TABLE OF CONTENTS

TABLE OF CONTENTS

PAGE

TABLE OF CONTENTS

PAGE

LIST OF TABLES

LIST OF FIGURES

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 area also includes the five identified unincorporated Communities of South Wallowa Lake, Imnaha, Minam, Troy and Flora. 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 Hells 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 and Union Pacific Railroad right of way 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

As part of the preparation of the Wallowa County Transportation System Plan, TSP's were developed for the five Unincorporated Communities and the four municipalities : Enterprise, Joseph, Lostine, and Wallowa. A Transportation Growth Management (TGM) Grant funded the TSP's for the municipalities and Wallowa County, but did not include the Unincorporated Communities. Each plan was developed through a series of technical analyses combined with systematic input and review by the county, the cities, the Unincorporated Communities, 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 parts of 7; Appendices A and B)
- Developing population, employment, and travel forecasts (Chapter 4; Appendix C)
- 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)

Individual projects included in the TSP may be required to go through county hearings or permitting processes appropriate to the zone and the level of development.

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 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 and policy issues to the consultant team. Staff members from each local jurisdiction, ODOT and a local resident from each community served on this committee. This group met three times during the course of the TSP development.

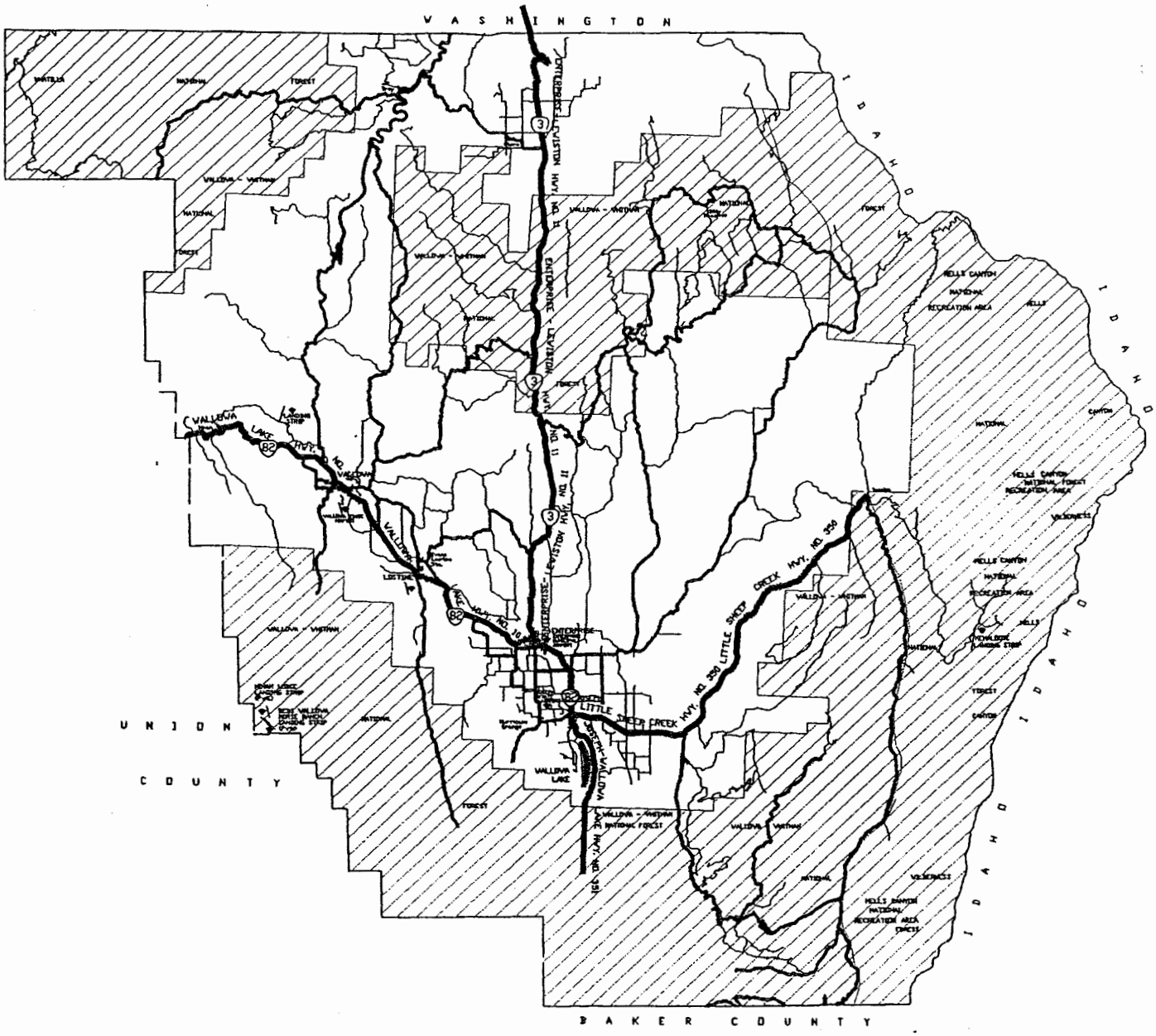
The second part of the effort involved the consultant team meeting individually with representatives of each jurisdiction. The purpose of these meetings was to collect information specific to each jurisdiction and to discuss the progress of the TSPs for the county and individual cities. The consultant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

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 meetings through public announcements in the local newspapers and on the local radio station. Numerous meetings were held in each of the unincorporated communities to discuss the transportation issues that were important within those exception areas.

Goals and Objectives

Based on input from the county, the management team/TAC, and the communities, 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. Additional information which influenced transportation planning within this document is included by reference to the County findings documents for the Unincorporated Community TSP's.

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



LEGEND

- STATE HIGHWAY/MAJOR ARTERIAL
- COUNTY MAJOR/MINOR COLLECTOR
- COUNTY LOCAL STREET
- COMMERCIAL-GENERAL AVIATION
- ORE. ROUTE - US. ROUTE - INTERSTATE ROUTE

SCALE

1 0 1 2 3 4 MILES
1 0 1 2 3 4 5 6 KILOMETERS

PLOT TO 1"=3.5 MILES

FIG 1-1
WALLOWA COUNTY
PLANNING AREA

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

The inventory of existing facilities catalogs the current transportation system. The results of the inventory are described in Chapter 7, while Chapter 3 & 4 describes how the system operates. Appendix B summarizes the inventory of the existing arterial and collector road 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 4.

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 road system plan was developed from the forecasting and potential improvements evaluation described above. The bicycle and pedestrian plans were developed based on current usage, land use patterns, and the requirements set forth by the Transportation Planning Rule. The public transportation, air, water, rail, and pipeline plans were developed based on discussions with the owners and operators of those facilities. Chapter 7 details the plan elements for each mode.

Funding Options

Wallowa County will need to work with ODOT, the five unincorporated Communities, 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.

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 road 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 and Union Pacific Railroad right-of-way. (Enterprise, Joseph, and Wallowa TSPs)
- A bicycle facility on Hurricane Creek Road. (Enterprise and Joseph TSPs)

Unincorporated Communities

The five Unincorporated Communities have identified the following projects:

- Reconstruction of existing Highway 82 Minam bridge to facilitate pedestrian and bicycle crossing safety.
- Continue to explore alternative access for emergency vehicles along the west side of Wallowa Lake, which could also serve as a multi-use pathway into Joseph.
- Sheltered left turn into the Minam community.
- Posting reduced speed signs in conjunction with the sheltered left turn into Minam.
- Highway 82 crossing opportunities in the unincorporated Minam Community for pedestrians and bicyclists.
- Reduced speeds signage within the Unincorporated Community of S. Wallowa Lake.
- Multi-use pathways within the W. Wallowa Lake community.
- "Chicane" parking opportunities within the S. Wallowa Lake community
- Re-engineering and construction of the "Y" at South Wallowa Lake.
- Connect old Minam Trail to highway side of road by a bridge over the Minam River at or near old dam site.

- Allowing only the use of shielded lights in conjunction with any transportation improvements within the unincorporated Communities.

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 amendment of the existing Memorandum of Understanding (MOU) between Wallowa County and the Wallowa-Whitman National Forest through an Intergovernmental Agreement for Flexible Maintenance Services between Wallowa County and ODOT. The plan appears in Appendix D.

Corridor Strategies

Highway 82 is the only major highway corridor which passes through Wallowa County. The Oregon Transportation Commission adopted the Highway 82 Corridor Plan in December 1999. 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
- 1999 Oregon Highway Plan
- Oregon Bicycle and Pedestrian Plan
- Transportation System Maintenance Agreement
- Identified Special Transportation Areas (STA) Community Action Plans

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 concerns expressed during public meetings. An overall goal was drawn from the plan, along with more specific goals and objectives. Throughout the planning process, each element of the plan was evaluated against these parameters.

OVERALL TRANSPORTATION GOAL

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

Goal 1

Preserve the function, capacity, level of service, and safety of the 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 overviews.
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, road cross section standards for local, collector, and arterial roads 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.
I.. Create STA Community Plans

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 coordination of maintenance, improvements, construction or closure of permanent roads and bridges.
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. Encourage and support the continuation and improvement of schedules and service of privately owned and public transportation, including services provided by volunteer organizations for target groups of citizens.
B. Provide sidewalks or shoulders and safe crossings on collectors and arterials.
C. Amend and implement a county bicycle plan.
D. Seek Transportation and Growth Management (TGM) and other funding for projects evaluating and improving the environment for alternative modes of transportation.
E. Identify corridors that will provide multi-use pathways within Unincorporated Communities of Minam and South Wallowa Lake. Coordinate with the State Parks Master Plan.

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.
D. Assure future land uses are compatible with continued operation of airports.
E. Assure OAR 660 Division 13 requirements are met for the Joseph State Airport and the Enterprise Municipal Airport.

Goal 6

Although the County is no longer served by a branch railroad line, the County recognizes the railroad line and its right of way as an asset to be put to the highest and best use for the entire County.

Objective

A. First, pursue renewal of rail transportation into the County, second, retain the right of way intact for potential future uses, and finally, that the existing right of way be put to the highest and best use for the entire County, as referenced in Goal XII.

Goal 7

Road maintenance, improvement, or construction shall not have a negative impact on riparian habitat per the joint Wallowa County/Nez Perce Salmon Habitat Recovery Plan.

Objective

A. Any road that is constructed or reconstructed shall conform to the Wallowa County/Nez Perce Salmon Habitat Recovery Plan.

CHAPTER 3: CURRENT TRANSPORTATION CONDITIONS

As part of the planning process, the current operating conditions for the transportation system were evaluated. This evaluation focused primarily on road 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

Traffic volumes are highest in the cities and drop off significantly in the rural sections. Volumes are average 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. In 1995, 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. In 1999, traffic volumes increased to 1,600 vpd at the western county line, 7,200 vpd in Enterprise, and 2,400 in Lostine. Traffic volumes remained constant in the Joseph and decreased to 2,700 vpd in Wallowa.

Highway 351

Highway 351 carries the second highest traffic volumes in the county. In 1995, traffic volumes were 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. Traffic volumes increased in 1999 to 4,699 vpd in Joseph and 1600 at the southern city limits.

Highway 3

Traffic volumes on Highway 3 are highest where the highway begins, in Enterprise, where traffic volumes in 1995 were 2,300 VPD and then dropped 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. In 1999 traffic volumes increased to 2,400 vpd in Enterprise, 1000 vpd at the north city limits and 410 at the state line.

Highway 350

The highest volumes on Highway 350 are found in Joseph, where traffic volumes. In 1995, were 1,600 VPD. Volumes decrease to 200 VPD in the Wallowa-Whitman National Forest and increase to 420 VPD in the town of Imnaha. In 1999 the traffic volumes have remained the same.

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 roads 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. In the 1991 Oregon Highway Plan, levels of service were defined by a letter grade A-F, with each letter grade representing a range of volume to capacity (v/c) ratios. A volume to capacity ratio (v/c) is the peak hour traffic volume on a highway dived by the maximum volume that a highway can handle. If traffic volume entering a highway section exceeds the section's capacity then disruptions in traffic flow will occur, reducing the level of service. LOS A represents relatively free-flowing traffic and LOS F represents conditions where the road system is totally saturated with traffic and movement is very difficult. The 1999 OHP maintains a similar concept for measuring highway performance, but represents LOS by specific v/c to improve clarity and ease of implementation. Table 3-1 presents the level of service criteria for two-lane highways, Table 3-2 presents the level of service criteria for arterial roadways.

TABLE 3-1
LEVEL OF SERVICE CRITERIA FOR TWO-LANE HIGHWAY

Service Level [1] (v/c Ratio) [2]	Typical Traffic Flow Conditions
A (0.00-0.48)	Motorists are able to drive at their desired speed which, without strict enforcement, would result in average speeds approaching 60 mph. Passing demand is well below passing capacity, and almost no platoons of three or more vehicles are observed.
B (0.49-0.59)	Speeds of 55 mph or slightly higher are expected on level terrain. Passing demand needed to maintain desired speeds becomes significant and approximately equals the passing capacity.
C (0.60-0.73) C-D (0.70-0.73)	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.
D (0.74-0.83) D-E (0.84-0.87)	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
E (0.84-0.97) E-F (0.98-0.99)	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.
F (>1.00)	Heavily congested flow with traffic demand exceeding capacity.

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

TABLE 3-2
LEVEL OF SERVICE CRITERIA FOR ARTERIAL AND COLLECTOR ROADS

Service Level [1] (v/c Ratio) [2]	Typical Traffic Flow Conditions
A (0.00-0.48)	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.
B (0.49-0.59)	Stable traffic flow with slight delays at signalized or stop sign controlled intersections. Average speed would vary between 25 and 30 miles per hour.
C (0.60-0.73) C-D (0.70-0.73)	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.
D (0.74-0.83) D-E (0.84-0.87)	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.
E (0.84-0.97) E-F (0.98-0.99)	Traffic flow would be unstable with congestion and intolerable delays to motorists. The average speed would be approximately 10 to 15 miles per hour.
F (>1.00)	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.

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

The 1999 Oregon Highway Plan (OHP) establishes mobility standards for the state highway system. Highways of statewide importance, such as Highway 82, should operate at 0.80 where the speed limit is less than 45 mph inside the urban growth boundary and 0.70 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 a v/c ratio of 0.85 where the speed limit is less than 45 mph inside the urban growth boundary and at 0.75 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 roads 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 3-3. All rural segments of the state highways operate at LOS B or better.

