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CHAPTER 1: INTRODUCTION

The Enterprise 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 city'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 Enterprise Transportation System Plan planning area includes the City of Enterprise and the area within the city's UGB. The planning area is shown on Figure 1-1 Roadways included in the Transportation System Plan fall under several jurisdictions: Enterprise, Wallowa County, and the State of Oregon.

Enterprise is the county seat and the largest urban area in Wallowa County with nearly 28 percent of the County's population. Located in northeastern Oregon about 65 miles east of La Grande, it is a self-contained community. Enterprise provides a variety of residential, shopping, employment, and recreational opportunities within its Urban Growth Boundary (UGB) and the surrounding countryside. The area is economically viable, supported by a combination of resource-based industries, agriculture, and a growing tourist trade.

Enterprise, like many other smaller communities in Oregon, developed along the state highways serving the region. State Highway 82 (Wallowa Lake Highway) runs east-west through the center of town along River Street and North Street. State Route 3 (Enterprise-Lewiston Highway) originates as 1st Street in Enterprise and extends north to the Washington State line, where it becomes Washington State Highway 129. A street grid pattern has been maintained in Enterprise as it has developed over the years. The Idaho Northern Pacific Rail Road runs through the southern part of town. Enterprise Municipal Airport is on the eastern edge of town.

The Comprehensive Plan land use map of the Enterprise Transportation System Plan planning area is shown on Figure 1-2.

The core of the city and most of the area adjacent to Highway 82 are zoned either CBD or C-1. These classifications permit a wide variety of commercial and public uses. Along the west side of town (west of the Golf Course Road intersection) the area generally adjacent to Highway 82 is zoned View Commercial and R-2 (a single family residence and duplex zone).

PLANNING PROCESS

The Enterprise Transportation System Plan was prepared as part of an overall effort in Wallowa County to prepare TSPs for Wallowa County and the four municipalities: Enterprise, Joseph, Lostine, and Wallowa. Each plan was developed through a series of technical analyses combined with systematic input and review by the city, the combined management team, 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 Enterprise community (Chapter 1)
- Reviewing existing plans and transportation conditions (Chapters 2 and 3; Appendices A and B)

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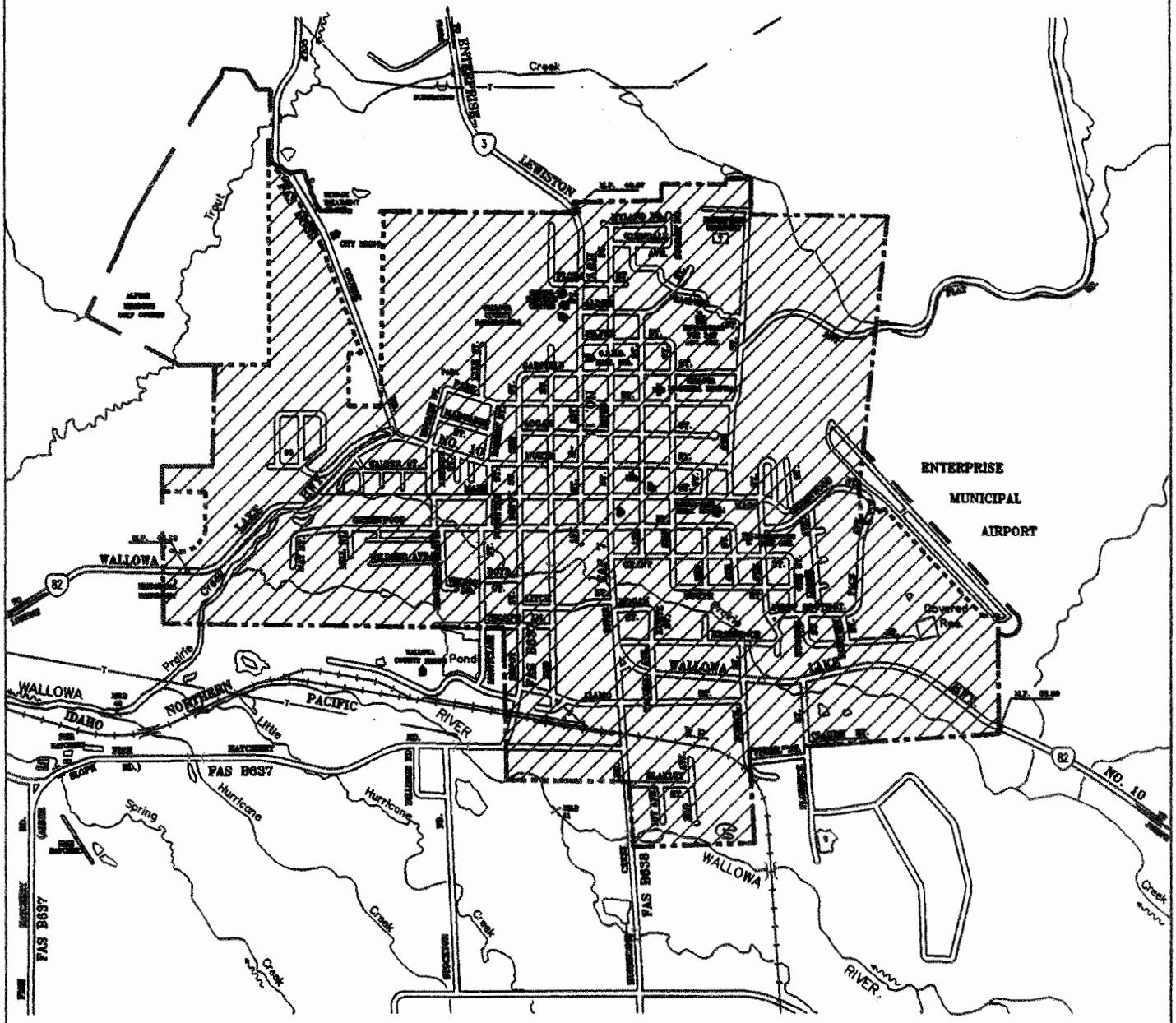

