9. Primary Surface. A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the Primary Surface extends 200 feet beyond each end of that runway. When the runway has no specially prepared hard surface, or planned hard surface, the Primary Surface ends at each end of that runway. The width of the primary Surface is 250 feet for utility runways having only visual approaches, 500 feet for utility runways having nonprecision instrument approaches, 500 feet for other than utility runways having only visual approaches or nonprecision instrument approaches with visibility minimums greater than three-fourths of a mile and 1,000 feet for precision instrument runways with visibility minimums of three-fourths of a mile or less and for precision instrument runways.

10. Runway Protection Zone (RPZ). An area off the runway end (formerly the clear zone) used to enhance the protection of people and property on the ground. The RPZ is trapezoidal in shape and centered about the extended runway centerline. It begins 200 feet (60 m) beyond the end of the arcs usable for takeoff or landing. The RPZ dimensions are functions of the type of aircraft and operations to be conducted on the runway.

11. Transitional Surface. Extend seven feet outward for each one foot upward (7:1) beginning on each side of the Primary Surface which point is the same elevation as the runway surface, and form the sides of the approach surfaces thence extending upward to a height of 150 feet above the airport elevation (Horizontal Surface).

12. Utility Runway. A runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds gross weight or less.

13. Visual Runway. A runway that is intended solely for the operation of aircraft using visual approach procedures with no instrument approach procedures has been approved, or planned, or indicated on an FAA or state planning document or military service airport planning document.

C. Permitted uses within the Runway Approach Zone (RPZ). While it is desirable to clear all objects from the RPZ, some uses are permitted, provided they do not affect by the approach surface and do not interfere with navigational aids.

1. Agricultural operations (other than forestry or livestock farms).
2. Golf courses (but not club houses).
3. Automobile parking facilities.

D. Permitted uses within the Airport Approach Safety Zone.

1. Farm use, excluding the raising and feeding of animals which would be adversely affect by aircraft passing overhead.
2. Landscape nursery, cemetery, or recreation areas which do not include buildings or structures.
3. Roadways, parking areas, and storage yards located in such a manner that vehicle lights will not make it difficult to distinguish between landing lights and vehicle lights or result in glare, or in any way impair visibility in the vicinity of the landing approach. Approach surfaces must clear these by a minimum of 15 feet.
4. Pipeline.
5. Underground utility wire.

E. Conditional uses within the Airport Approach Safety Zone.

1. A structure or building accessory to a permitted use.

2. Single family dwellings, mobile homes, duplexes, and multifamily dwellings, when allowed by the underlying zone, provided the landowner signs and records in the deed and mortgage records of County a Hold Harmless Agreement and Aviation and Hazard Easement and submits them to the airport sponsor and the County Planning Departments.

3. Commercial and industrial uses, when allowed by the underlying zone, provided the use does not result in:
   a) Creating electrical interference with navigational signals or radio communication between the airport and aircraft.
   b) Making it difficult for pilots to distinguish between airport lights and lighting from nearby land uses.
   c) Impairing visibility.
   d) Creating bird strike or other wildlife hazards.
   e) Endangering or interfering with the landing, taking off or maneuvering of aircraft intending to use airport.
   f) Attracting a large number of people.

4. Buildings and uses of public works, public service, or public utility nature.

F. Procedures. An applicant seeking a conditional use shall include the following information:

1. Property boundary lines as they relate to the Airport Imaginary Surfaces.
2. Location and height of all existing and proposed buildings, structures, utility lines, and roads.

   In accordance with OAR Chapter 738 Division 100, City or County Planning Authority shall notify the owner of the airport and Aeronautics Section on land use permits or zone changes within 5,000 feet of a visual and 10,000 feet of instrument airport so as to provide Oregon Aeronautics Section an opportunity to review and comment.

G. Limitations.

1. To meet the standards established in FAA Regulations, Part 77 and OAR Chapter 738 Division 70, no structure shall penetrate into the Airport Imaginary Surfaces as defined above.
2. No place of public assembly shall be permitted in the Airport Approach Safety Zone or RPZ.
3. No structure or building shall be allowed within the RPZ.
4. Whenever there is a conflict in height limitations prescribed by this overlay zone and the primary zoning district, the lowest height limitation fixed shall govern; provided, however, that the height limitations here imposed shall not apply to such structures customarily employed for aeronautical purposes.
5. No glare producing materials shall be used on the exterior of any structure located within the Airport Approach Safety Zone.
6. In noise sensitive areas (within 1,500 feet of an airport or within established noise contour boundaries of 55 Ldn and above for identified airports) where noise levels are a concern, a declaration of anticipated noise levels shall be attached to any building permit, land division appeal, deed, and mortgage records. In areas where the noise level is anticipated to be 55 Ldn and above, prior to issuance of a building permit for construction of noise sensitive land use (real property normally used for sleeping or normally used as schools, churches, hospitals, or public libraries) the permit applicant shall be required to demonstrate that a noise abatement strategy will be incorporated into the building design which will achieve an indoor noise level equal to or less than 55 Ldn. The planning and building department will review building permits or noise sensitive developments.