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

Location	1995 LOS
Highway 82 between County Line and Wallowa	A (<0.48)
Highway 82 between Wallowa and Lostine	B (0.49-0.59)
Highway 82 between Lostine and Enterprise	B (0.49-0.59)
Highway 82 between Enterprise and Joseph	B (0.49-0.59)
Highway 3 between Washington State and Enterprise	A (<0.48)
Highway 350 between Joseph and Imnaha	A (<0.48)
Highway 351 between Joseph and Wallowa Lake	A (<0.48)

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 roads 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 road 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 and associated range of v/c ratio is shown in Table 3-4.

TABLE 3-4
SUMMARY OF OPERATIONS AT CRITICAL INTERSECTIONS

Location	Movement	1995 LOS
Highway 82 — County Line to Wallowa	Eastbound; Left, Through, Right	A (<0.48)
	Westbound; Left, Through, Right	A (<0.48)
	Northbound; Left	A (<0.48)
	Southbound; Left	A (<0.48)
Highway 82 — Wallowa to Lostine	Eastbound; Left, Through, Right	A (<0.48)
	Westbound; Left, Through, Right	A (<0.48)
	Northbound; Left	A (<0.48)
	Southbound; Left	A (<0.48)
Highway 82 — Lostine to Enterprise	Eastbound; Left, Through, Right	A (<0.48)
	Westbound; Left, Through, Right	A (<0.48)
	Northbound; Left	A (<0.48)
	Southbound; Left	A (<0.48)
Highway 82 — Enterprise to Joseph	Eastbound; Left, Through, Right	B (0.49-0.59)
	Westbound; Left, Through, Right	B (0.49-0.59)
	Northbound; Left	A (<0.48)
	Southbound; Left	A (<0.48)
Highway 3 — State Line to Enterprise	Eastbound; Left, Through, Right	A (<0.48)
	Westbound; Left, Through, Right	A (<0.48)
	Northbound; Left	A (<0.48)
	Southbound; Left	A (<0.48)
Highway 350 — Joseph to Imnaha	Eastbound; Left, Through, Right	A (<0.48)

	Westbound; Left, Through, Right	A (<0.48)
	Northbound; Left	A (<0.48)
	Southbound; Left	A (<0.48)
Highway 351 — Joseph to Wallowa Lake	Eastbound; Left, Through, Right	A (<0.48)
	Westbound; Left, Through, Right	A (<0.48)
	Northbound; Left	A (<0.48)
	Southbound; Left	A (<0.48)

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 which correlates to a maximum volume to capacity ratio of 0.59.

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 3-5). 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 3-5
DEPARTURE TO WORK DISTRIBUTION

	1990 Census	
Departure Time	**Trips**	**Percent**
12:00 a.m. to 4:59 a.m.	151	5.9
5:00 a.m. to 5:59 a.m.	310	12.1
6:00 a.m. to 6:59 a.m.	408	15.9
7:00 a.m. to 7:59 a.m.	840	32.7
8:00 a.m. to 8:59 a.m.	407	15.9
9:00 a.m. to 9:59 a.m.	120	4.7
10:00 a.m. to 10:59 a.m.	48	1.9
11:00 a.m. to 11:59 a.m.	29	1.1
12:00 p.m. to 3:59 p.m.	161	6.3
4:00 p.m. to 11:59 p.m.	91	3.5
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 car pooling 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 3-6
JOURNEY TO WORK TRIPS

	1990 Census	
Trip Type	**Trips**	**Percent**
Private Vehicle	**2,219**	**79.1**
Drove Alone	***1,948***	***87.8***
Car pooled	***271***	***12.2***
Public Transportation	**0**	**0.0**
Motorcycle	**5**	**0.2**
Bicycle	**25**	**0.9**
Walk	**286**	**10.2**
Other	**30**	**1.1**
Work at Home	**240**	**8.5**
Total	**2,805**	**100.0**

Source: US Bureau of Census.

ACCIDENT ANALYSIS

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 3-7 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, 1997 to December 31, 1999.

TABLE 3-7
HISTORIC ACCIDENT RATES FOR STATE HIGHWAYS
(Accidents per Million Vehicle Miles Traveled)

Highway	1999	1998	1997
Highway 82 from Union County Line to Wallowa	0.63	0.37	1.93
Highway 82 from Wallowa to Lostine	0.56	0.37	1.98
Highway 82 from Lostine to Enterprise	0.78	0.93	0.54
Highway 82 from Enterprise to Joseph	1.02	1.65	0.89
Highway 3 from Washington State Line to Enterprise	0.12	0.98	0.53
Highway 350 from Joseph to Imnaha	0.79	0.80	1.03
Highway 351 from Joseph to end of highway	0.69	0.73	0.0
Average for all Rural Non-freeway Primary State Highways	0.88	0.85	0.83

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 is lower than the statewide average.

The 1999 and 1997 accident rates for Highway 3 are significantly lower than the statewide average.

No 1997 accident data is available for Highway 351. Accident rates on this highway in 1999 and 1998 are lower than the statewide average for those years.

The 1999 and 1998 accident rates for Highway 350 are near but lower than the statewide average for similar highways. The accident rate for the year 1997 is higher than the statewide average for that year..

Table 3-8 contains detailed accident information on Highways 82, 3, 350 and 351 in Wallowa County from January 1, 1997 to December 31, 1999. 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 3-8
ACCIDENT SUMMARIES FOR HIGHWAYS 82, 3, 350, AND 351
(January 1, 1997 to December 31, 1999)

Location	Fatalities	Injuries	Property Damage Only	Total Accidents	Accident Frequency (acc/mi/yr)	Accident Rate (acc/mvm)
Highway 82 (MP 33.00 to 46.46)	0	8	18	23	.57	.98
Highway 82 (MP 47.67 to 54.45)	0	6	8	14	0.69	0.97
Highway 82 (MP 55.5 to 64.06)	1	4	13	18	0.71	0.75
Highway 82 (MP 66.29 to 70.97)	1	8	15	24	1.71	1.19

Highway 3 (MP 0.00 to 42.66)	**1**	**4**	**8**	**13**	**0.10**	**0.54**
Highway 350 (MP 0.26 to 37.99)	**1**	**5**	**4**	**10**	**0.09**	**0.87**
Highway 351 (MP 0.80 to 6.94)	**0**	**2**	**2**	**4**	**0.22**	**0.47**

Source: Oregon Department of Transportation Accident Summary Database Investigative Report.

On the four rural segments of Highway 82 during the three-year period there was a total of 106 accidents, 68 of which were reported as resulting in property damage only. There were 4 fatal accidents and 37 injury accidents on these roadway segments during the period. 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 23 accidents between 1997 and 1999. The accidents were scattered along this thirteen-mile segment. No single accident type comprised a majority of the accidents. 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 18 accidents between 1997 and 1999. The accidents were scattered along this segment. 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 13 accidents on the rural section of Highway 3 during the three-year period. These consisted of 4 accidents with injuries and 8 with property damage only, and one fatal accident. The accidents were scattered along the roadway segment and there were no particular locations that 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 1997 and 1999 there were 10 accidents on the rural section east of Joseph. These consisted of 5 accidents with injuries and 4 with property damage only, and one fatal accident. The accidents were scattered along the roadway segment and there were no particular locations that 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 4 accidents, 2 of which were reported as resulting in property damage only. There were no fatal accidents and two injuries on the highway during the three years.. 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 4: 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.

Both historic and projected population for Wallowa County is summarized in Table 4-1.

TABLE 4-1
WALLOWA COUNTY POPULATION TRENDS

	1980[1]	1990[1]	2000[1]	2010[2]	2020[2]	2030[2]
Wallowa County	7,273	6,911	7,226	7500	7800	8100
Incorporated Cities:						
Enterprise	2,003	1,905	1,895	1915	1935	1955
Joseph	999	1,073	1,054	1055	1055	1055
Lostine	250	231	263	290	317	344
City of Wallowa	847	748	869	905	941	977

Source:
1) US Bureau of the Census.
2) Wallowa County Planning Department.

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

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 12 percent over the next 30 years, from the 2000 Census figure of 7,226 to an estimated 8,100 in year 2030. The fastest growing area in the county is expected to be the unincorporated communities.

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 4-2
POTENTIAL DEVELOPMENT IMPACT ANALYSIS SUMMARY

		Acreage			Units		
Polygon	**Zoning**	**Net Area**	**Built**	**Vacant**	**Existing**	**Potential**	**Maximum**
Enterprise Periphery	**R-1**	444.0	330.0	114.0	66	22	88
North Joseph	**R-1**	319.9	130.0	189.9	26	37	63
Joseph Airport	**R-1**	196.3	80.8	115.5	16	23	39
North Wallowa	**R-1**	28.0	25.0	3.0	5	1	6
West Wallowa	**R-1**	410.3	205.0	205.3	41	41	82
South Wallowa Lake	**R-2**	130.0	18.9	111.1	110	644	754
West Wallowa Lake	**R-2**	129.4	13.1	116.3	76	674	750
Wahluna Terrace	**R-2**	15.8	1.6	14.2	9	82	91
Imnaha	**R-3**	18.0	12.0	6.0	12	6	18
Troy	**R-3**	23.7	22.0	1.7	22	1	23
Minam	**R-3**	5.5	3.0	2.5	3	2	5
South Wallowa Lake	**CR-2**	137.5	9.6	127.9	56	744	800
North Joseph	**R-C**	82.5	60.0	22.5	12	4	16
Enterprise Periphery	**M-1**	316.0	168.4	147.6	31	29	60
Joseph Airport	**M-1**	231.8	188.7	43.1	21	8	29
North Wallowa	**M-1**	55.2	31.0	24.2	2	4	6
Alder Slope	**EL-1**	353.6	188.5	165.1	16	14	30
Southeast Enterprise	**EL-1**	864.8	534.1	330.7	55	34	89
Demosh	**EL-1**	229.0	136.8	92.2	18	12	30
Lostine River Acres	**EL-1**	281.0	140.5	140.5	12	10	22
Lostine/Evans	**EL-1**	22.4	11.2	11.2	8	8	16
Oxbow Subdivision	**EL-1**	269.2	80.8	188.4	6	14	20
Flora	**EL-1**	52.7	24.1	28.6	11	13	24
Imnaha River Woods	**EL-1**	279.0	12.5	266.5	13	275	288

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**

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. Although, development may be limited in some cases by emergency vehicle access requirements and by the availability of sewer hook ups.

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. Although, development may be limited in some cases by county vehicle access requirements and by the availability of sewer and water hook ups.

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. Although, development may be limited in some cases by emergency vehicle access requirements and by the availability of sewer and water hook ups.

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 roads 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 4-3 summarizes the historic average growth rate on each of these sections.

TABLE 4-3
HISTORIC GROWTH RATES ON STATE HIGHWAYS

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

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 4-4.

TABLE 4-4
SUMMARY OF OPERATIONS ON RURAL HIGHWAY SEGMENTS

Location	1995 LOS	2017 LOS
Highway 82 between Union County and City of Wallowa	**A (<0.48)**	**B (0.49-0.59)**
Highway 82 between Wallowa and Lostine	**B (0.49-0.59)**	**B (0.49-0.59)**
Highway 82 between Lostine and Enterprise	**B (0.49-0.59)**	**B (0.49-0.59)**
Highway 82 between Enterprise and Joseph	**B (0.49-0.59)**	**C(0.60-0.69)**
Highway 3 between Washington State Line and Enterprise	**A (<0.48)**	**A (<0.48)**
Highway 350 between Joseph and Imnaha	**A (<0.48)**	**A (<0.48)**
Highway 351 between Joseph and Wallowa Lake.	**A (<0.48)**	**B (0.49-0.59)**

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 (0.49 - 0.59 v/c) in both the existing and future conditions. The results of the unsignalized intersection analyses are shown in Table 4-5.

TABLE 4-5
SUMMARY OF OPERATIONS AT REPRESENTATIVE INTERSECTIONS

Location	Movement	1995 LOS	2017 LOS
Highway 82	**Eastbound; Left, Through, Right**	**A (<0.48)**	**A (<0.48)**
County Line to Wallowa	**Westbound; Left, Through, Right**	**A (<0.48)**	**A (<0.48)**
	Northbound; Left	**A (<0.48)**	**A (<0.48)**
	Southbound; Left	**A (<0.48)**	**A (<0.48)**
Highway 82	**Eastbound; Left, Through, Right**	**A (<0.48)**	**A (<0.48)**
Wallowa to Lostine	**Westbound; Left, Through, Right**	**A (<0.48)**	**A (<0.48)**
	Northbound; Left	**A (<0.48)**	**A (<0.48)**
	Southbound; Left	**A (<0.48)**	**A (<0.48)**
Highway 82	**Eastbound; Left, Through, Right**	**A (<0.48)**	**B (0.49-0.59)**
Lostine to Enterprise	**Westbound; Left, Through, Right**	**A (<0.48)**	**B (0.49-0.59)**
	Northbound; Left	**A (<0.48)**	**A (<0.48)**
	Southbound; Left	**A (<0.48)**	**A (<0.48)**
Highway 82	**Eastbound; Left, Through, Right**	**B (0.49-0.59)**	**B (0.49-0.59)**
Enterprise to Joseph	**Westbound; Left, Through, Right**	**B (0.49-0.59)**	**B (0.49-0.59)**
	Northbound; Left	**A (<0.48)**	**A (<0.48)**
	Northbound; Left	**A (<0.48)**	**A (<0.48)**
Highway 3	**Eastbound; Left, Through, Right**	**A (<0.48)**	**A (<0.48)**
State Line to Enterprise	**Westbound; Left, Through, Right**	**A (<0.48)**	**A (<0.48)**
	Northbound; Left	**A (<0.48)**	**A (<0.48)**
	Southbound; Left	**A (<0.48)**	**A (<0.48)**
Highway 350	**Eastbound; Left, Through, Right**	**A (<0.48)**	**A (<0.48)**
Joseph to Imnaha	**Westbound; Left, Through, Right**	**A (<0.48)**	**A (<0.48)**
	Northbound; Left	**A (<0.48)**	**A (<0.48)**
	Southbound; Left	**A (<0.48)**	**A (<0.48)**
Highway 351	**Eastbound; Left, Through, Right**	**A (<0.48)**	**A (<0.48)**
Joseph to Wallowa Lake	**Westbound; Left, Through, Right**	**A (<0.48)**	**A (<0.48)**
	Northbound; Left	**A (<0.48)**	**A (<0.48)**
	Southbound; Left	**A (<0.48)**	**A (<0.48)**

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

CHAPTER 5: ROADWAY STANDARDS

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.