LEGEND

CITY LIMITS

URBAN GROWTH BOUNDARY

SCALE
1600 800 0 800 1600 FEET

FIGURE 1-1
ENTERPRISE PLANNING AREA

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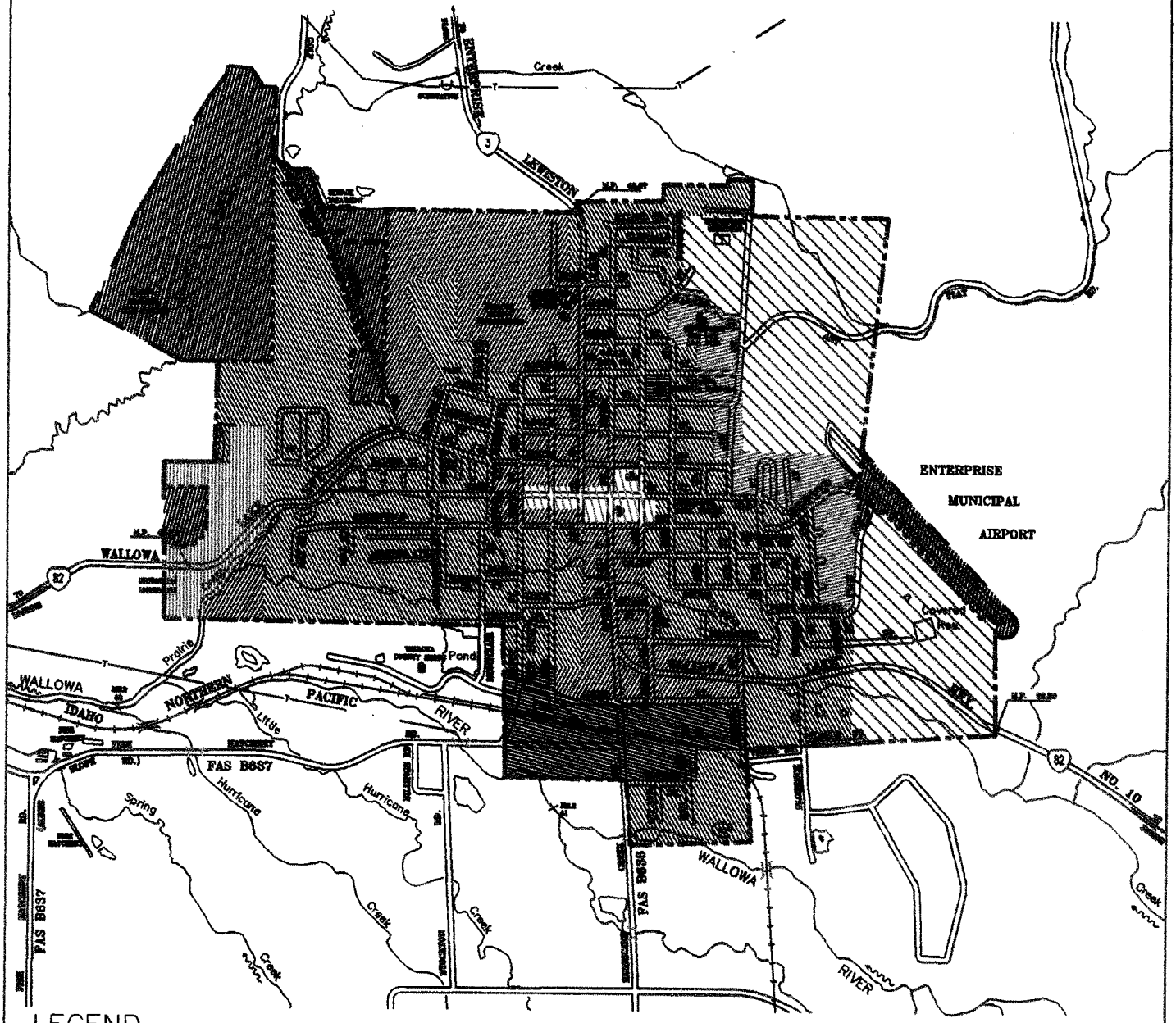

LEGEND

- LOW DENSITY RESIDENTIAL
- MEDIUM/HIGH DENSITY RESIDENTIAL
- GENERAL COMMERCIAL
- VIEW COMMERCIAL
- CITY LIMITS
- URBAN GROWTH BOUNDARY
- COMMERCIAL/INDUSTRIAL
- AIRPORT
- HOSPITAL
- URBAN GROWTH BOUNDRY
- CBD

SCALE
1600 800 0 800 1600 FEET

FIGURE 1-2
LAND USE/ZONING

- Developing population, employment, and travel forecasts (Chapter 4; Appendix C)
- Developing and evaluating potential transportation system improvements (Chapter 5; Appendix D)
- Developing the Transportation System Plan (Chapter 6)
- Developing a capital improvement program (Chapter 7)
- Developing recommended policies and ordinances (Chapter 8)

Community Involvement

Community involvement is an integral component in the development of a TSP for the City of Enterprise, the other cities, and Wallowa County. Since each of the communities needed to address similar transportation and land use issues, a public involvement program involving all the jurisdictions was used. Several different techniques were utilized to involve each local jurisdiction, ODOT, and the general public.

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

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

The third part consisted of community meetings within Wallowa County. The first set of public meetings was held in early January 1997 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. A third set of public meetings, which consisted of presentations to the management team and TAC, was held during the month of June. The public was notified of the public meetings through public announcements in the local newspapers and on the local radio station.

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

To begin the planning process, all applicable Enterprise and 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 Enterprise area, including the street system improvements planned and implemented in the past, and how the city 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 2, while Chapter 3 describes how the system operates. Appendix B summarizes the inventory of the existing arterial and collector street system.

Future Transportation System Demands

The Transportation Planning Rule requires the Transportation System Plan to address a 20-year forecasting period. Future traffic volumes for the existing plus committed transportation systems were projected using ODOT's Level 1 -- Trending Analysis methodology. The overall travel demand forecasting process is described in Chapter 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. After evaluating the results of the potential improvements analysis, a series of transportation system improvements were selected. These recommended improvements are described in Chapter 6.

Transportation System Plan

The Transportation System Plan addresses each mode of transportation and provides an overall implementation program. The street system plan was developed from the forecasting and potential improvements evaluation described above. The bicycle and pedestrian plans were developed based on current usage, land use patterns, and the requirements set forth by the Transportation Planning Rule. The public transportation, air, water, rail, and pipeline plans were developed based on discussions with the owners and operators of those facilities. Chapter 6 details the plan elements for each mode.

Funding Options

The City of Enterprise will need to work with Wallowa County and ODOT 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 7.

Policies and Ordinances

In conjunction with the adoption of the TSP, the City has adopted land use plan policies and provisions and had adopted amendments to its land use ordinance to implement the TSP.

CHAPTER 2: TRANSPORTATION SYSTEM INVENTORY

As part of the planning process, David Evans and Associates, Inc., conducted an inventory of the existing transportation system in Enterprise. This inventory covered the street system as well as the pedestrian, bikeway, public transportation, rail, air, water, and pipeline systems.

STREET SYSTEM

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

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

The existing street system inventory was conducted for all highways, arterial roadways, and collector roadways within Enterprise, as well as those in Wallowa County that are included in the TSP planning area. Inventory elements include:

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

Figure 6-4 shows the roadway functional classification and jurisdiction. Appendix B lists the complete inventory.

State Highways

Discussion of the Enterprise street system must include the state highways that traverse the planning area. Although Enterprise has no direct control over the state highways, adjacent development and local traffic patterns are heavily influenced by the highways. Enterprise is served by two state highways: Highway 82 and Highway 3. These highways serve as the major routes through town with commercial and industrial development focused along the corridors.