7. No development that attracts or sustains hazardous bird movements from feeding, watering, or roosting across the runways and/or approach and departure patterns of aircraft. Planning authority shall notify Oregon Aeronautics of such development (e.g., waste disposal sites and wetland enhancements) within the airport overlay zone so as to provide Oregon Aeronautics Section an opportunity to review and comment on the site in accordance with FAA AC 150/5200-33.

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.

Recommended Policies for Coordinated Review

- Wallowa County shall coordinate with the Department of Transportation to implement the highway improvements listed in the Statewide Transportation Improvement Program (STIP) that are
consistent with the Transportation System Plan and comprehensive plan.

- Wallowa County shall provide notice to ODOT of land use applications and development permits for properties that have frontage or access onto a state highway.
- Wallowa 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 that allows them to apply conditions to development proposals to in order to minimize impacts on transportation facilities.

The Site Plan review process is a useful tool for a small jurisdiction. Wallowa County may wish to implement a Site Plan review process that includes a requirement to provide data on the potential traffic impacts of a project through a traffic impact study or, at the minimum, 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 impose an undue burden on the public transportation system. For developments that are 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.

If Wallowa County decides to implement a Site Plan review process, conditions such as the following may be included in the ordinance, to be applied in the event that a proposed project is demonstrated to potentially have an adverse affect on the transportation system. These are additional to the conditions imposed by the recommended Access Management Ordinance included previously.

- Dedication of land for roads, transit facilities, sidewalks, bikeways, paths, or accessways shall be required where the existing transportation system will be impacted by or is inadequate to handle the additional burden caused by the proposed use.
- Improvements such as 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. This Ordinance or Policy should be amended to provide for timely notice to ODOT regarding 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 that could be supplied to the review 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; and
- A detailed description of any requested variance.
- 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 zoning ordinance, development proposals can be addressed through Site Plan Review, discussed above. Zone changes and plan amendments can be partially addressed by the following language:
· The applicant must show that the proposed change conforms with the Comprehensive Plan.

The following statements should be added to the local ordinance and policy language governing zone changes and plan amendments:

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 what 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 for 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.

Wallowa County has adopted a Bicycle and Pedestrian Plan that addresses Goals and Objectives. This Plan also provides standards for bicycle parking that are appropriate for adoption into ordinance. The following ordinance language may be considered to assure a functional network of bicycle and pedestrian access throughout the community.

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 language, additions and recommendations. The recommendations should be placed within the appropriate section of the zoning or subdivision ordinance:

Definitions:

A. 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.

B. 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.

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

D. 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. (These are further defined in the Wallowa County Bicycle and Pedestrian Plan).

E. 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.

F. 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, employment areas.

G. 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.

H. Safe and convenient. Bicycle and pedestrian routes that are:
   1. Reasonably free from hazards, and
   2. Provides 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.

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

If Wallowa County decides to implement a Site Plan review process, it should include a requirement to show the design and location of bicycle parking and bicycle and pedestrian circulation elements such as accessways and walkways. The following language should be added to the land-use regulations:

A. 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.

B. 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.

C. 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).

D. 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 Subdivision Ordinances should reflect the intent of the Transportation Planning Rule by adding the following provision to development requirements.

1. 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 Subdivision Ordinance should incorporate the following language into the existing requirements for cul-de-sac design.

A. Cul-de-Sacs and Accessways
   1. 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.
   2. 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.
   3. Accessways for pedestrians and bicyclists shall be provided at mid-block where the block is longer than 600 feet.
   4. The Hearings Body or Planning Director may determine, based upon evidence in the record, that an accessway is impractical. 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, considering potential for redevelopment.
      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.
1991 Oregon Highway Plan, Appendix A, Table 1, Operating Level of Service Standards for the State Highway System.

The description of structural deficiency, functional obsolescence, and sufficiency ratings are based on the Oregon Coding Guide for the Inventory and Appraisal of Oregon Bridges by the Oregon Department of Transportation Bridge Section in May, 1994.

Table 1 - Access Management Classification System, Appendix B, 1991 Oregon Highway Plan.

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