Numerous homes and communities are served by private roads. The standards for these roads are identified within the Wallowa County Comprehensive Land Use Plan and Ordinance Articles, the Cities' TSPs, the Unincorporated Community Ordinances, Urban Growth Area agreements, and are included within the County TSP by reference.

WALLOWA COUNTY 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 5-1 and summarized in Table 5-1. 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 5-1
RECOMMENDED RURAL ROADWAY DESIGN STANDARDS

Classification	Pavement Width	Right-of-Way Width	Min. Posted Speed
Local	**24-36 ft.**	**60 ft.**	**25 mph**
Collector	**32-40 ft.**	**60 ft.**	**25-35 mph**
Arterial	**36-40 ft.**	**60 ft.**	**35-55 mph**

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 5-1. 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, storm water run-off, and vegetation clearance. The width of the shoulder is determined by anticipated traffic volumes, as shown in the Table in Figure 5-1. 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 5-1 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 5-1. 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.

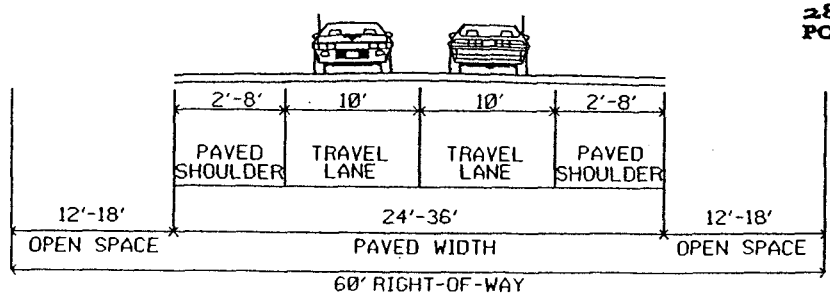
Figure 5-1 shows a cross section with a 60-foot right-of-way and a 36 to 40-foot paved width. This width allows two 12-foot travel lanes and six- to eight-foot shoulders. The width of the roadway and right-of-way is determined by the width of the shoulder. The width of the shoulder is determined by anticipated traffic volumes, as shown in the table in Figure 5-1. 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

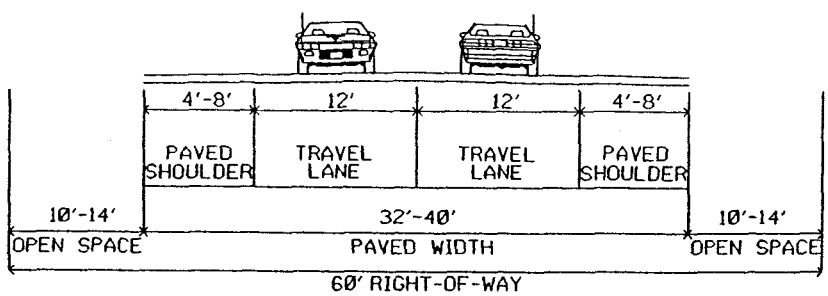
(not to scale)

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

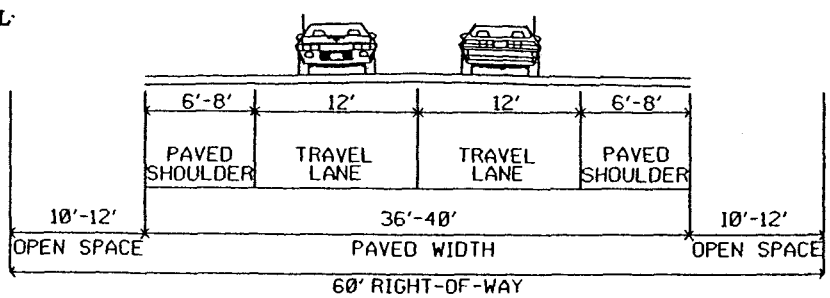
LOCAL



COLLECTOR (MINOR OR MAJOR)



ARTERIAL



RECOMMENDED SHOULDER WIDTHS ON RURAL ROADS

Shoulder Width	ADT<400	ADT 400 -DHV* 100	DHV* 100-200	DHV* 200-400	DHV* >400
Rural Local	2 feet	2 feet	4 feet	6 feet	8 feet
Rural Collector	2 feet	4 feet	6 feet	8 feet	8 feet
Rural Arterial	4 feet	6 feet	6 feet	8 feet	8 feet

ADT = Average Daily Traffic
DHV = Design Hour Volume

FIGURE 5-1
RECOMMENDED STREET STANDARDS

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 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 5-2 describes recommended general access management guidelines by roadway functional classification.

TABLE 5-2
RECOMMENDED ACCESS MANAGEMENT STANDARDS

Functional Classification	Intersection			
	Public Road		Private Drive	
	Type	Spacing	Type	Spacing
State Highways	See Access Appendix C	Management 1999 Oregon	Standards Highway Plan	
Rural Arterial	at-grade	1 mile	L/R Turns	1,200 ft.
Rural Collector	at-grade	1/4 mile	L/R Turns	300 ft.
Rural Local	at-grade	200-400 feet	L/R Turns	Access to Each Lot

Notes:
(1) For most roadways, at-grade crossings are appropriate.
(2) Allowed moves and spacing requirements may be more restrictive than those shown to optimize capacity and safety. Any access to a state highway requires a permit from the ODOT District Office. Access will generally not be granted where there is a reasonable alternative access.
(3) Any access to a state highway requires a permit from the ODOT district office.

Application

These access management guidelines 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 1999 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 categorized in the 1999 Oregon Highway Plan as Statewide Highways. The primary function of these highways is to provide connections to larger urban areas, ports, and major recreation areas of the state not served by freeways. The management objective of Statewide urban highways is to provide high to moderate speed operations with limited interruptions in traffic flow.

Highways 3 and 350 through Wallowa County are categorized in the 1999 Oregon Highway Plan as District Highways. The primary function of these highways is to provide connections between small urbanized areas, rural centers, and urban hubs, and also serve local access and traffic. The management objective is to provide for safe and efficient, moderate to high speed continuous flow operation in rural areas reflecting the surrounding environment and low speed operation in urban and urbanizing areas for traffic flow and pedestrian and bicycle movement.

The highways and the appropriate access management standards are summarized in Table 5-2.

CHAPTER 6: IMPROVEMENT OPTIONS

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.

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. Upgrade structurally deficient and functionally obsolete bridges.
4. Provide a bikeway on Highway 82 or Hurricane Creek Road between Enterprise and Joseph.
5. Work to Insure that the Idaho Northern Pacific and Union Pacific Railroad right-of-way is put to the highest and best use for the entire county.
6. 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 road 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 Draft 2002-2005 STIP, identified six highway improvements in Wallowa County as listed below.

- Highway 82 Preservation (Rock Creek to Spring Creek)— Pavement overlay between milepost 42.26 and 49.43 on Wallowa Lake Highway (Highway 82), is scheduled for fiscal year 2004 at an estimated cost of $ 1,137,000.

- Highway 82 Preservation — This planned preservation improvement for the fiscal year 2004 includes a chipseal on Highway 82 between milepost 49.43 and 65.54 and on the Joseph Wallowa Lake Highway (Highway 351) between milepost 0.34 and 6.94, at an estimated cost of $1,965,000.

- Wallowa Lake HighwayRockfall — This planned improvement for the fiscal year 2004 includes rockfall corrections on Wallowa Lake Highway (Highway 82) between milepost 30.70 and 38.40at an estimated cost of $786,000.

- Wallowa River (Bailey Lane) — Bridge #63C137, on Bailey Lane between milepost 0.8 and 0. 18, is scheduled to be replaced in fiscal year 2004 at an estimated cost of $234,000.

- Imnaha River Road (Lower Imnaha Road)— Bridge #63C81 is scheduled to be replaced on Imnaha River Road between milepost 35.0 and 35.1 in fiscal year 2005 at an estimated cost of $417,000.

- Trout Creek (Golf Course Road) — Bridge #063C17, located between milepost 0.71 and 0.81on Golf Course Rd, is scheduled to be replaced in fiscal year 2004 at an estimated cost of $328,000.

IMPROVEMENT OPTIONS

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

See State Highways section, Chapter 7 for a discussion of this option.

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

See County Roads section, Chapter 7 for a discussion of this option.

Option 3. Upgrade Structurally Deficient and Functionally Obsolete Bridges

See State Highway section, Chapter 7 for a discussion of this option.

Option 4. Provide a Bikeway on Highway 82 or Hurricane Creek Road

See Bikeway section, Chapter 7 for a discussion of this option.

Option 5. Work to Insure that the Northern Pacific Railroad right-of-way is put to the highest and best use for the entire county.

See Rail Service section, Chapter 7 for a discussion of this option.

Option 6. 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 road improvement projects to include the addition of some sort of pedestrian facility, such as new sidewalks or walkways, which will effectively separate pedestrians from motorized traffic. All new road improvement projects should 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, road 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 6-1 summarizes the recommendations of the road system modal plan based on the evaluation process described in this chapter. Chapter 7 discusses how these improvement options fit into the plans for the Wallowa County area.

TABLE 6-1
TRANSPORTATION IMPROVEMENT OPTIONS: RECOMMENDATION SUMMARY

Option	Recommendation
Construct the Projects in the Oregon Highway 82 Corridor Plan	**Implement**
Construct the Projects in the County's Five-Year Road Program	**Implement**
Upgrade structurally deficient and functionally obsolete bridges	**Implement**
Provide a Bikeway on Highway 82 or Hurricane Creek Rd.	**Implement where volumes warrant bike lane; otherwise provide paved shoulder**
Work to Insure that the INP and UP Railroad right-of-way is put to the highest and best use for the entire county.	**Implement in some form**
Implement Transportation Demand Management Strategies	**Implement**

CHAPTER 7: TRANSPORTATION SYSTEM PLAN

This chapter provides an inventory and plan for each mode of transportation within Wallowa County. Inventories and plans covered the road system as well as the pedestrian, bikeway, public transportation, rail, air, water, and pipeline systems.

ROADWAY SYSTEM

Description

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 road 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 road 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-road parking, sidewalks, or bikeways
- speed limits
- general pavement conditions

Appendix B lists the complete inventory prepared by the Wallowa County Road Department. Average daily traffic volumes are discussed in Chapter 3.

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 roads. The USFS roads are broken down into five "maintenance levels" based on their function, physical condition, and use.

STATE HIGHWAYS

Inventory

In Wallowa County, the state highways/major arterial roads often serve statewide, regional and local traffic demands.

Discussion of the Wallowa County road 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: Wallowa Lake Highway (Highway 82), Enterprise-Lewiston Highway (Highway 3), Little Sheep Creek Highway (Highway 350), and Joseph-Wallowa Lake Highway (Highway 351). These highways serve as the major routes through the county with commercial and industrial development focused along the corridors.

The 1999 Oregon Highway Plan (OHP) classifies the state highway system into five categories: Interstate, Statewide, Regional, District, and Local Interest. 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 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 constrained and urban areas interruptions of flow should be minimal. In Special Transportation Areas (STAs) local access may be a priority. The primary function of a district highway is to "provide connections and links between small urbanized areas, rural centers and urban hubs, and also serve local traffic and land access." For highways of district significance, emphasis is placed on providing safe and efficient moderate to high speed continuous flow operation in rural areas reflecting the surrounding environment, and moderate to low-speed operations in urban or urbanizing areas for traffic flow and for pedestrian and bicycle movement. Inside STAs, local access is a priority.

Highway 82

Highway 82 (Wallowa Lake Highway) is a highway of statewide significance. 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. 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 All-American Road.

In 1998 ODOT, in cooperation with Wallowa County and other jurisdictions, developed the Oregon LaGrande to Wallowa Lake (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 identifies and prioritizes improvements of transportation facilities and services that will serve as the basis for updating the Statewide Transportation Improvement Program (STIP). The plan also has been closely coordinated with the development of this Transportation System Plan (TSP), and policies and standards established by the Oregon Transportation Plan, as well as, other modal plans, such as the 1999 Oregon Highway Plan.. Relative transportation improvements identified in the La Grand to Wallowa Lake (Oregon Highway 82) Corridor Plan are described in Chapters 6 and 7 of this TSP.

Highway 351

Highway 351 (Joseph-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 LaGrande to Wallowa Lake Corridor, the rest of which is comprised of Highway 82. Currently, this route provides the only access to 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. 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.

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 and terminates at the boundary of the Hells Canyon Recreation Area. Highway 350 has recently been designated as part of the Hells Canyon All-American Road. 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 facility, 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. Table 7-1 summarizes the state highway pavement conditions as of 1999.

TABLE 7-1
STATE HIGHWAY PAVEMENT CONDITIONS

Highway	Milepost	Section Description	Pavement Condition
82	30.00—33.60	Union/Wallowa County Line to Wallowa River	Good
	33.60-33.68	Minam Bridge	Fair
	33.68-49.40	Wallowa River to Spring Creek	Fair
	49.40-64.54	Spring Creek to Enterprise City Limits (West)	Good
	64.54-65.81	Enterprise City Road	Very Good
	65.81-68.12	Enterprise City Limits (East) to Prairie Creek	Good
	68.12-71.42	Prairie Creek to Joseph at Wallowa Avenue	Good
3	0.00-5.00	State Line to Buford Canyon	Good
	5.00-41.20	Buford Canyon to Enterprise	Fair
	41.20-43.19	Enterprise City Road	Very Good
350	0.00-17.00	Junction Highway 10 to County Road M.P. 17.00	Fair
	17.00-18.65	County Road M.P. 17.00 to Lightning Creek	Good
	18.65-20.97	Lightning Creek to Forest Boundary	Good
	20.97-29.36	Forest Boundary to Upper Imnaha Road	Good
351	0.00-6.94	Joseph to Wallowa Lake Power House	Good

Source: Oregon Department of Transportation - 1999 Pavement Condition Report.

Bridges

The state has 62 bridges located on state highways in both rural and urban Wallowa County.