The 1991 *Oregon Highway Plan* (OHP) classifies the state highway system into four levels of importance (LOI): Interstate, Statewide, Regional, and District. ODOT has established primary and secondary functions for each type of highway and objectives for managing the operations for each one.

Enterprise has one highway of statewide significance (Highway 82) and one highway of district significance (Highway 3). According to the OHP, the primary function of a statewide highway is to "provide connections and links to larger urban areas, ports, and major recreation areas that are not directly served by interstate highways." The management objective for statewide highways is to provide for safe and efficient high-speed, continuous-flow operation in rural areas and high- to moderate-speed operations with limited interruptions of flow in urban and urbanizing areas. The primary function of a district highway is to "serve local traffic and land access." For highways of district significance, emphasis is placed on preserving safe and efficient higher speed through travel in rural areas, and moderate- to low-speed operations in urban or urbanizing areas with a moderate to high level of interruptions to flow. This means that design factors such as controlling access and providing passing lanes are of primary importance if projected traffic volumes are sufficient to cause undesirable delay.

Highway 82

Highway 82 (Wallowa Lake Highway) is a highway of statewide significance, which connects Enterprise with the City of Joseph to the southeast, and with the cities of Lostine and Wallowa to the northwest. West of Wallowa County, Highway 82 connects with Interstate 84 in the City of La Grande.

Highway 82 extends east-west then north-south through the center of Enterprise along River Street and North Street. River and North Streets are two-lane roadways and are part of the city's grid system. Outside of the urbanized area, Highway 82 is a two-lane roadway with a speed limit of 55 mph.

In 1995, an ODOT study team and Corridor Management Team developed the Highway 82 Interim Corridor Strategy, an overall corridor strategy and objectives for managing, operating, and improving the transportation corridor between La Grande and Wallowa Lake over the next 20 years. The second phase of the corridor planning process was to develop the *Oregon Highway 82 Corridor Plan*, a plan which builds upon objectives developed in the strategy to identify, refine, and facilitate the acceptance of specific decisions related to corridor transportation management, capital improvements, and service improvements. A major component of the plan is an access management plan for Highways 82, 3, and 204. Decisions are described in terms of scope, need, timing, cost and agency responsibility for implementation. Capital, service, and management improvements in Wallowa County are described in Chapters 5 and 6 of the TSP.

Highway 3

Highway 3 (Enterprise-Lewiston Highway) is a highway of district significance, connecting Enterprise with the Wallowa-Whitman National Forest. From there, it continues north to the Washington state line, where it becomes Washington State Highway 129 and connects to the Lewiston, Idaho, area.

Highway 3 originates in the City of Enterprise as NW 1st Street. It is a two-lane roadway with on-street parking south of North Street and it is part of the city's grid system. North of the urbanized area, Highway 3 is a two-lane roadway with a speed limit of 55 mph.

Street Classification

Enterprise has classified its street system into arterials, collectors, residential streets and alleys. The classification system includes city, county, and state roadways. The classification system and designations are mapped on Figure 6-4 and are discussed on pages 6- 9 to 6-10 .

Bridges

The Oregon Department of Transportation maintains an up to date inventory and appraisal of Oregon bridges. Part of this inventory involves the evaluation of three mutually exclusive elements of bridges. One element identifies which bridges are structurally deficient. This 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. Another element identifies which 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 sufficiency ratings for all bridges. 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 55 may be nearing a structurally deficient condition.

There are a total of nine bridges within the City of Enterprise; seven of which are city-owned and maintained, with the remaining two bridges along Highway 82 under state jurisdiction. The bridge inventory information indicated that one of the seven city bridges (Greenwood Street) was structurally deficient. This bridge is located on Greenwood Street, two blocks south of Highway 82 and has been replaced since the inventory was completed. A second bridge, located on East Residence Street has a sufficiency rating just under 55.

PEDESTRIAN SYSTEM

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

The relatively small size of Enterprise indicates that walking could be employed regularly, weather permitting, to reach a variety of destinations. Encouraging pedestrian activities may not only decrease the use of the personal automobile but may also provide benefits for retail businesses. Where people find it safe, convenient, and pleasant to walk, they may linger and take notice of shops overlooked before. They may also feel inclined to return to renew the pleasant experience time and again.

As is typical of most towns the size of Enterprise, the sidewalk system in the older core of the city is relatively complete. In the rough area located east of Depot Street, south of North Street, west of SE 1st Street, and north of Greenwood Street, the completeness of the sidewalk system defines the downtown as shown in Figure 2-2 Sidewalks and other pedestrian facilities are notably lacking outside of this area. Curb cuts for wheelchair access are largely lacking even where sidewalks exist

BIKEWAY SYSTEM

Like pedestrians, bicyclists are often overlooked when considering transportation facilities. Bicycles are often considered merely as children's toys. However, cycling is a very efficient mode of travel. Bicycles take up little space on the road or parked, do not contribute to air or noise pollution, and offer relatively higher speeds than walking. Because of the small size of Enterprise, a cyclist can travel to any destination in town within a matter of minutes.