Table 7-2 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 7-2
1997 STATE HIGHWAY BRIDGE INVENTORY SUMMARY

	Number of Bridges

Highway	Total	Structurally Deficient	Functionally Obsolete	Sufficiency Rating < 55
82	33	0	1	0
3	9	0	1	0
350	15	0	0	0
351	5	0	0	0
Total	62	0	2	0

Source: Oregon Department of Transportation.

In 1997, no state-owned bridges were identified as structurally deficient, and only two were are identified as functionally obsolete. Also, no bridges identified a sufficiency rating below 55. The two functionally obsolete bridges included:

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

These bridges were replaced in 1999.

Currently, no state owned bridges are identified as structurally deficient and only two have been identified as functionally obsolete. These are:

- Highway 82 over the Lostine River (MP 54.11) eleven miles west of the junction with Highway 3.
- Highway 3, over Two Mile Creek (MP 3.90).

Also, of concern to the residents of Minam is:

- Highway 82, over the confluence of the Minam and Wallowa River (milepost 33.6) in Minam. Reconstruct bridge to facilitate pedestrian and bicycle crossing safety. Coordinate activity with the State Parks Master Plan.

Improvement Options

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 62.6. Option 1 is from 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 includes Phase 2 of the Minam Grade improvements at an estimated cost of $7 million (1995 dollars) to realign curves between milepost 30.00 and the Wallowa County line (milepost 33.00). Although the project is primarily in Union County, it has a direct impact on travel to and from Wallowa County. This project is listed as a medium priority project.

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 substandard shoulders on Highway 82, where there are safety related issues, to six feet unless there are physical width limitations, where a minimum four foot shoulder may be used. The Plan identifies two areas within Wallowa County. 1) within the Wallowa Canyon (MP 42.90 to 46.72) and 2) west of the City of Enterprise (MP 60.06 to 63.77). This could be accomplished as a singular project or as part of other improvement projects. This project is listed as a medium priority project (for the next 5 to 10 years) and cost $8.8 million (1995 dollars), assuming a total of 11 miles of shoulder is 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 7-3 summarizes the cost estimates for completing the improvements. The total estimated cost to construct the improvements recommended for the state road system is $20.7 million.

TABLE 7-3
OREGON HIGHWAY 82 CORRIDOR PLAN PROJECTS

	Estimated Cost	
Project	**1995 $**	**1997 $**
Passing Lane Projects		
Minam to Wallowa Passing Lane (combination of Option 1 and Option 2)	**$2,400,000**	**$2,640,000**
Wallowa to Lostine Passing Lane (combination of Option 1 and Option 2)	**$2,500,000**	**$2,750,000**
Lostine to Enterprise Passing Lane (Option 2)	**$2,400,000**	**$2,640,000**
Enterprise to Joseph Passing Lane	**$2,400,000**	**$2,640,000**
Shoulder Widening Projects		
11 miles of shoulder are constructed	**$800,000**	**$680,000**
Scenic Turnout Projects		
Three sites are constructed	**$300,000**	**$330,000**
Total	**$18,800,000**	**$20,680,000**

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 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 place 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. They have been flagged as facilities which may need repair some time in the next 20 years.

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 $564,800. The total estimated cost to repair or replace the deficient bridges on the county road system is $9,619,000.

Table 7-4 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 7-4
STRUCTURALLY DEFICIENT AND FUNCTIONALLY OBSOLETE BRIDGES

Bridge Location	Upgrade Classification	Improvement	Estimated Cost 1994 $	Estimated Cost 1997 $
State Highways				
Highway 82 over the Lostine River (MP54.11) eleven miles west of Hwy 3	Functionally Obsolete	Repair	$429,000	$476,800
Highway 3 over Two Mile Creek (MP 3.90)	Functionally Obsolete	Repair	$79,000	$88,000
County Roads				
CR #528 (Wade Gulch Road) over the Wade Gulch River (MP 7.03) northwest of Highway 82	Structurally Deficient	Replace	$649,000	$746,000
CR #B631 over the Grande Ronde River (MP 15.15) west of Highway 3	Structurally Deficient	Replace	$2,453,000	$2,821,000
CR #B642 (Imnaha Road) over the Imnaha River (MP 19.27) south of Imnaha	Structurally Deficient	Replace	$898,000	$1,033,000
CR #B642 (Imnaha Road) over the Imnaha River (MP 21.08) south of Imnaha	Structurally Deficient	Replace	$979,000	$1,126,000
CR #735 over the Imnaha River (MP 35.00) northeast of Junction FAP 7	Structurally Deficient	Replace	$606,000	$697,000
CR #515 over Bear Creek (MP 3.0)	Functionally Obsolete	Repair	$408,000	$469,000
CR #509 over the Wallowa River (MP 0.12) near Highway 82	Functionally Obsolete	Repair	$419,000	$482,000
CR #534 (Evans Leap Road) over the Wallowa River (MP 0.25) east of Jim Town	Functionally Obsolete	Repair	$272,000	$313,000
CR #551 (Lostine River Road) over the Lostine River (MP 0.00) south of Highway 82	Functionally Obsolete	Repair	$311,000	$358,000
CR #572 (Egglesson Road) over the Wallowa River	Functionally	Repair	$200,000	$230,000

(MP 1.00) west of Highway 82	**Obsolete**			
CR #572 (Egglesson Road) over the Wallowa River (MP 1.08) west of Highway 82	**Functionally Obsolete**	**Repair**	**$205,000**	**$236,000**
CR #B639 over Trout Creek (MP 0.71) north of FAP 7	**Functionally Obsolete**	**Repair**	**$135,000**	**$155,000**
CR #B642 (Imnaha Road) over Grouse Creek (MP 18.41) south of Highway 350	**Functionally Obsolete**	**Repair**	**$157,000**	**$181,000**
CR #784 (Hersel Jones Road) over the Lostine River (MP 0.00) south of Highway 82	**Functionally Obsolete**	**Repair**	**$209,000**	**$240,000**
CR # Frontage Road over Bear Creek (MP 0.04) west of Highway 82	**Functionally Obsolete**	**Repair**	**$300,000**	**$345,000**
CR #1000 (Campground Road) over the Wallowa River (MP 0.10) south of Wallowa Lake	**Sufficiency Rating < 55**	**Replace**	**$163,000**	**$187,000**
Total for State Highways			**$508,000**	**$564,800**
Total for County Roads			**$8,364,000**	**$9,619,000**

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.

Modal Plan

The improvements to the roadway system are summarized in Table 7-6 at the end of this chapter.

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.

The county has established a Transportation Advisory Committee. One of the committee's functions is provide for discussion and problem solving with regard to county road issues.

Inventory

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.

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 roads. The classification of these roadways is based on the

intended function and observed traffic volumes. These classifications are different from the state system of roadway classification.

- **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 Roads** — 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 are different from the USFS levels and 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 Roads) — 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, five county-owned bridges are identified as structurally deficient, including:

- CR #528 (Wade Gulch Road) over the Wade Gulch River (milepost 7.03) northwest 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

Ten more are identified as functionally obsolete, including:

- CR #515 (Bear Creek Road) over Bear Creek (MP 3.0) south of Highway 82.
- 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 #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 being either structurally deficient or functionally obsolete:

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

Currently, two bridges are eiother under construction or programmed for replacement. These are:

- CR #528 (Wade Gultch Road) over the Wade Gultch River (MP 7.03) northwest of Highway 82 that is under construction, and
- CR #B639 over Trout Creek (MP 0.71) north of FAP 7 that is included in the draft 2002-2005 STIP.

Improvement Options

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. 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 7-5.

TABLE 7-5
WALLOWA COUNTY FIVE-YEAR ROAD PROGRAM

Project	Estimated Cost (1997 $)
2001	
Diamond Prairie Road - Oil and rebuild	$19,400
Dougherty Loop Road - Oil and rebuild	$20,500
2002	
Rancho Road - Oil and rebuild	$75,200
2003	
Allen Canyon Loop Road - Oil and rebuild	$64,900
After 2003	
Upper Imnaha River Road — Road Improvements (MP 12.8 - 24.0)	$3,100,000
Crow Creek Road — 10 miles of chip seal surfacing	$100,000
Zumwalt Road — reconstruction/resurfacing	$5,200,000
Total	$8,580,000

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 4. Upgrade Structurally Deficient and Functionally Obsolete Bridges

See State Highway section for details..

Modal Plan

The improvements to the roadway system are summarized in Table 7-6.

PRIVATE ROADS (COUNTY)

Inventory

Wallowa County has many miles of private roads. Numerous homes and communities are served by private roads. Some provide public access. Maintenance is either by the landowners, by contract, or by the county. The county is developing standards for private roads, and the need for rural fire protection, and roads which can provide access for emergency vehicles is providing impetus to adopt these standards.

The county has established a Transportation Advisory Committee. One of the committee's functions is provide for coordination on road issues that involve private roads.

Improvement Options

None

Modal Plan

The county's revised Article 32, Road Standards, will, when adopted, provide standards for improved and newly constructed public and private roads. Standards for roads will then be identified within the Wallowa County Comprehensive Land Use Plan and Ordinance Articles, the Cities' TSPs, and the Unincorporated Community Ordinances.

US FOREST SERVICE ROADS

Inventory

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.

The county has established a Transportation Advisory Committee. One of the committee's functions is provide for coordination on road issues between the county and the USFS.

Maintenance Levels

The Forest Service utilizes five different maintenance levels which are operational and objective in nature. These levels are different from the county levels and are identified as follows:

- Maintenance Level 1 — Assigned to intermittent service roads during the time they are closed to vehicular traffic. The closure period must exceed one year. Basic custodial maintenance is performed to keep damage to adjacent resources to an acceptable level and to perpetuate the road to facilitate future management activities. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level. Appropriate traffic management strategies are "prohibit" and "eliminate."

- Maintenance Level 2 — Assigned to roads open for use by high clearance vehicles. Passenger car traffic is not a consideration. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other specified uses. Log haul may occur at this level. Appropriate traffic management strategies are to (1) either discourage or prohibit passenger cars or (2) accept or discourage high clearance

vehicles.

- Maintenance Level 3 — Assigned to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities. Roads in this maintenance level are typically low speed, single lane with turnouts and spot surfacing. Some roads may be fully surfaced with either native or processed material. Appropriate traffic management strategies are either "encourage" or "accept". "Discourage" or "prohibit" strategies may be employed for certain classes of vehicles or users.

- Maintenance Level 4 — Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double lane and aggregate surfaced. However, some roads may be single lane. Some roads may be paved and/or dust abated. The most appropriate traffic management strategy is "encourage". However, the "prohibit" strategy may apply to specific classes of vehicles or users at certain times.

- Maintenance Level 5 — Assigned to roads that provide a high degree of user comfort and convenience. These roads are normally double lane, paved facilities. Some may be aggregate surfaced and dust abated. The appropriate traffic management strategy is "encourage."

The distinction between Forest Service maintenance levels is not always sharply defined. Some parameters overlap two or more different maintenance levels. Maintenance levels are based on the best overall fit of the parameters for the road in question. In the situations where the parameters do not indicate a definite selection, the desired level of user comfort and convenience is used as the overriding criteria to determine the maintenance level. Forest Service road maintenance includes a variety of work activities. Activities may be either detailed and site specific, or broad and general.

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 for trips between the Enterprise/Joseph area and Baker City, as well as Boise, Idaho. 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.

Forest Service Loop Road #39 was repaired and reopened in time for the 2000 tourist season.

Improvement Options

None

Modal Plan

The improvements to the roadway system are summarized in Table 7-6.

PEDESTRIAN SYSTEM

Inventory

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. Between Joseph and Wallowa Lake there is a moderate level of pedestrian traffic. A high level of pedestrian traffic is encountered along Highway 351 in the South Wallowa Lake Unincorporated Community.

The major 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. There is a bicycle/pedestrian way along the shoulders of Highway 351 between Joseph and the Chief Joseph Monument.

Improvement Options

None

Modal 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 5-1. 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 and Union Pacific Railroad right-of-way has been suggested; however, the feasibility of such a path may be limited the cost of the right-of-way and path construction, and the concern for access across private land.

BIKEWAY SYSTEM

Inventory

On low volume roadways, such as many of the county roads, bicyclists, and autos can both safely and easily use the roadway. The suitability of a shared roadway in rural areas decrease as traffic speeds and volumes increase, especially on roads with poor sight distance. This can become an important issue.

Roadways with paved shoulders improve the suitability of a shared roadway. Roadways with paved shoulders not only benefit bicyclist but also have been proven to lower vehicle accident rates, provide more traffic carrying capacity and reduce maintenance costs. When providing shoulders for bicycle use, a width of 6 feet is recommended. This allows a cyclist to ride far enough from the edge of the pavement to avoid debris, yet far enough from passing vehicles to avoid conflicts. If there are physical width limitations a minimum 4-foot shoulder may be used. Rural collectors with an less than 400 vehicles per day, the paved shoulder may be as little as 2 feet.

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 adopted. 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. Of the fourteen projects listed, the pathways on Highway 351 (East side of Wallowa Lake), Fish Hatchery Lane, and Hurricane Creek Road received the highest priority. The Highway 351 and Hurricane Creek Road paths are also listed in ODOT's Highway 82 Corridor Plan. There is a bicycle/pedestrian way along the shoulders of Highway 351 between Joseph and the Chief Joseph Monument.

Improvement Options

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

Highway 82 carriers 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, 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. The Oregon Bicycle and Pedestrian Plan indicates that for rural collectors with an ADT of less than 400 vpd, the paved shoulder bikeway 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 1A — At-grade shoulder widening project on the east side of Wallowa 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 to 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.

Modal 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 5-1. 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.

Also, ODOT is studying a bicycle path between Wallowa State Park and the City of Joseph. There is now a bicycle path on the shoulders of Highway 351 from Joseph to the Chief Joseph Monument.

Bike facilities on the urban sections of Wallowa County's roads are addressed in the city TSPs for those sections.

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.

PUBLIC TRANSPORTATION

Inventory

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 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 and supplies regularly scheduled service.

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 Mondays through Fridays bus service is available to the general public between Wallowa and 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 Department of Human Resources, 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. 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, but for those few, including senior citizens, a lack of adequate transportation is a serious problem.

The County has established a Public Transportation Advisory Committee.

Improvement Options

None

Modal Plan

No specific expansions of public transportation services are currently planned; however, The County will make every effort to encourage the continuance and improvement of schedules and service of privately owned and public transportation, including services provided by volunteer organizations for target groups of citizens.

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

Inventory

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.

The Idaho Northern Pacific Railroad (INP) had a freight line which traverses the county from Elgin (Union County) to Joseph. In 1997 INP abandoned the line. INP has not operated the line since then. Originally, the rails and bridges were in good condition, however, with the passage of time, the condition of the railroad bed and river crossings continues to deteriorate. Reestablishing freight service on the line remains a goal of the local jurisdictions. 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.

Oregon Parks and Recreation Department (OPRD) has obtained funding through the Transportation Efficiency Act of the 21st Century (TEA-21) to purchase the railroad right-of-way and preserve the rail corridor. Discussions among INP, ODOT, OPRD, local jurisdictions, and shippers concerning the future of the rail line and right-of-way are ongoing. Union Pacific retains sub-surface rights.

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 not violate any provisions of the Wallowa County Nez Perce Salmon Recovery Plan.

Improvement Options

Option #6 Work to Insure that the Idaho Northern Pacific and Union Pacific Railroad right-of-way is put to the highest and best use for the entire county

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, as a recreational trail, or use by adjoining property owners. It may be possible that the right-of-way could serve as both a linear utility corridor and as a non-motorized path. There is also interest in restoring freight service or establishing a "dinner train."

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 Board of Commissioners 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 & UP right-of-way has the potential to serve as a utility corridor for these two utility systems.

Conversion to a horse, hiking, and/or bike trail may be an option because it provides both recreational opportunities and a transportation system for non-motorized vehicles. However, public use of the right-of-way has not been embraced county-wide. Property owners along the right-of-way 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, difficulty in containing noxious weeds, the increasing cost of deferred maintenance on bridges, and possible negative effects on farm operations including fencing. Any recreation trail option would also need to comply with the provisions of the Wallowa County Nez Perce Salmon Recovery Plan.

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 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.

Efforts should be made to retain the right-of-way for utilities and as a possible recreational trail. The Transportation Planning Rule requires that jurisdictions protect right-of-ways for future operation of transportation corridors. A compromise might be to build a trail from Elgin, through the Minam Canyon to the vicinity of the town of Wallowa. The remainder of the right of way could be leased back to adjacent landowners, with utility easements intact.

This project, in some form, should be included in the plan. Efforts to implement this project will need to be coordinated with the county, the state, adjacent land owners and INP & UP.

Modal Plan

That the County pursue first, renewal of rail transportation into the County, second, retention of the rail right-of-way corridor intact for potential future uses, and finally, that the existing right of way be put to the highest and best use for the entire County, including consideration of easements or leases involving adjacent landowners.

AIR SERVICE

Inventory

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 commercial transport.

Both airports have just one runway and currently provide no commercial air service. There are commercial airports in Pendleton, Oregon, Lewiston Idaho and Walla Walla, Washington. Scheduled air service and daily nonstop flights are available from these airports to Portland and Seattle.

At Joseph State Airport the ODOT Aeronautics Section has 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 takeoffs 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. There is one Fixed Based Operator (FBO) that provides aviation fuel. 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 resurfaced 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 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 Road 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 some localities, uses have been allowed around airports that are not compatible with air traffic. There are ordinances found within the Wallowa County Comprehensive Land Use Plan which govern the permitted uses in lands within the flight patterns of the airports, and these ordinances are included within the Wallowa County TSP by reference.

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.

Improvement Options

None

Modal Plan

Efforts should be made by the County to retain or expand its air service. State and local municipalities should be encouraged to improve and maintain airport facilities. Additionally, to assure future land uses are compatible with continued operation of airports, the function of existing or planned general use airports shall be protected through the application of appropriate land use designations and ordinances on lands affected. The County has adopted an Airport Overlay zone and may adopt an Airport Zone.

Wallowa County may pursue the acquisition of the Joseph State airport if beneficial to the county.

PIPELINE SERVICE

Inventory

There are currently no pipelines serving Wallowa County. Interest has been expressed in extending a natural gas line from Elgin to Wallowa County.

Improvement Options

None.

Modal Plan

Retain the INP and UP railroad right of way as a possible route for a natural gas pipeline.

WATER TRANSPORTATION

Inventory

Wallowa County has no waterborne transportation services except for mail and passenger service on the Snake River. Wallowa Lake, local rivers and the Snake River provide recreational boating opportunities.

Improvement Options

None.

Modal Plan

Insure that current waterborne transportation services are maintained.

SUMMARY OF PROJECTS

TABLE 7-6

RECOMMENDED ROADWAY SYSTEM PROJECTS

Project	Estimated Cost
1998-2001 STIP Projects	
Highway 82 (Rock Creek to Spring Creek) Preservation	$1,137,000
Hwy 82/Hwy 351 (Spring Creek to Wallowa Lake Lodge Rd) Preservation	$1,965,000
Hwy 82 - Wallowa Lake Hwy Rockfall	$876,000
Imnaha River (Lower Imnaha Road) - Bridge replacements	$417,000
Trout Creek (Golf Coarse Road) Bridge replacement	$328,000
Wallowa River (Bailey Lane) Bridge replacement	$234,000
State Highway Roadway Projects	
Highway 82 passing lane between Minam and Wallowa	$2,640,000

Highway 82 passing lane between Wallowa and Lostine	$2,750,000
Highway 82 passing lane between Lostine and Enterprise	$2,640,000
Highway 82 passing lane between Enterprise and Joseph	$2,640,000
Highway 82 shoulder widening (11 miles)	$9,680,000
Highway 82 Scenic Turnouts (three)	$3300,000
Highway 82 Minam Grade Phase II	$7,700,000
State Highway Bridge Projects	
Hwy 82 over the Lostine River (MP 54.11)	$476,800
Hwy 3 over Two Mile Creek (MP 3.90)	$88,000
County Roadway Projects	
Diamond Prairie Road - Oil and rebuild	$19,400
Dougherty Loop Road - Oil and rebuild	$20,500
Rancho Road - Oil and rebuild	$75,200
Allen Canyon Loop Road - Oil and rebuild	$64,900
Upper Imnaha River Road — Road Improvements (MP 12.8 - 24.0)[1]	$3,100,000
Crow Creek Road — 10 miles of chip seal surfacing	$100,000
Zumwalt Road — reconstruction/resurfacing	$5,200,000
County Road Bridge Projects	
CR#515 (Bear Creek Road) over Bear Creek (MP 3.0) south of Hwy 82	$622,000
CR #570 (Dorrence Lane) over the Wallowa River (MP 0.9) west of Highway 82	$547,000
CR #B631 over the Grande Ronde River (MP 15.15) west of Highway 3	$2,821,000
CR #B642 (Imnaha Road) over the Imnaha River (MP 19.27) south of Imnaha	$1,033,000
CR #B642 (Imnaha Road) over the Imnaha River (MP 21.08) south of Imnaha	$1,126,000
CR #735 over the Imnaha River (MP 35.00) northeast of Junction FAP 7	$697,000
CR #509 over the Wallowa River (MP 0.12) near Highway 82	$482,000
CR #534 (Evans Leap Road) over the Wallowa River (MP 0.25) east of Jim Town	$313,000
CR #551 (Lostine River Road) over the Lostine River (MP 0.00) south of Highway 82	$358,000
CR #572 (Egglesson Road) over the Wallowa River (MP 1.00) west of Highway 82	$230,000
CR #572 (Egglesson Road) over the Wallowa River (MP 1.08) west of Highway 82	$236,000
CR #B642 (Imnaha Road) over Grouse Creek (MP 18.41) south of Highway 350	$181,000
CR #676 (Camp Creek Road) over Trail Creek (MP 1.69) west of Highway 350	$130,000
CR #784 (Hersel Jones Road) over the Lostine River (MP 0.00) south of Highway 82	$240,000
CR # Frontage Road over Bear Creek (MP 0.04) west of Highway 82	$345,000
CR #1000 (Campground Road) over the Wallowa River (MP 0.10) south of Wallowa Lake	$187,000
Total for STIP Projects	$4,957,000
Total for State Highways	$31,914,800
Total for County Roads	$18,128,,000
Total for US Forest Service Roads	0
Total	$54,999,800

CHAPTER 8: FUNDING OPTIONS AND FINANCIAL PLAN

The Transportation Planning Rule requires Transportation System Plans to evaluate the funding environment for recommended improvements. This evaluation must include a listing of all recommended improvements, estimated costs to implement those improvements, 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 ROAD IMPROVEMENT FUNDING SOURCES

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

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

TABLE 8-1
SOURCES OF ROAD REVENUES BY JURISDICTION LEVEL

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

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.

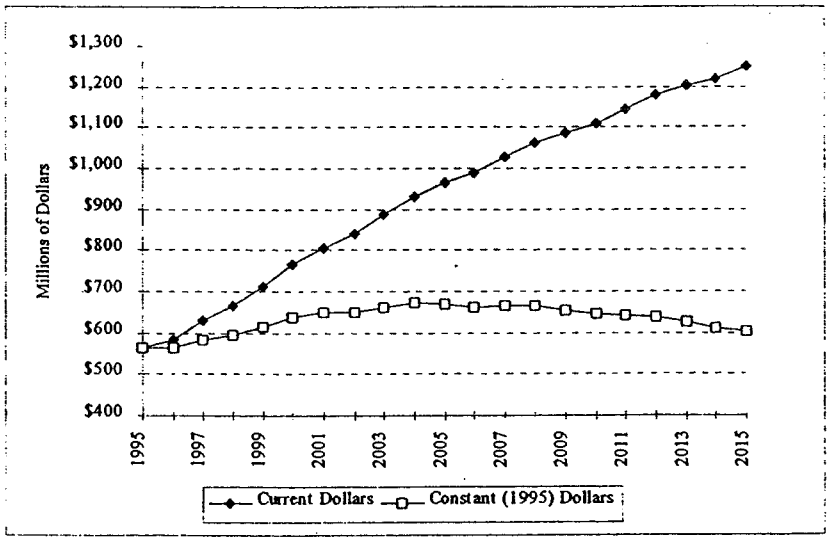
Transportation Revenue Outlook

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 road and road construction and maintenance. In Oregon, the state collects gas taxes, vehicle registration fees, overweight/overheight fines and weight/mile taxes and returns a portion of the revenues to cities and counties through an allocation formula. 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 road 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 road-related improvements and maintenance within the jurisdiction. At present, only a few local governments (including the cities of Woodburn and The Dalles, and Multnomah and Washington Counties) levy a local gas tax. 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 road construction and maintenance.

Local Improvement Districts

The Oregon Revised Statutes allow local governments to form Local Improvement Districts (LIDs) to construct public improvements. LIDs are most often used by counties to construct localized projects such as roads, 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 roads. 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 $3,000,000 for fiscal year 2001 and $1,000,000 thereafter 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 that

  A. influence locations or retention of firms providing primary employment or

  B. revitalize business or industrial centers where the investment is not speculative;

The maximum amount of any grant under the program is $500,000 for Type A or $250,000 for Type B. A 50% match from public or private sources is required. 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. Cities and counties apply through the Oregon Economic and Development Department and can apply as the need warrants within the annual funding limits.

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 that 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. The projects must be situated within a road, road or highway right-of-way. Project types include road crossings, intersection improvements, and minor widening for bike lanes.

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 for a three-year funding cycle, is updated on an annual basis. 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 the Federal Transportation Equity Act for the 21st Century. The STIP must fulfill 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.

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

An ODOT funding technique that will likely have future application to 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 or reduce the number of access points for future development along the state highway.

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, System Development Charges (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, 47 and 50. Although new bonds must be specifically voter approved, Measure 47 and 50 provisions are not applicable to outstanding bonds, unissued voter-approved bonds, or refunding bonds.

Limited Tax Bonds

Limited tax general obligation bonds (LTGOs) are similar to general obligation bonds in that they represent an obligation of the 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 50.

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, 47 and 50. As a result, since 1991, Bancroft bonds have not been used by jurisdictions which were required to compress their tax rates.

ARTICLE 32

ROAD STANDARDS

SECTION 32.010, PURPOSE: The purpose of this article is to manage access to land development while preserving the flow of traffic in terms of safety, capacity, functional classification, and level of service. This article shall also provide specifications and standards required when constructing, maintaining or improving roads. All road improvements shall be governed by the standards and specifications set forth by this article, which are consistent with the Wallowa County Transportation System Plan. However, this article applies only to roads constructed or substantially improved after the date of its adoption.

Except for Section 32.015, Wallowa County/Nez Perce Salmon Habitat Recovery Plan, the following are exempt from the requirements of this article:

01. Roads, driveways, trails, cat roads, stock driveways, and other non-conforming access features existing prior to the adoption date of this article,

02. Driveway and private road improvements not resulting in an increased traffic flow of 10% or greater;

03. Driveways less than 100 ft. in length;

04. Roads built to the standards of the Forest Practices Act for purposes of forest practices as per Article 16, Timber/Grazing and Article 27 Timber/Commercial; and

05. Roads built for farm uses as defined in Article 1, Introductory Provisions.

32.015, WALLOWA COUNTY/NEZ PERCE SALMON HABITAT RECOVERY PLAN: Any road that is constructed or substantially improved and is subject to review for erosion or other adverse impacts to watershed and habitat prior to development, shall be found to conform to the provisions of the Wallowa County/Nez Perce Salmon Habitat Recovery Plan, and Article 36, Salmon Habitat Restoration, WCLDO.

***

SECTION 32.020, DEFINITIONS: In addition to definitions listed in Article 1, 1.065, the following definitions shall apply to this Article. In the event of a conflict, the definitions in this article shall apply. Unless specifically defined, words or phrases used in this article shall be interpreted so as to give them the meaning they have in common usage and to give this article its most reasonable application.

Access: The place, means, or way by which pedestrians, bicycles, vehicles, or other lawful means of transportation shall have ingress or egress to a property or use.

Access Classification: A ranking system for roadways used to determine the appropriate degree of access management. Factors include functional classification, the local government's adopted plan for the roadway, subdivision of abutting properties, and existing level of access control.

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

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

Accessway: A walkway that provides pedestrian and/or bicycle passage between streets or from a street to a building or other destination such as a school, park, or transit stop.

Bikeway: Any road, path, or way that is in some manner specifically open to bicycle travel. Bikeways may be shared with other transportation modes.