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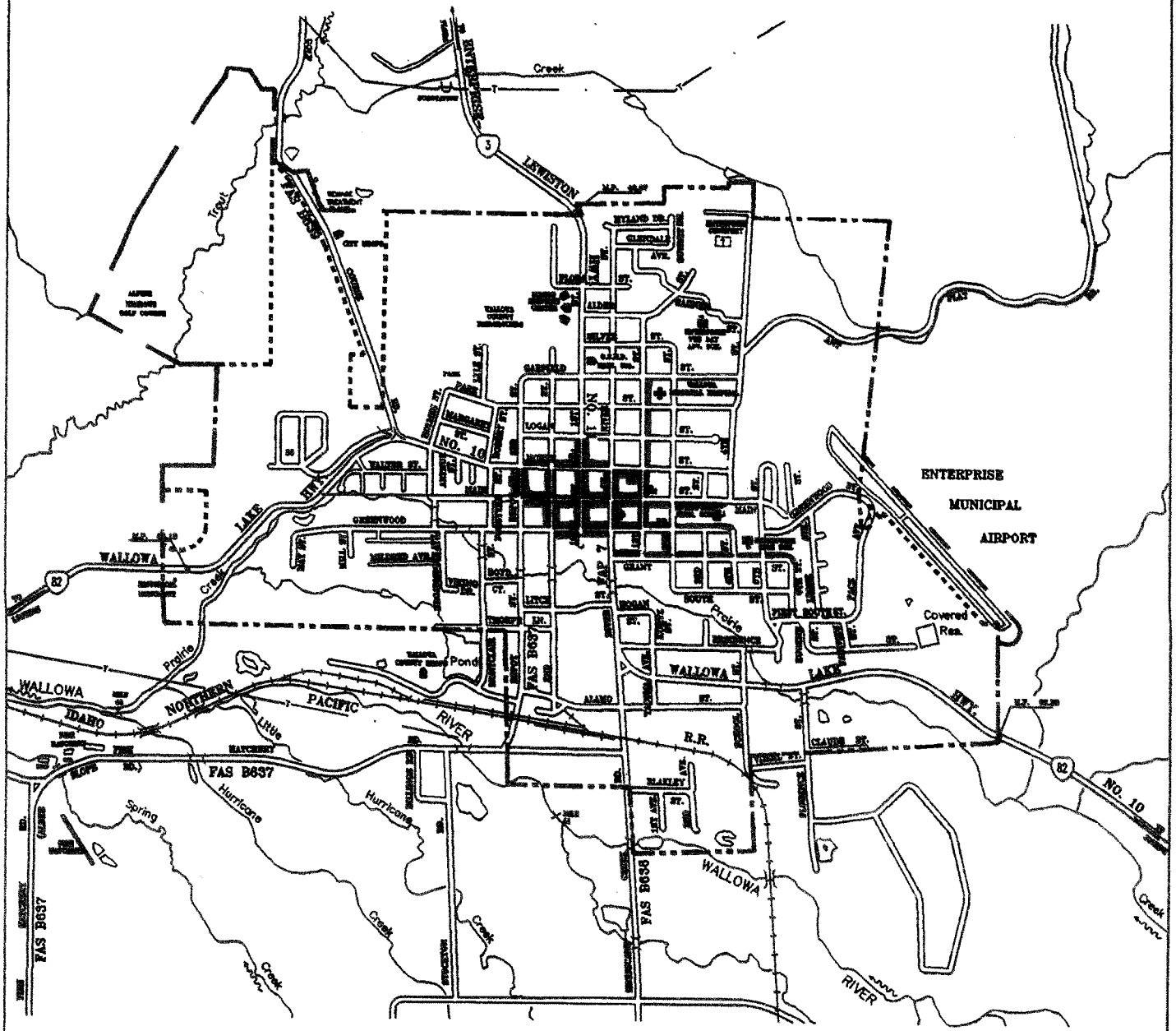

LEGEND

SIDEWALK

CITY LIMITS

URBAN GROWTH BOUNDARY

SCALE
1600 800 0 800 1600 FEET

FIGURE 2-2

PEDESTRIAN SYSTEM INVENTORY

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

Enterprise currently has no sanctioned bikeways; bicyclists must share the roadways with motorized vehicles. On low volume roadways, such as many of the local streets, bicyclists and automobiles can both safely and easily use the roadway. On higher volume roadways, particularly the arterial streets, safety for the bicyclists is an important issue.

Another impediment to bicycle use is the lack of parking and storage facilities for bikes throughout the City of Enterprise.

The City of Enterprise prepared a draft bikeway master plan through an earlier TGM grant. The plan sets forth goals and objectives for the county which include providing safe and efficient bicycle access, reducing conflicts between bicyclists and motorized vehicle traffic, developing a system dedicated to bicycles, providing opportunities for recreational bicycle use, supplying information to the public about the location of bicycle facilities, and promoting citizen involvement through the development of a citizen bicycle committee and holding meetings in an open forum. The plan lists desirable projects and prioritizes them based on financial aspects, current use, and safety considerations. The projects listed (in priority order) are on Depot Street, First Street, Greenwood Street, Main Street, North Street, River Street, and Wallowa Lake Highway.

PUBLIC TRANSPORTATION

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

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

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

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

The city has no local fixed-route transit service at this time. The small size and low traffic volumes on city streets indicate that mass transit is not necessary nor economically feasible at this time. The Transportation Planning Rule exempts cities with a population of less than 25,000 from including mass transit facilities in their development regulations.

RAIL SERVICE

Enterprise 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) has a freight line which runs through the southern part of town. INP has secured approval to abandon the lines and may legally remove the rails and sell the same for scrap. It is not anticipated that the railroad line will be available for rail use in the future.

AIR SERVICE

Enterprise is serviced by the Enterprise Municipal Airport, which is under the jurisdiction of the city. The airport is located on approximately 10 acres in the northeast quadrant of the city limits and is zoned A-1 (Airport Zone). The airport and runway lie along a northwest-southeast axis at an elevation of 3,958 feet above mean sea level. This location is on a ridge about one-half mile east of the central business district.

The City of Enterprise has received funding from the USDA Forest Service and private donations for the recently completed resurfacing of the existing runway. The paved runway measures 2,850 feet in length and is 50 feet wide. A paved taxiway 20 feet in width parallels the runway. 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 visual approaches to the runway are free of obstructions.

The runway length, width, and taxiway dimensions for the airport are less than federal standards. Minimum FAA standards to accommodate high performance single engine and multi-engine aircraft require a runway length of 5,100 feet and width of 75 feet. Topographical constraints limit the development of the runway to meet these 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. The Oregon Aviation System Plan - *Airport Roles and Requirements* document suggests that the runway be widened to 60 feet and the taxiway to 25 feet to better accommodate the small general aviation aircraft that currently use the facility.

Because the runway cannot 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 are three Fixed Base Operators (FBO) at the airport that provide aviation fuel, aircraft maintenance, and air charter services. The airport provides a multitude of services including recreational transportation, search and rescue, medical transport, fire fighting as well as some types of commerce transport.

Aircraft activity counts are currently being conducted at the airport. A count in 1985 indicated that there were approximately 6,020 annual operations. This estimate was updated in 1989 to 5,700 annual operations. Currently there are 20 based aircraft at the airport which has remained the same since the 1989 inventory.

Ground access to the airport is provided from Highway 82 in downtown Enterprise on Greenwood Street which is a two-lane facility. Passengers can easily walk the six blocks from downtown Enterprise to the airport; however, an airport courtesy car is available for short trips into town.

The airport currently provides no scheduled commercial air service. The closest airport with regularly scheduled commercial air service is located in Pendleton approximately 110 miles to the west. Scheduled air service and daily non-stop flights are available to Portland and from there to other locations in the western United States.

Because the Enterprise Municipal Airport is governed by the City of Enterprise, recommendations for its improvement fall into the scope of this TSP. The airport is an essential part of the economy of the area. It is necessary to include the airport when considering future development proposals for the surrounding land.

PIPELINE SERVICE

Although not often considered as transportation facilities, pipelines carry liquids and gases very efficiently. The use of pipelines can greatly reduce the number of trucks and rail cars carrying fluids such as natural gas, oil, and gasoline. There are currently no pipelines serving Enterprise. There has been interest expressed in the communities of Wallowa County to extend natural gas service from Elgin.

WATER TRANSPORTATION

Enterprise has no waterborne transportation services.

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 street system operating conditions since the automobile is by far the dominant mode of transportation in Enterprise. Census data was examined to determine travel mode distributions.