Corner Clearance: The distance from an intersection of a public or private road to the nearest access connection, measured from the closest edge of the pavement of the intersecting road to the closest edge of the pavement of the connection along the traveled way.

Corner Lot: Any lot having at least two contiguous sides abutting upon one or more streets, providing that the two sides intersect at an angle of less than 135 degrees.

Cross Access: A service drive providing vehicular access between

two or more contiguous sites so the vehicle need not enter the street system.

Cul-de-sac: A minor public road, serving more than two lots or parcels, having only one outlet for vehicular traffic with a turn around at the opposite end, which is not intended to be extended or continued to serve future subdivision or development on adjacent lands.

Driveway: A privately owned and maintained road which provides access from the edge of a property to a dwelling or other building within that property.

Easement: A grant of the right of the public, a person, or an entity to use the property of another for a specific purpose. An easement may be appurtenant or in gross.

Flag Lot: A lot—where the frontage width is equal to or less than the minimum frontage requirement, but in no case is less than 30 feet and where access to the public road is by a narrow, private right-of-way,.

Frontage Road: A public or private drive which generally parallels a public street between the right-of-way and the front building setback line. (See also Service Roads)

Functional Area (Intersection): That area beyond the physical intersection of two roads that comprises decision and maneuver distance, plus any required vehicle storage length.

Functional Classification: A system used to group public roadways into classes according to their purpose in moving vehicles and providing access.

Half Street: A street having only a portion of its width provided in one property with the remainder of its width to be provided from adjacent property.

Joint (or Shared) Access: A driveway connecting two or more contiguous parcels or lots to the public street system.

Lot: A parcel, or area of land, legally established and recognized, which has frontage upon a public or private street and complies with the dimensional requirements of the WCLDO. Normally within a subdivision.

Lot Depth: The average distance from the front lot line to the rear lot line.

Lot Frontage: That portion of a lot extending along a street right-of-way line.

Nonconforming Access Features: Features of the property access that existed prior to the date of adoption of this article and which do not conform with its requirements.

Parcel: A unit or area of land, legally established and recognized, which was created by partitioning land and which complies with the dimensional requirements of the Wallowa County Land Development Ordinance (WCLDO). Normally not within a subdivision.

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

Plat: A final map, diagram, drawing replat, or other writing containing all descriptions, locations, specifications, dedications, provisions, and information concerning a subdivision as specified by the WCLDO.

Private Road: The entire right-of-way of any roadway for vehicular or other legal means of travel which is privately owned and maintained and which provides the principle means of access to abutting parcels or lots. A private road does not provide for continuous unrestricted public access, unless the road is dedicated to provide public access. Easements may provide specific access rights.

Public Road: A road under the jurisdiction of a public body that provides the principle means of access to abutting properties.

Reasonable Access: The minimum number of access connections, direct or indirect, necessary to provide safe access to and from the roadway.

Right-of-Way: The land between the boundary lines of a highway, street, road, alley, walkway, drainage facility, easement, or other transportation facility.

Rural Road: Any road which is outside urban growth boundaries and subdivisions.

Significant Change in Trip generation: A change in the use of a property, including land, structures or facilities, or an expansion of the size of the structures or facilities causing an increase in the trip generation of the property exceeding: (1)County - 10% more trip generation (either peak or daily) and 100 vehicles per day more than the existing use for all roads under County jurisdiction; or (2) State - exceeding 25% more trip generation (either peak or daily) and 100 vehicles per day more than the existing use for all roads under state jurisdiction.

Stub Out: (Sub-street or Stubbed Street) A portion of a street or cross access drive having only one outlet for traffic, used as an extension to an abutting property that may be developed in the future.

Substantially Improved or Extended: A 20% increase in existing square footage, a relocation, an upgrade in classification or capacity, or a change in the design function of a road, except for improvements to existing driveways.

Taper Length: The distance along a road where the road expands out to or contracts from a turnout.

Through Lot: (double frontage lot) A lot that fronts upon two parallel streets or that fronts upon two streets that do not intersect at the boundaries of the lots.

Transportation Provider: A provider of public transportation, including the provider of the roadway itself. May also include but is not limited to the operators of: buses, taxis, or vans.

SECTION 32.025, PERMITTED USES: Except where otherwise specifically regulated by this article, the following improvements are permitted uses, requiring a permit to be issued prior to the activity permitted, and shall conform to Section 32.015:

01. Installation of culverts, pathways, medians, fencing, guardrails, lighting, and similar types of improvements within the existing ODOT right-of-way, subject to ministerial review.

02. Projects specifically identified in the Transportation

System Plan as not requiring further land use regulation, subject to ministerial review.

03. 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, timber/grazing, or timber/commercial zones, subject to administrative review.

04. Construction of a street or road as part of an approved subdivision or land partition approved consistent with the applicable land division article, subject to ministerial review.

05. Exceptions to the permitting process, not requiring a permit, are: Normal operation, maintenance, repair, and preservation activities of existing transportation facilities and landscaping as part of a transportation facility.

06. Emergency measures necessary for the safety and protection of property also do not require a permit, but shall be coordinated, when reasonable and appropriate, with the Wallowa County Road Department, and the Wallowa County Planning Department.

SECTION 32.030, USES PERMITTED CONDITIONALLY: All uses shall conform to Section 32.015.

01. 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 may be reviewed and used as documentation for findings to comply with all the following criteria:

A. The project is designed to be compatible with existing land use and social patterns, including noise generation, safety, and zoning.

B. The project is designed to minimize avoidable environmental impacts to the following identified resources: wetlands, wildlife habitat, air and water quality, cultural, and scenic.

C. The project preserves or improves the safety and function of the facility through access management, traffic calming, or other design features.

D. The project includes provision for bicycle and pedestrian circulation as consistent with the comprehensive plan and other requirements of this article.

02. Construction of rest areas, weigh stations, temporary storage, and processing sites.

03. 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.

04. Uses conditionally permitted in Article 15, Exclusive Farm Use, Section 15.020 (26)-(29) and Article 16, Timber / Grazing, Section 16.020(23)-(26).

SECTION 32.035, REVIEW PROCEDURE:

01. Work shall not commence until plans have been reviewed for adequacy and approved by the review authority. As part of the review, affected transportation providers shall be notified and given appropriate time to review and respond to the proposal.

02. Road improvements shall be completed in accordance with the specifications and standards as set forth in this article, which are consistent with the Wallowa County Transportation System Plan.

03. Once roads have been completed to standards as set forth in this article and are approved by the review authority, they are to be offered to the Wallowa County Board of Commissioners for approval as a public road. A public road may or may not be maintained by the County (see paragraph 04,below).

04. The Wallowa County Board of Commissioners may, upon recommendation of the road master, accept the road as a County maintained road. Acceptance as a County maintained road must be requested in addition to the normal subdivision or partition procedures, and such acceptance cannot be construed from approval of a subdivision or partition plat. The petitioning for acceptance process, separate from the approval of a subdivision or partition, must be initiated by the subdivider. Maintenance of County

roads within the County road maintenance system shall conform to the County road maintenance plan.

05. The review authority may require road improvements to existing roads when deemed necessary to accomplish the purpose and intent of standards as set forth in this article.

SECTION 32.040, REVIEW CRITERIA: The following are specifications and standards for construction of new roads and substantial improvements to existing roads.

01. **GENERAL:** The location, width, and grade of roads shall be considered in their relation to existing and planned roads, topographical conditions, public convenience, maintenance costs and safety, and the proposed use of the land to be served by the road.

02. **ALIGNMENT:** As far as practical, roads shall be in alignment with existing roads by continuations of center lines thereof. Staggered road alignment resulting in T intersections shall, whenever practical, leave a minimum distance between the center lines of roads having approximately the same direction, as determined by the spacing standards in the adopted TSP, Chapter 7.

03. **EXISTING ROADS:** Whenever existing roads adjacent to or within a tract are of substandard width, additional right-of-way shall be provided at the time of the subdivision or partition in accordance with the standards prescribed in this article.

04. **FUTURE EXTENSION OF ROADS:** Where necessary to give access to or permit a satisfactory future subdivision of adjoining lands, roads shall be extended to the boundary of the subdivision, and the resulting dead end roads must be provided with cul-de-sacs.

05. **CUL-DE-SACS:** Cul-de-sacs shall not have a length of more than 600 feet and shall terminate with a turn around with a radius of not less than 40 feet, to be increased to 50 feet with on street parking. The maximum grade for a cul-de-sac turn around shall be 4%. Cul-de-sacs may be used as part of a development plan; however, through streets are encouraged except where topographical, environmental, or adjacent land use constraints make connecting streets not feasible.

06. **ACCESSWAYS:** Where required, accessways for pedestrians and bicyclists shall be 10 feet wide and located within a 14

foot wide right-of-way or easement. Rights-of-way or easements may be reduced in width to a minimum of 12 ft via the Variance procedure. Accessway width may be appropriately increased by the review authority if necessary to accommodate equestrian use. Accessways for pedestrians and bicyclists shall be provided at mid-block where the block is longer than 600 feet.

Where cul-de-sacs are planned, the review authority may require that accessways be provided to connect the ends of cul-de-sacs to each other, to other streets, or to neighborhood activity centers.

The Review Authority may determine, based upon evidence in the record, that an accessway is impracticable. Such evidence may include but is not limited to:

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

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

07. **HALF-STREETS:** Half streets proposed adjacent and parallel to the boundary line of the subdivision or partition, while generally not acceptable, may be approved where essential to the reasonable development of the subdivision or partition when in conformity with other requirements of this article and when the review authority finds it will be practical to require the dedication and improvement of the other half streets when the adjoining property is subdivided. Half streets shall not be permitted where lots would front on such streets. Where half streets are provided, a performance bond may be required to insure full improvements at such time as the remaining half street on adjacent property is dedicated and improved. Whenever an existing half street is adjacent and parallel to the boundary line of a proposed subdivision or partition, the subdivider or partitioner shall dedicate and improve such

additional right-of-way as may be necessary to meet the standards prescribed in this article for the type of street involved.

08. **STREET NAMES:** Except for continuations of existing streets, street names shall conform to Wallowa County Road Naming and Rural Addressing Ordinance 90-001.

09. **PRIVATE ROADS:** Any road that is to be constructed for access serving a partition or subdivision shall at a minimum, meet the applicable road standards of this article and may be required by the review authority to provide public access.

The review authority may allow non-dedicated private roads, built to the applicable road standards, where it has been determined:

A. The private road would not violate the provisions of the land use plan and land development ordinances.

B. There are no needs for public right-of-way acquisition in the area, either now or in the future.

10. **DRIVEWAY AND PRIVATE ROAD STANDARDS:**

Some private roads and driveways are exempt from the standards of this article (see section 32.010). Private roads and driveways not exempted from this article shall be 14 ft wide with 3 ft shoulders on either side and shall meet the standards of Table 1, Road Standards.

However, the review authority may allow a lesser width, down to 12 ft, with turnouts or other mitigation to be determined. For example, where a 14 ft width with shoulders is not feasible, a segment of road 12 ft wide without shoulders might be allowed provided that a turnout is provided at either end of the segment or within line of sight, whichever is shorter.

In addition:

A. For private roads and driveways greater than 100 ft. in length, a turning radius of 30 ft. shall be at the terminus of the driveway in the vicinity of the dwelling (this assumes parking in the turn around). "T", "Y", or Hammerhead turnarounds may also be used, but they must meet width and load standards, have a minimum connecting radius of 25 ft., and be at least 30 ft. in total length. See attached illustration of alternative turnarounds.

D. Where required, Turnouts shall be large enough to accommodate emergency equipment (be 12 ft wide and meet load standards, have a minimum taper length of 25 ft., and be at least 100 ft. long, including tapers).

11. **ROAD DESIGN STANDARDS:** Standards are delineated in Table 1, "ROAD STANDARDS." State highways must meet State and County standards as shown in the adopted TSP.

SECTION 32.045 ACCESS MANAGEMENT:

01. General

The intent of this section is to manage access to land development to preserve the transportation system in terms of safety, capacity, and function. This section shall apply to all arterials and collectors within Wallowa County and to all properties that abut these roadways and is adopted to implement the access management policies of Wallowa County as set forth in its Transportation System Plan.

02. Corner Clearance

A. Corner clearance for connections shall meet or exceed the minimum connection spacing requirements for that roadway found in the adopted TSP.

B. New connections shall not be permitted within the functional area of an intersection or interchange as defined by the connection spacing standards of the adopted TSP, unless no other reasonable access to the property is available.

C. 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 and signage (i.e,. right in/out, right in only, or right out only) may be required.

03. Joint and Cross Access

A. 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, without entering the street system.

B. A system of joint use driveways and cross access easements shall be established wherever feasible and shall incorporate the following:

1. 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.

2. 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;

3. Stub-outs and other design features to make it visually obvious that the abutting properties are cross accessed via a service drive;

4. A unified access and circulation system plan for coordinated or shared parking areas is encouraged.

5. Shared parking areas shall permit a reduction in required parking spaces if peak demands will not occur during the same time periods.

C. Pursuant to this section, property owners shall:

1. 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 drives;

2. 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;

3. Record a joint maintenance agreement with the deed defining maintenance responsibilities of property owners.

E. The County may reduce required separation distance of access points where they prove impractical, provided all of the following requirements are met:

1. Joint access driveways and cross access easements are provided in accordance with this section.

***

2. The site plan incorporates a unified access and circulation system in accordance with this section.

3. 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.

F. 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.

04. Access Connection and Driveway Design

A. Except where exempted (see section 32.010), driveways shall meet the design standards in Section 32.040(10).

B. 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.

C. The minimum 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.

05. Requirements for Phased Development Plans

A. 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 article. 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. The owner and all lessees within the affected area are responsible for compliance with the requirements of this article.

***

B. 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.

06. Nonconforming Access Features

A. Legal access connections in place, as of the date of adoption of this article, 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:

1. When new access connection permits are requested;

2. The connection causes a significant change in trip generation.

07. Reverse Frontage (Through Lots)

A. A through lot shall be required to locate motor vehicle accesses on the road with the lower functional classification.