TRAFFIC VOLUMES

Historic traffic volume counts exist for Highways 82 and 3 in Enterprise. ODOT conducted turning movement counts at three of the intersections on Highway 82 in Enterprise during 1993.

Average Daily Traffic

The Average Daily Traffic (ADT) on Highways 82 and 3 in Enterprise is shown in Figure 3-1. Traffic volumes are highest on Highway 82 in the center of town and drop off dramatically outside the urbanized area. Traffic volumes on Highway 82 range from 5,200 vehicles per day (vpd) to 6,400 vpd in the center of town. Along North Street (the east-west section of Highway 82), average daily traffic volumes have been growing at a rate of four to six percent per year since 1990. Along River Street (the north-south section of Highway 82), average daily traffic volumes have been growing at a rate of seven to nine percent per year since 1990. Highway 82 volumes drop to 3,900 vpd south of the city limits (between Enterprise and Joseph) and drop to 2,300 vpd north of the city limits (between Enterprise and Lostine). Highway 3 carries 1,500 to 2,300 vpd in the center of town, and traffic volumes drop to 500 vpd north of town. Highway 3 traffic has remained relatively unchanged over the past five years.

The traffic volumes shown on Figure 3-1 and other volume figures are average volumes for the year. Summer is the season when volumes are highest. ODOT data on Highway 82 west of Wallowa County indicate that during the summer season, volumes are about 20 to 30 percent higher than average volumes. Urban sections of the highway (i.e., in Enterprise) are expected to see smaller increases in summer.

Hourly Traffic Patterns

ODOT conducted turning movement counts at three intersections in 1993 at which hourly traffic volumes were recorded. From the hourly traffic counts, the period of highest activity can be discerned. Evaluation of a roadway's capacity and level of service is usually based on an analysis of peak hour volumes. Peak hour volumes vary from about eight to 11 percent of the total daily traffic volumes.

Hourly turning movement counts were conducted at the intersections of River Street and Greenwood Street, River Street and North Street, and Wallowa Lake Highway, and Golf Course Road. These locations were selected because they were identified as some of the highest activity spots in the city.

At the intersection of River Street and Greenwood Street, traffic volumes were highest between 12:00 and 1:00 p.m. when a total of 770 vehicles were counted entering the intersection. Traffic volumes were steady throughout the afternoon, as hourly volumes remained above 600 vehicles per hour (vph) from 11:00 a.m. to 6:00 p.m. The heaviest movements were the north-south through movements, as these are along Highway 82.

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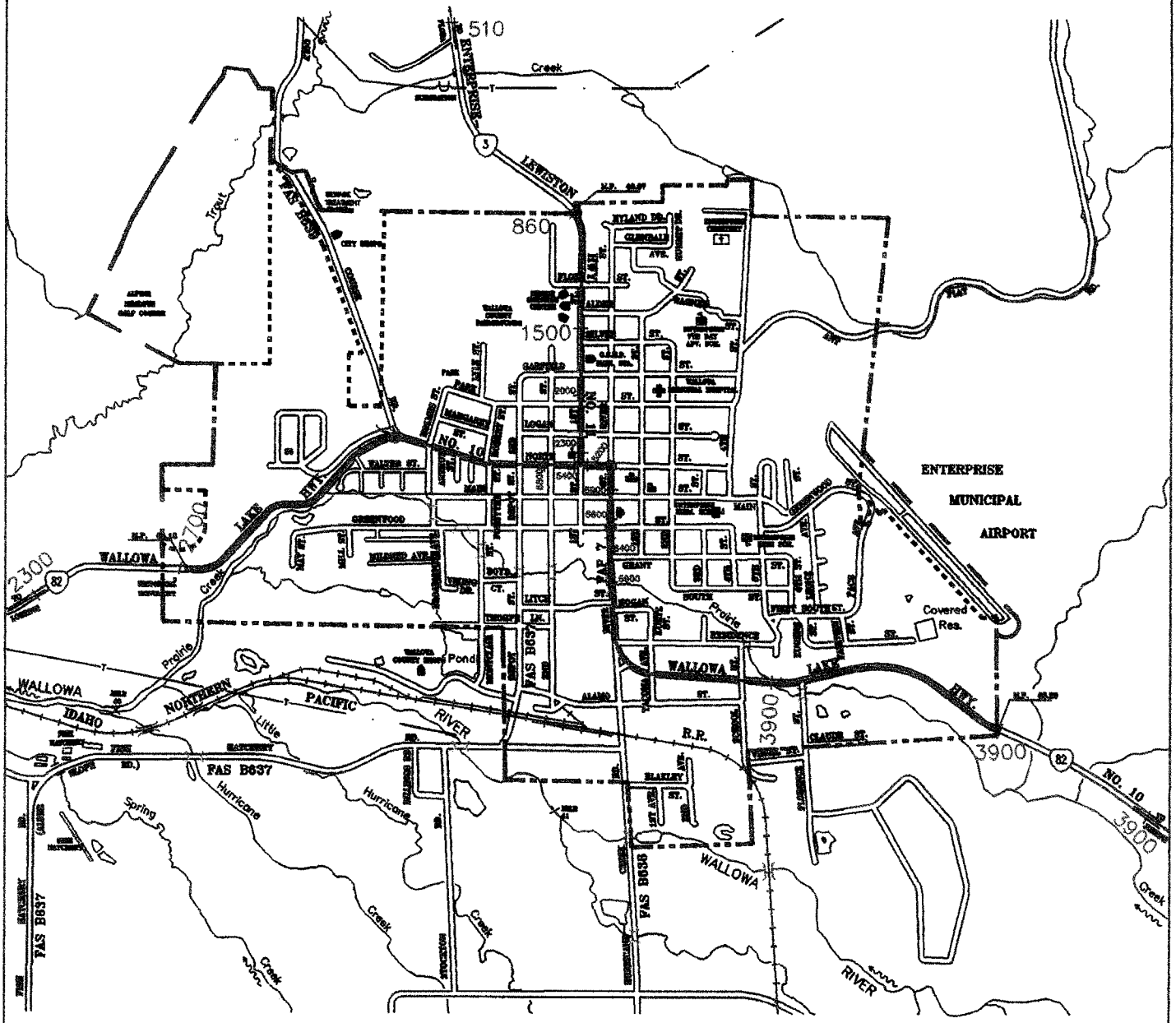

LEGEND

2300=AVERAGE DAILY TRAFFIC VOLUME

MAJOR ARTERIALS

LOCATION OF HOURLY TURNING MOVEMENT COUNTS

CITY LIMITS

URBAN GROWTH BOUNDARY

SCALE
1600 800 0 800 1600 FEET

FIGURE 3 -1

1995 WEEKDAY 24-HOUR TWO-WAY TRAFFIC VOLUMES

At the intersection of River Street and North Street, two blocks north of Greenwood Street, Highway 82 turns west from the River Street alignment to the North Street alignment. Traffic volumes were also highest here between the hour of 12:00 and 1:00 p.m., when a total of 580 vehicles were counted entering the intersection. The heaviest movements were the south-to-west and west-to-south turn movements which follow Highway 82.

At the intersection of Wallowa Lake Highway and Golf Course Road, traffic volumes were highest between 4:00 and 5:00 p.m. when a total of 390 vehicles were counted entering the intersection. The heaviest movements were the east-west through movements along Highway 82.

Street Capacity

Transportation engineers have established various standards for measuring traffic capacity of roadways or intersections. Each standard is associated with a particular level of service (LOS). The LOS concept requires consideration of factors that include travel speed, delay, frequency of interruptions in traffic flow, relative freedom for traffic maneuvers, driving comfort and convenience, and operating cost. Six standards have been established ranging from Level A where traffic flow is relatively free-flowing, to Level F, where the street system is totally saturated with traffic and movement is very difficult. Table 3-1 presents the level of service criteria for arterial roadways.

TABLE 3-1
LEVEL OF SERVICE CRITERIA FOR ARTERIAL AND COLLECTOR STREETS

Service Level	Typical Traffic Flow Conditions
A	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	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	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	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	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	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, 1985.

The *Oregon Highway Plan* (OHP) establishes operating level of service standards for the state highway system[1]. Highways of statewide importance, such as Highway 82, should operate at LOS C or better (i.e., average speeds between 20 and 25 mph) in urban and urbanizing areas. For highways of district importance,

[1]1991 *Oregon Highway Plan*, Appendix A, Table 1, Operating Level of Service Standards for the State Highway System.

such as Highway 3, the roadways should operate at LOS D (i.e., average speeds between 15 and 20 mph) in both urban and urbanizing areas.

The traffic operation was determined at the intersections using the 1994 Highway Capacity Software for unsignalized intersections. This software is based on the 1994 Highway Capacity Manual, Special Report 209, published by the Transportation Research Board. Since all intersecting streets and driveways are controlled by stop signs in the city, the analysis was performed for an unsignalized intersection. The operations at the three critical intersections in Enterprise for which hourly traffic data were available were calculated for the weekday peak hour (see Table 3-2).

TABLE 3-2
SUMMARY OF OPERATIONS AT REPRESENTATIVE INTERSECTIONS

Location	Movement	1995 LOS
River St. and Greenwood St.	Northbound; Left	A
	Southbound; Left	A
	Eastbound; Left, Through, Right	B
	Westbound; Left, Through, Right	B
River St. and North St.	Northbound; Left	A
	Southbound; Left	A
	Eastbound; Left, Through, Right	A
	Westbound; Left, Through, Right	B
Wallowa Lake Highway and Golf Course Rd.	Eastbound; Left	A
	Westbound; Left	A
	Southbound; Left, Through, Right	B

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

In general, the intersections currently operate very well. Traffic on the arterial streets flows smoothly and operates at LOS B or better.

TRANSPORTATION DEMAND MANAGEMENT MEASURES

In addition to inventorying the transportation facilities in Enterprise, 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 3-3). More than one third of the total employees depart for work between 7:00 and 8:00 a.m. Another third depart either the hour before or the hour after the peak.

TABLE 3-3
DEPARTURE TO WORK DISTRIBUTION

	1990 Census	
Departure Time	**Trips**	**Percent**
12:00 a.m. to 4:59 a.m.	32	4.6
5:00 a.m. to 5:59 a.m.	66	9.4
6:00 a.m. to 6:59 a.m.	97	13.8
7:00 a.m. to 7:59 a.m.	252	35.9
8:00 a.m. to 8:59 a.m.	106	15.1
9:00 a.m. to 9:59 a.m.	61	8.7
10:00 a.m. to 10:59 a.m.	13	1.8
11:00 a.m. to 11:59 a.m.	7	1.0
12:00 p.m. to 3:59 p.m.	47	6.7
4:00 p.m. to 11:59 p.m.	21	3.0
Total	702	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, in many cases, corresponds with the peak hour of measured traffic volumes.

TRAVEL MODE DISTRIBUTION

Although the automobile is the primary mode of travel for most residents in the Enterprise area, 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 3-4.

Most Enterprise residents travel to work via a private vehicle. In 1990, 79.7 percent of all trips to work were in an auto, van, or truck. Trips in single-occupancy vehicles made up 69.3 percent of all trips, and carpooling accounted for 10.4 percent.

Bicycle usage was higher than in many other communities (approximately 2.2 percent) in 1990. Since the census data do not include trips to school or other non-work activities, overall bicycle usage may be even greater. There are few roadways 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 high (14.0 percent of trips to work) due to the fact that in a small city the size of Enterprise (approximately one square mile) most of the city is within a few minutes walk of the city center. Again, census data do not include trips to school or other non-work activities.

Although the census data reflect the predominant use of the automobile, the growing population and employment opportunities, relatively short travel distances, level terrain, and clear weather conditions during the warmer seasons are favorable for other modes of transportation.

TABLE 3-4
JOURNEY TO WORK TRIPS

	1990 Census	
Trip Type	**Trips**	**Percent**
Private Vehicle	582	79.7
Drove Alone	*506*	*86.9*
Carpooled	*76*	*13.1*
Public Transportation	0	0
Motorcycle	2	0.3
Bicycle	16	2.2
Walk	102	14.0
Other	0	0
Work at Home	28	3.8
Total	730	100.0

Source: US Bureau of Census.

ACCIDENT ANALYSIS

ODOT collects detailed accident information on an annual basis along Highways 82 and 3 in Enterprise. The accident information data show 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 3-5 shows the accident rates for Highways 82 and 3 in Enterprise as well as the Oregon statewide average for urban non-freeway primary state highways from January 1, 1993 to December 31, 1995. The accident rates for Highway 82 during those three years are consistently lower than the statewide average for similar highways.

No 1995 accident data is available for Highway 3. In 1994, the accident rate on Highway 3 was more than twice the 1993 rate and more than twice the statewide average. The 1993 accident rate on this highway is about equal to the statewide average.

TABLE 3-5
HISTORIC ACCIDENT RATES FOR STATE HIGHWAYS
(Accidents per Million Vehicle Miles Traveled)

Highway	1995	1994	1993
Highway 82 in Enterprise	1.80	1.50	3.43
Highway 3 in Enterprise	N/A	7.38	3.52
Average for all Urban Non-freeway Primary State Highways	3.98	3.45	3.55

Source: Oregon Department of Transportation Accident Rate Tables.

Table 3-6 contains detailed accident information on Highways 82 and 3 in Enterprise from January 1, 1993 to December 31, 1995. It shows the number of fatalities and injuries, property damage only accidents, the total number of accidents, and the overall accident frequencies and rates for the segments of these roadways in Enterprise. During the three-year period, there was a total of 24 accidents, 18 of which were reported as resulting in property damage only. There were no fatalities or injuries on these roadway segments during the period. Fifteen of the accidents occurred at intersections and three occurred on icy pavement. The accidents were scattered along the roadway segments and there were no particular locations which showed a consistent accident pattern. The accident rate on Highway 82 is significantly below the statewide average, indicating that this roadway segment does not have any safety problems. The accident rate on Highway 3 was higher; however, this may be misleading because a few accidents along a rural low-volume roadway can increase the overall accident rate dramatically.