B. 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.

08. Flag Lot Standards

A. 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.

B. 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:

1. Flag lot driveways shall be separated from each other by at least twice the minimum frontage requirement of that zoning district.
2. The flag lot driveway shall meet the design standards of Section 32.040(10).
3. 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, whichever is greater.
4. The review authority shall determine if the lot area occupied by the flag driveway shall be counted as part of the required minimum lot area of that zoning district.
5. The review authority shall determine if more than one flag lot shall be permitted per private right-of-way or access easement.

09. Lot Width-to-Depth Ratios

A. To provide for proper site design and prevent the creation of irregularly shaped parcels, parcels shall be located and laid out to properly relate to adjoining or nearby lots or parcel lines, utilities, streets, or other existing planned facilities, unless there are existing topographical, environmental or man made constraints.

10. Shared Access

A. Subdivisions with frontage on the state highway system shall be designed to share 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.

B. New direct access from State highways to individual one and two family dwellings shall require ODOT approval and conform to spacing standards from the adopted TSP.

11. Connectivity

A. 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.

B. Wherever a proposed development abuts unplatted land or a future development phase of the same development, road stubs, meeting the standards of Section 32.040(11), 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 Wallowa County Road Department, and the restoration and extension of the road shall be the responsibility of any future developer of the abutting land.

C. 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.

SECTION 32.050, VARIANCES:

01. Variances shall be processed in accordance with Article 10, Variance Procedure.
02. Applicants for a variance from access standards shall include proof that:

A. Indirect or restricted access cannot be obtained;

B. No reasonable 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.

WALLOWA COUNTY PLANNING DEPARTMENT

Wallowa County Courthouse
101 South River St., Room B-1
Enterprise, OR 97828
541-426-4543 ext 24, Fax 541-426-6046, planning@oregonvos.net

Chrystal Jones
Planning Department Secretary

July 10, 2001

Doug White
DLCD
635 Capitol St. NE, Suite 200
Salem, OR 97301

Dear Doug,

Enclosed please find attachments for the Article 32 Road Standards which are part of the Periodic Review Task 1 documents adopted by the Wallowa County Board of Commissioners on July 2, 2001.

Unfortunately, after I sent you Article 32, I realized the Driveway and Private Road Standard Turnarounds/Landings, Table 1 Road Standards, and Table 1 Road Standards notes were not in the packet.

I apologize for any inconvenience this has caused.

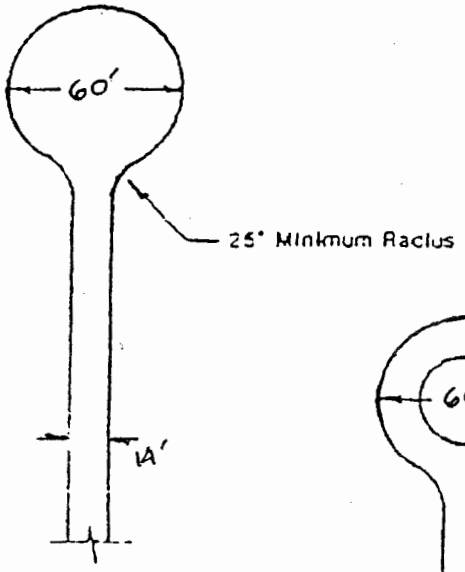
Sincerely,

Chrystal Jones

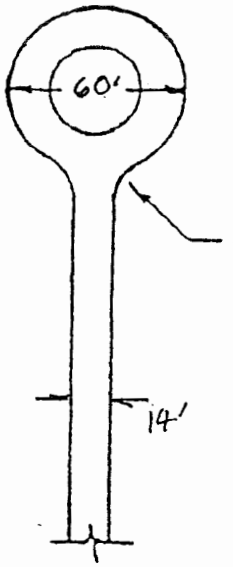
Chrystal Jones

cc: Bill Oliver, Planning Director

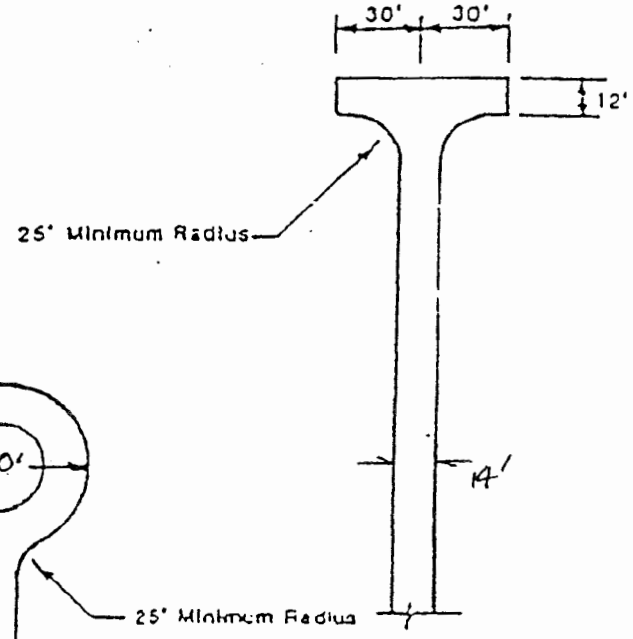
DRIVEWAY AND PRIVATE ROAD
STANDARD TURNAROUNDS/LANDING



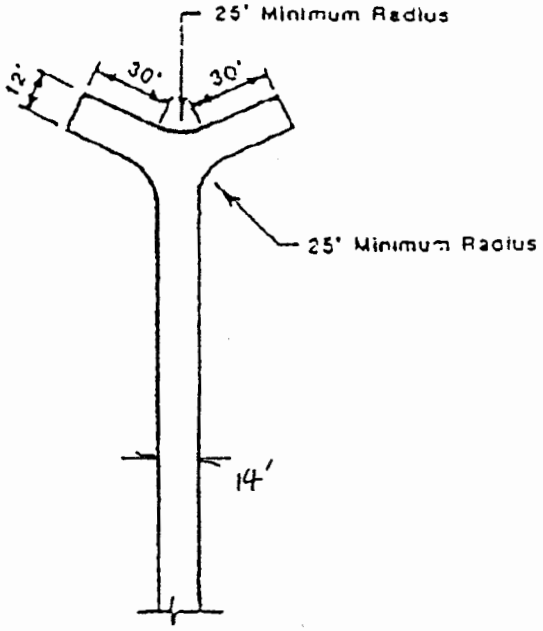
OPEN CIRCULAR



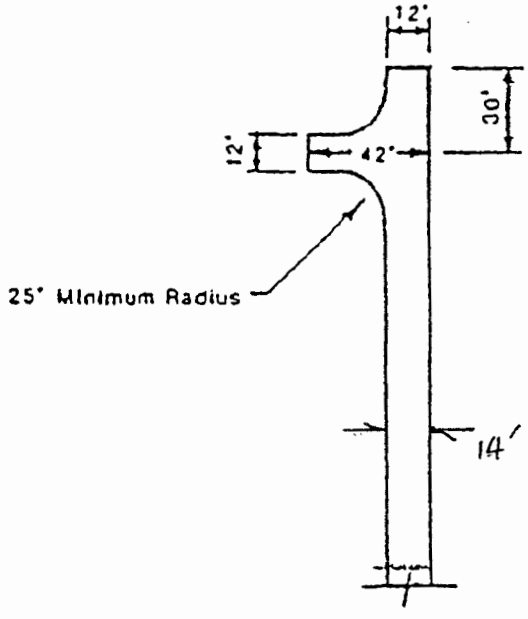
CIRCULAR



HAMMERHEAD



"Y" TURNAROUND



"T" TURNAROUND

Table 1
ROAD STANDARDS

ROAD TYPE	GRADE	RIGHT-OF-WAY	MIN SURFACE WIDTH	SHOULDERS	ROAD WIDTH INCLUDING SHOULDERS	RADIUS OF CURVATURE	LOAD CAPACITY	BASE	SURFACING
								SEE NOTE 1	
PAVED ROADS									
ARTERIAL & FRONTAGE	MAX. 8%	MIN. 60'	24'	6-8'	36-40'	SEE NOTE 2	60K LBS	PIT RUN MIN. 6" COMPACTED	0.75 " MINUS CRUSHED ROCK MIN. 4" COMPACTED
COLLECTOR	MAX. 10%	MIN. 60'	24'	4-8'	32-40'	SEE NOTE 2	60K LBS	PIT RUN MIN. 6" COMPACTED	0.75 " MINUS CRUSHED ROCK MIN. 4" COMPACTED
PRIVATE, LOCAL PUBLIC	MAX. 12%	MIN. 30' SEE NOTE 4	20'	3'	26'	SEE NOTE 2	60K LBS	PIT RUN	0.75 " MINUS
DRIVEWAYS & CUL-DE-SAC	MAX. 4%		14'	3'	20'	MIN 30' RADIUS TURNAROUND MIN 40' RADIUS TURNAROUND		MIN. 6" COMPACTED	CRUSHED ROCK MIN. 4" COMPACTED
GRAVEL ROADS									
PRIVATE, LOCAL PUBLIC	MAX. 12%	MIN. 30' SEE NOTE 4	14' SEE NOTE 3	3'	20'	SEE NOTE 2	60K LBS	PIT RUN	0.75 " MINUS
DRIVEWAYS & CUL-DE-SAC	MAX. 4%					MIN 30' RADIUS TURNAROUND MIN 40' RADIUS TURNAROUND		MIN. 6" COMPACTED	CRUSHED ROCK MIN. 4" COMPACTED
NATIVE ROADS									
PRIVATE, LOCAL PUBLIC	MAX. 12%	MIN. 30' SEE NOTE 4	14' SEE NOTE 3	3'	20'	SEE NOTE 2	60K LBS		
DRIVEWAYS & CUL-DE-SAC	MAX. 4%					MIN 30' RADIUS TURNAROUND MIN 40' RADIUS TURNAROUND			

Table 1
ROAD STANDARDS

NOTES

SUB-GRADE: Sub-grade shall be uniform and of sufficient width to provide adequate drainage of the road. Selected material shall be used when possible and all unstable material shall be removed and wasted outside of the fill.

DRAINAGE: Adequate to prevent erosion of road, maintain integrity of road, eliminate ponding, and prevent damage/siltation to adjoining property and water courses. Plans subject to WCNRTAC review.

NOTE 1, LOAD CAPACITY: The standards for maximum load capacity are to facilitate occasional use by fire fighting equipment. Minimum base and surfacing requirements may not be sufficient or may not be necessary in the case of "native" rocked roads. The load carrying capacity must meet 60,000 lbs. in any weather condition.

NOTE 2, RADIUS OF CURVATURE: For roads, see "A Policy on Geometric Design of Highways and Streets (2001)," American Association of State Highway and Transportation Officials, ISBN 1-56051-001-3..

CUL-DE-SAC: Maximum grade is 4%, 50 FT minimum radius of curvature if street parking is allowed.

NOTE 3, PRIVATE ROADS & DRIVEWAYS: Minimum width allowed with a variance and mitigation is 12 FT.

SIDEWALKS: Sidewalks are not required outside urban growth boundaries and subdivisions..

NOTE 4, PRIVATE ROADS & DRIVEWAYS: A right-of-way is required for all roads except driveways. See section 32.010 for "driveway" exceptions.

SETBACKS: Development must meet the set back requirements of the zone, and must not encroach upon Clear Zone requirements as established by ODOT.

ARTICLE 31

SUBDIVISION PROCEDURES

SECTION 31.010, PURPOSE: The purpose of this article is to set forth the requirements and standards regulating the preliminary and final platting procedures for subdivisions. All subdivisions shall be governed by the standards and specifications set forth by this article, which are consistent with the Wallowa County Transportation System Plan. Subdivisions may be allowed where consistent with the Wallowa County Comprehensive Land Use Plan and Land Development Ordinance Articles.

SECTION 31.015, DEFINITIONS: In addition to the definitions listed in Article 1, 1.065, the definitions for this article shall be those shown in Article 32, Road Standards, Section 32.015.

SECTION 31.020, REVIEW PROCEDURE: Application for the review of a subdivision shall be subject to the Public Hearing process.

SECTION 31.025, PRELIMINARY PLAT INFORMATION:

01. It shall be the applicant's responsibility to provide the following information on the preliminary plat. A minimum of 10 copies shall be submitted (7 for the Planning Commission, 1 for the Planning Department, 1 for ODOT, and 1 for the public).

General Information

A. Proposed name of subdivision.

B. North point, scale, date of the completed drawing, approximate acreage, and boundary lines.

C. Appropriate identification clearly stating the map is a preliminary plat.

D. Location of the subdivision by Township, Range, Section, Tax Lot or Lots, or other means sufficient to

define the location and boundaries of the proposed subdivision.

E. Names, addresses, phone numbers, and zip codes of all owners, subdividers, engineers, or surveyors responsible for laying out the subdivision.

F. Location, acreage, and dimensions of all lots and the proposed lot numbers.

G. Location, acreage, and dimensions of areas proposed for public use.

H. Sites, if any, allocated for a purpose other than single-family dwellings.

I. Location and direction of all water courses and/or bodies of water and the location of all areas subject to flooding.

J. Additional information as the Planning Director deems appropriate.

Roadway Information

K. All subdivisions that include road and street improvements shall provide the nature and findings regarding the desired improvements, and give notice to each transportation facility provider.

L. All proposed road improvements should conform to this Article and Article 32, Road Standards. The Preliminary Plat shall also show:

a. Location of proposed and existing access point(s) on both sides of the road where applicable.

b. Distances to neighboring access points, intersections and other transportation features on both sides of the property, and across roads being accessed.

c. Number and direction of lanes to be constructed on the driveway and striping plans.

d. All planned transportation features.

e. Parking and internal circulation plans including walkways and bikeways.

f. A detailed description of any requested variance and the reasons the variance is requested.

M. 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 affected transportation provider(s).

N. 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.

O. Existing locations, widths, and names of both opened and unopened roads within or adjacent to the subdivision together with easements or rights-of-way and other important features, such as: section lines, corners, city boundary lines, and monuments.

P. Location, width, name, approximate grade, and radius of curves of all proposed roads and the relationship of such roads to any projected or existing roads adjoining the proposed subdivision. If direct access to a state highway is proposed, access must be provided in a manner consistent within the access management provisions of the Transportation System

Plan and existing ODOT standards.

Q. Location, width, and purpose of proposed easements of road access and private roads for private use where permitted; and all reservations or restrictions relating to such easements and private roads for private use where permitted; and all reservations or restrictions relating to such easements and private roads.