TABLE 3-6
ACCIDENT SUMMARIES FOR HIGHWAYS 82 AND 3
(January 1, 1993 to December 31, 1995)

Location	Fatalities	Injuries	Property Damage Only	Total Accidents	Accident Frequency (acc/mi/yr)	Accident Rate (acc/mvm)
Highway 82 (MP 64.07 to 66.28)	0	12	15	21	3.16	1.73
Highway 3 (MP 42.67 to 43.19)	0	0	3	3	1.92	3.01

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

Community Concerns

During the community meetings, Enterprise residents identified two possible locations for safety improvements.

The first is on Highway 82 where it joins the city road system at Florence Street to Hurricane Creek Road and the posted speed limit drops from 55 mph to 35 mph. The highway then makes a 90-degree turn around a

blind corner near a crossing utilized by school children enroute to school. Children have to cross the highway to get to school during the school year and to get to the ballfield during the summer. The city requested that ODOT lower the speed limit on this section to 25 mph; however, after a study made by ODOT, the speed limit was raised to 45 mph.

The second location is at the intersection of River Street (Highway 82) and Main Street. Some residents feel this intersection needs a traffic signal or, at least, a flashing signal.

CHAPTER 4: TRAVEL FORECASTS

The traffic volume forecasts for Wallowa County and its municipalities are based on historic growth of 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 other roads in the county.

POPULATION FIGURES

In connection with the periodic review and update of its land use plan, the City has adopted a population projection of 2,750 by the year 2015. The State of Oregon, Office of Economic Analysis has projected a population of 2,206 by the year 2015.

OAR 660-12-030 requires the TSP to utilize "population and employment forecasts and distribution which are consistent with the acknowledged comprehensive plan, including those policies which implement Goal 14..." For that reason, the City is utilizing, its existing projection of a 2015 population of 2,750, which was utilized in conjunction with the other planning goals, including Goals 9, 10 and 14, and this population is being extrapolated without change to 2019--the end of the TSP twenty year planning period. The population analysis is contained in the City's adopted land use plan and will not be repeated here.

The City's consultant prepared a population and employment forecast which is included as Appendix D. The population forecast is less then utilized by the City for Goal 14 purposes. The issue, however, is not critical to the transportation planning decisions contained herein. For the reasons expressed below, traffic volumes are being projected based upon a projection of actual traffic counts, rather than population and employment forecasts.

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 Enterprise roadway system. Historic data is only available for the state highway system in Enterprise; however, these roadways carry far more traffic than any other streets in the city. The Oregon Department of Transportation (ODOT) collects traffic count data on the state highways (rural and urban sections) every year at the same locations. These counts have been conducted at 10 locations on Highway 82 and at four locations on Highway 3 in Enterprise.

Historical growth trends on the state highways in and around Enterprise 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 4-1 summarizes the historic average growth rate on each of these sections.

TABLE 4-1
HISTORIC TRAFFIC GROWTH RATES ON STATE HIGHWAYS

Highway Section	Average Annual Growth Rate 1975-1995	Total Growth 1975-1995
Highway 82 west of Enterprise	3.2%	88%
Highway 82 in Enterprise	1.1%	24%
Highway 82 east of Enterprise	1.9%	44%
Highway 3 in Enterprise	2.8%	74%
Highway 3 north of Enterprise	2.0%	50%

Over the past 20 years, growth on Highway 82 in Enterprise has averaged 1.1 percent per year. On the rural section of Highway 82 west of Enterprise, traffic has been growing at a rate of 3.2 percent per year. East of Enterprise, traffic has been growing at a rate of 1.9 percent per year. The higher growth rates on the rural sections is somewhat misleading because the section of highway in the city increased by more trips than the rural sections; however, it was a smaller portion of its base year trips.

Growth on Highway 3 in Enterprise was similar to that on Highway 82 and has averaged 2.8 percent per year. North of Enterprise traffic has been growing at a rate of 2.0 percent per year.

In all cases, growth on the highways far exceeded the population growth in Enterprise 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 0.9 percent per year (19 percent over the next 20 years) to 5,120 vpd on Highway 82 and at 1.7 percent per year (41 percent over the next 20 years) to 2,540 vpd on Highway 3. Both annual 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 Enterprise 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

For the year 2017, unsignalized intersection analyses were performed using the overall growth (19 percent) expected on Highway 82 at the same three intersections in Enterprise for which the existing conditions were analyzed. The analyses indicated that all three intersections are expected to meet ODOT level of service

standards over the 20-year forecast period. The results of the unsignalized intersection analyses are shown in Table 4-3.

Analysis Results

At the intersection of River Street (Highway 82) and Greenwood Street traffic volumes are expected to be 19 percent higher than traffic volumes today. This modest increase in traffic volumes over the 20-year projection period will not impact the LOS at this intersection. The northbound and southbound left turns on River Street will continue to operate at LOS A, and the eastbound and westbound left, through and right turns will continue to operate at LOS B.

At the intersection of River Street and North Street (where the alignment of Highway 82 changes from north-south to east-west) the increase in traffic volumes in the year 2017 will not have a significant impact on the intersection. The northbound and southbound left turns as well as the eastbound left, through and right turns will continue to operate at LOS A. The level of service on the westbound approach is expected to drop to LOS C; however, this is still in the range of acceptable delay for drivers.

In addition to background traffic growth at the intersection of Wallowa Lake Highway (Highway 82) and Golf Course Road, an increase in traffic volumes is expected from the proposed mixed-use development located on the northwest corner of this intersection. The proposed development is to include a 53-unit motel, a 5,000-sq. ft. sit-down restaurant, 50 condominium units, a 50-unit residential subdivision, a 50-unit retirement center, and a 12,000-sq. ft. convention center. Access to the site will be provided by a city street (highland Avenue intersecting Highway 82, approximately 4,200 feet west of the intersection of Highway 82 and Golf Course Road, and by a proposed city street intersecting Golf Course Road, approximately 4,000 feet north of the intersection of Highway 82 and Golf Course Road. A 1997 study by Kittelson & Associates, Inc. determined that the development would generate 400 trips during the p.m. peak hour. The study analyzed a worst case scenario, assuming that there are no "internal" trips (all trips attracted to uses such as the restaurant, motel, and convention center come from outside the development and not from the single family homes, condominiums, or retirement center in the proposed development) and that the convention center would be at capacity (a 300-person event). Under those conditions, it was estimated that the project would add 25 vehicles to the southbound approach of Golf Course Road, 80 vehicles to the eastbound approach of Highway 82, and 170 vehicles to the westbound approach of Highway 82 during the p.m. peak hour. The level-of-service analysis for the year 2017 indicated that the eastbound left turns on Wallowa Lake Highway would continue to operate at LOS A, and the southbound left and right turns will operate at LOS C. Level of service C still represents acceptable conditions to drivers.