R. Notations indicating any limitations on right-of-access to or from roads and lots or other parcels of land proposed by the developer.

Pedestrian and Bicycle Information

S. A plan for bicycle and pedestrian facilities and improvements within the subdivision, including access ways as necessary to provide connectivity throughout subdivision. The tentative plan shall demonstrate how the subdivision's internal pedestrian and bikeway system provides safe and convenient connections to the surrounding transportation system.

Utility Information

T. Location of all underground utility lines. Utility service lines such as electric, cable TV, and phone shall be placed underground unless evidence satisfactory to the review authority is presented that underground placement is not feasible.

U. An acceptable and approved method of sewage disposal for each of the proposed lots which meets the rules and regulations of the Environmental Quality Commission of the State of Oregon as administered by the Department of Environmental Quality or its contract agent.

V. An adequate and approved method of potable water supply. And, a sufficient supply of water for firefighting, including fire hydrants to be spaced at intervals not greater than 400 feet.

02. The following information shall accompany the preliminary plat.

A. The nature and type of improvements proposed for the subdivision and a timetable for their installation.

B. Subdividers shall provide a list of any proposed restrictive covenants.

C. Proposed plan for draining surface water, including location and type of drainage ways to carry surface water from the development without adversely affecting adjacent properties.

SECTION 31.030, REVIEW CRITERIA:

01. In reviewing preliminary plats all of the following criteria shall be met prior to approval.

A. All of the required information pursuant to Section 31.020 shall be found to be included with the request.

B. All of the proposed lots must conform to the minimum standards for lot designs as set out in the respective zones.

C. The preliminary plat complies with all applicable Wallowa County Ordinances including the purposes and intent of this article.

D. The road design meets the required road standards as found in the Wallowa County Transportation System Plan and Article 32, Road Design, and if a bond is required to be posted; the subdivider has so agreed, in writing, to post such a bond. Additional access criteria are:

1. If any lot abuts a street right-of-way that does not conform to the design specifications of this article, the owner may be required to dedicate all of the total right-of-way width required.

2. All proposed road shall follow the natural topography and preserve natural features of the site where possible and practical. Alignments shall be planned to minimize grading/fills.

3. An internal accessway system of sidewalks or paths shall provide continuous connections to parking areas, entrances to the development, open space, and recreational and community facilities associated with the development. Sidewalks shall also connect with the peripheral street system and be adjacent to all residential properties.

D. Any application that involves the State Highway System shall be reviewed by the Oregon Department of Transportation for conformance with State access management standards.

E. Each lot has an approved method of sewage disposal in accordance with State requirements.

G. The subdivision is in the public interest and is not contrary to the public health, safety, and welfare.

H. Other requirements as deemed necessary by the review

authority.

I. Clustering of dwellings may be allowed by the review authority if an appropriate variance is obtained by the developer and open space is made available to mitigate overall dwelling density.

J. Variances shall be reviewed in accordance with Article 10, Variance Procedure. Specifically, variances for access shall be considered as Use Variances and the applicant shall provide proof that:

1. Indirect or restricted access cannot be obtained.

2. No engineering or construction solutions can be applied to mitigate the condition.

3. No alternative access is available from a street with a lower functional classification than the primary roadway.

02. In the event of conditional approval, the review authority may require the subdivider to file a map within 30 days of the date of approval showing the revised design as approved by the review authority.

SECTION 31.035, PRELIMINARY PLAT APPROVAL:

01. Preliminary plat approval shall be binding upon Wallowa County and the subdivider for the purpose of preparing the final plat provided the preliminary plat is not substantially changed after the approval unless the approval requires such changes, and the final plat complies with all conditions as set forth by the review authority. If substantial changes not mandated by the review authority are made on the final plat, the Wallowa County Planning Director may refer the proposal back to the review

authority for another public hearing. The review authority shall have the authority to revoke, revise, amend, or alter the prior approval, and shall have sole authority to determine whether a change is substantial.

02. The determination of the review authority shall become final twelve working days after the decision unless appealed pursuant to Article 7, Appeals.

03. Written notice of the decision rendered by the review authority shall be mailed within five working days of the date of decision to the applicant and to any person who has specifically requested such notification.

04. Approval of a preliminary plat shall be valid for twelve months from the effective date of approval. Unless an extension is granted for the filing of a final plat, approval of a preliminary plat shall be voided twelve months after the effective date of approval; and a new hearing shall be held on the proposal prior to the filing of a final plat.

05. Where a preliminary plat has been denied, no new application for the same purpose shall be filed within one year of the date of the previous denial unless the new application is substantially different from the previous application.

SECTION 31.040, EXTENSION OF TIME:

01. The Planning Director shall have the authority to grant one extension of up to twelve months of the preliminary plat approval.

02. A subdivider wishing to gain an extension shall file a written request setting forth the reasons why an extension should be granted. After receiving the written request from the subdivider, the Planning Director shall review the

facts presented and, upon those facts, may grant an extension of up to twelve months and establish any conditions necessary for the implementation of this article. The Planning Director shall have the sole authority to establish criteria for a decision.

03. The Wallowa County Board of Commissioners shall review all requests for extensions which exceed twelve months.

SECTION 31.045, SUBMISSION OF FINAL PLAT:

01. Within twelve months after the effective date of the preliminary plat approval or within such time set forth by the Wallowa County Planning Director or the Wallowa County Board of Commissioners per Section 31.035, the subdivider shall cause the subdivision to be surveyed and a final plat drawn in accord with the approved preliminary plat and any changes mandated by the review authority. The developer shall file with the Wallowa County Surveyor one complete set of original tracings, two complete sets of prints of the final plat or map, and one copy of the deed restrictions applicable to the subdivision.

02. **INFORMATION ON FINAL MAP:** The final map or plat shall include all information which is required on the preliminary plat plus the additional requirements set forth in this section.

03. **FORM OF FINAL PLAT:** The final plat shall be made in black India ink on 18 by 24 inch material suitable for copying and binding, as specified in ORS 92.080.

04. **MONUMENTATION:** All exterior boundary corners, street intersections, and interior lot or parcel corners shall be monumented as specified by ORS 92.060. The exterior boundary corners must be set prior to approval of the final plat, but post monumentation of street intersections and lot corners is permissible provided that the surveyor or engineer doing the survey certifies that the monumentation

will be done by a specified date and bond or cash deposit is made to this effect by the developer, as provided by ORS 92.070.

05. **SURVEY REQUIREMENTS:**

A. A complete and accurate survey of the land to be subdivided shall be made by an engineer or surveyor licensed to practice in the State of Oregon and in accordance with standard practices and principles of land surveying.

B. The traverse of the exterior boundaries of a subdivision plat and of each block and lot or parcel shall close within an accuracy such that the error of closure shall not exceed one foot in 4,000 feet.

06. **CERTIFICATES ON FINAL PLATS OR MAPS:** The following certificates and acknowledgments and others required by State Law shall appear on the final plat or map. Such certificates may be combined where appropriate.

A. A certificate of ownership, signed and acknowledged by the record owner and all parties owning an interest in the property, consenting to the preparation and recordation of the final plat or map; and offering for dedication all parcels of land, streets, alleys, pedestrian-ways, drainage channels, easements, and other rights-of-way intended for public use; and offering for dedication rights of access to and from prescribed streets, lots, and parcels of land.

B. A certificate of the registered engineer or licensed surveyor who prepared the survey and the final plat or map.

C. A certificate for execution by the chairman of the Wallowa County Planning Commission on behalf of the

Wallowa County Planning Commission.

D. A certificate for execution by the Wallowa County Surveyor.

E. A certificate for execution by the Wallowa County Tax Collector.

F. A certificate for execution by the Wallowa County Assessor.

G. A certificate for execution by the irrigation district where applicable.

H. A certificate for execution by the Wallowa County Board of Commissioners.

07. **DEDICATIONS AND PUBLIC UTILITY REQUIREMENTS:**

A. All lots and parcels shown on the final plat or map as intended for public use shall be offered for dedication for public use at the time the plat or map is filed except those lots or parcels which are intended for the exclusive use of land owners in the subdivision, their licensees, visitors, tenants, and servants.

B. All streets, pedestrian-ways, drainage channels, easements, and other rights-of-way shown on the final plat or map as intended for public use shall be offered for dedication for public use at the time the final plat or map is filed.

C. All rights of access to and from streets, lots, and parcels shown on the final plat or map intended to be surrendered shall be offered for dedication at the

time the final plat or map is filed.

D. Reserve strips across the end of stubbed streets shall be offered to Wallowa County for dedication for public use at the time the final plat or map is recorded.

08. **IMPROVEMENTS AGREEMENT:**

A. The subdivider shall improve - or agree to improve - all lands dedicated for streets, alleys, pedestrian-ways, drainage channels, easements, and other rights-of-way as a condition precedent to acceptance thereof and approval of the final plat or map subject to exceptions prescribed by Article 6, Design Review. Transportation system improvements shall be supported by appropriate documentation as proof of completing any required Traffic Impact Study, and ODOT Access Regulation. All such improvements shall be in conformance to that specification of design and materials as provided in the standard specifications found in this Article and Article 32, Road Standards, and by the Wallowa County Board of Commissioners. The subdivider shall give notice to the Wallowa County Road Department prior to commencement of construction of improvements. Wallowa County shall have the right to enter upon the sites of improvements for the purpose of inspecting them.

B. Prior to the approval by the Wallowa County Board of Commissioners of the final plat or map, the subdivider shall execute and file an agreement between himself and the Wallowa County Board of Commissioners specifying the period within which he/she or his/her agent or contractor shall complete all improvement work, and providing if he shall fail to complete such work within such period, Wallowa County shall call on the surety to complete the same. The agreement shall provide for inspection of all improvements by the Wallowa County Board of Commissioners. Such agreement may provide:

1. For the construction of the improvements in unit.

2. For an extension of time under conditions therein specified.

3. For progress payment.

C. The subdivider shall file with the agreement, to assure his full and faithful performance, a bond for such sum as is deemed sufficient by the County Road Department to cover the cost of said improvements and incidental expenses and to cover replacement and repair of existing streets and other improvements damaged in the development of the subdivision. Such bond shall be executed by a surety company authorized by the District Attorney(s) as to form. In lieu of said bonds, the subdivider may elect any one of the following alternatives to assure full and faithful performance.

1. The subdivider may deposit with Wallowa County cash money in an amount fixed by Wallowa County.

2. The subdivider may submit written certification by a bank or other reputable lending institution that money is being held to cover the cost of improvements and incidental expenses, and it will be released only upon authorization of Wallowa County as in case of cash.

3. The subdivider may submit bonds acceptable to the Wallowa County Board of Commissioners.

4. The subdivider may enter into an agreement with the Wallowa County Board of Commissioners setting forth the period of time within which he

plans to construct improvements either in whole or in part. Such agreement shall specify that the subdivider deposit in an escrow account, for the benefit of Wallowa County an amount of money equal to twice the pro-rata share of improvement costs for the entire subdivision attributable to a single lot or parcel at the time of sale of said lot or parcel provided that:

a. This alternative procedure shall be permitted only for a final plat or map not exceeding 20 lots.

b. This alternative procedure shall not be permitted for subsequent phases on development until the improvements in the initial final plat or map have been completed.

c. Such agreement will not extend more than 12 months from the date of execution unless extended by the Wallowa County Board of Commissioners as an amendment to the agreement.

SECTION 31.050, PROCEDURE FOR PROCESSING FINAL PLAT OR MAP: The Wallowa County Planning Director, who is responsible to the Wallowa County Planning Commission and Wallowa County Board of Commissioners for the administration of this article, shall be responsible for final plat or map conformance to preliminary plat or map approval and final plat or map processing and submittal to the Wallowa County Planning Commission and the Wallowa County Board of Commissioners pursuant to the provisions of this section.

01. The final plat or map shall be submitted to the Wallowa County Surveyor who shall examine the final plat or map and determine the sufficiency of affidavits and acknowledgments, the correctness of surveying data, mathematical data, and computation and determine whether

the provisions of the Subdivision Act and the requirements of this article have been complied with. The subdivider shall provide traverse sheets and work sheets or accurate and complete electronic computations showing the closure of the exterior boundaries of the subdivision as required by the Wallowa County Surveyor. The final plat or map shall be returned to the subdivider with notations as to errors or omissions, if any. If the final plat or map is found to be correct, the matters shown thereon are sufficient, and all applicable provisions of the subdivision act and this article have been complied with; the Wallowa County Surveyor shall certify this approval on the original plat or map.

02. Any required improvement plans, profiles, and specifications of proposed improvements shall be submitted to the Wallowa County Road Department for verification of conformance to this Article and Article 32, Road Standards, at the time the final plat or map is submitted for approval. Such plans and profiles shall show the full details of the proposed improvements. Where standards and specifications are in compliance with this Article and Article 32, Road Standards, they may be submitted by reference. The Wallowa County Road Department may sign off on and approve the proposed transportation improvements if they are found to conform to regulations and specifications.

03. After the final plat or map has been checked and certified by the Wallowa County Surveyor, it shall be submitted to the Wallowa County Planning Director who shall deliver it to the Wallowa County Assessor, Tax Collector, and applicable irrigation district for certifications unless done by the subdivider, or agent. If the final plat or map conforms to the preliminary plat or map as approved and no changes have been made which have not been approved by the Wallowa County Planning Commission or Planning Director, the Planning Director shall then submit the final plat to the chairman of the Wallowa County Planning Commission who shall certify the final plat or map on behalf of the Planning Commission.

04. After the final plat or map has been checked and approved as provided in this section, and when all the certificates which appear on the final plat or map - except the approval certificates of the Wallowa County Board of Commissioners and Clerk - have been signed and, where necessary, acknowledged; the Wallowa County Planning Director shall certify the final plat or map and submit it along with any proposed improvements agreement to the Wallowa County Board of Commissioners for approval. The Wallowa County Planning Director shall so notify the subdivider.

06. Upon receipt of the final plat or map; the Wallowa County Board of Commissioners shall consider said plat or map, the plan of the subdivision, and the offers of dedication in accordance with the requirements of this article. If the subdivider has entered with the provisions of Article 40, Performance Guarantee; the Wallowa County Board of Commissioners shall approve the final plat or map. No plat or map shall have any force or effect until the same has been approved by the Wallowa County Board of Commissioners, and no title to any property described in any offer of dedication shall pass until the final plat or map has been recorded.