TABLE 4-2
SUMMARY OF OPERATIONS AT REPRESENTATIVE INTERSECTIONS

Location	Movement	1995 LOS	2017 LOS
River St. and Greenwood St.	Northbound; Left	A	A
	Southbound; Left	A	A
	Eastbound; Left, Through, Right	B	B
	Westbound; Left, Through, Right	B	B
River St. and North St.	Northbound; Left	A	A
	Southbound; Left	A	A
	Eastbound; Left, Through, Right	A	A
	Westbound; Left, Through, Right	B	C
Wallowa Lake Highway and	Eastbound; Left	A	A
Golf Course Rd.	Southbound; Left, Right	B	C

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

CHAPTER 5: IMPROVEMENT OPTIONS ANALYSIS

As required by the Oregon Transportation Planning Rule, transportation alternatives were formulated and evaluated for the Enterprise Transportation System Plan. These potential improvements were developed with the help of the TAC, and the individual communities.

Each of the transportation system improvements options was developed to address specific deficiencies or access concerns. The following list includes all of the potential transportation system improvements considered. Improvement Options 3 through 10, 12, and 13 are illustrated in Figure 5-1.

The proposed transportation system improvements considered for the Enterprise TSP include both state highway and local road projects. This section of the TSP describes the individual improvements and their associated costs. Improvement options considered were as follows:

1. Revise zoning code to allow and encourage mixed-use development and redevelopment, and increase density.

2. Reduce the speed on Highway 82 from 45 mph to 25 mph between Florence Street and River Street.

3. Install a traffic signal or a flashing signal at the intersection of River Street (Highway 82) and Main Street.

4. Change two-way streets to one-way operation in the vicinity of Depot Street and SW 2nd Street to relieve congestion.

5. Eliminate some of the Safeway driveways on North Street (Highway 82), Holmes Street and Golf Course Road.

6. Improve the alignment and sight distance at the intersection of Highway 82 and Golf Course Road.

7. Extend Silver Street west to provide access to the vacant land where low income housing is planned.

8. Construct a new street parallel to Golf Course Road, connecting the proposed Silver Street extension with Golf Course Road near the City shops.

9. Extend Flora Street west to connect with the planned new road parallel to Golf Course Road.

10. Protect the Idaho Northern Pacific Railroad right-of-way.

11. Install landscaping strips along Highway 82 to slow traffic down.

12. Provide a bikeway on Highway 82 or on Hurricane Creek Road to Joseph.

13. Upgrade structurally deficient bridges.

14. Implement transportation demand management strategies.

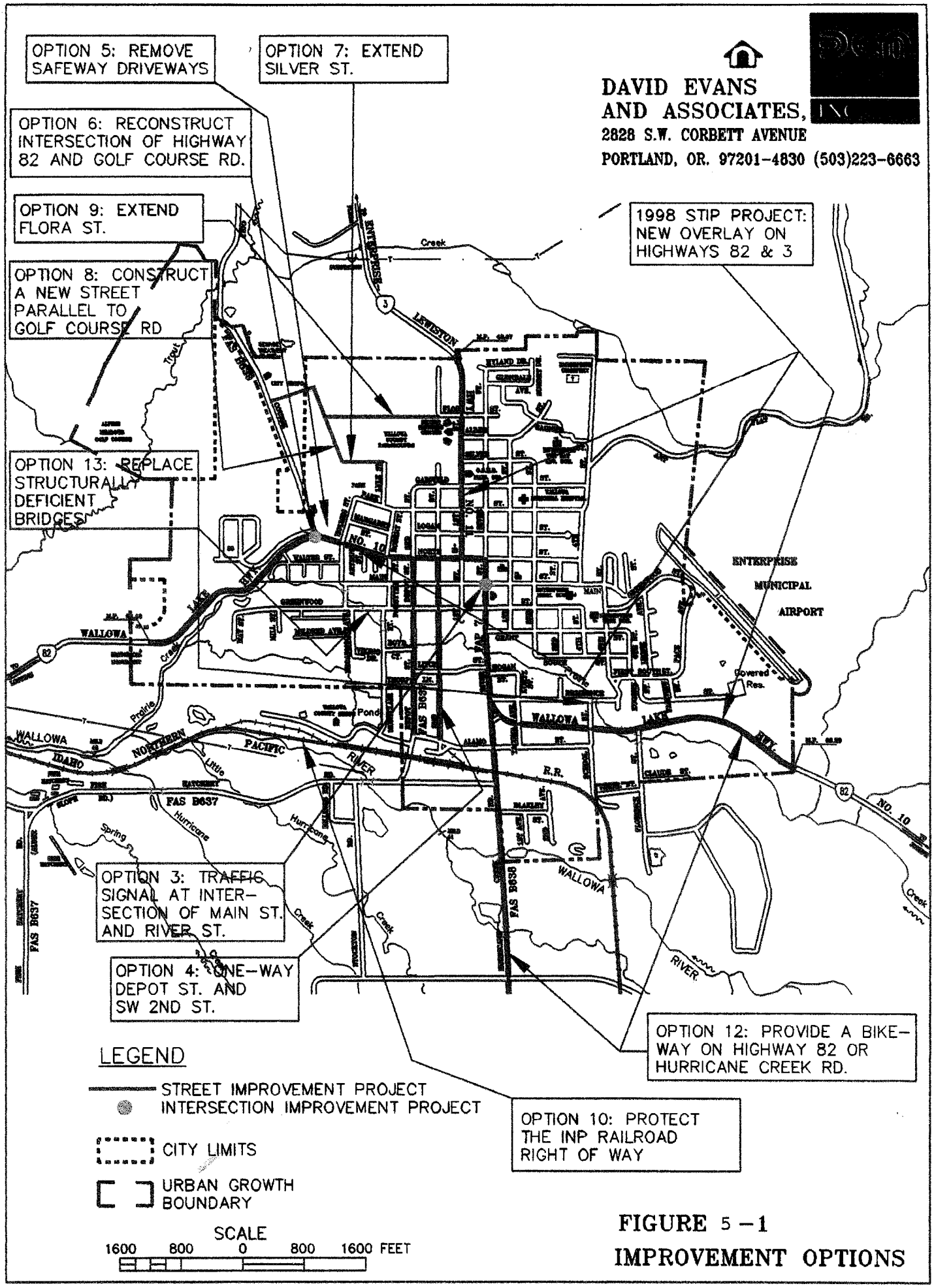

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FIGURE 5-1
IMPROVEMENT OPTIONS

As discussed in the remaining sections of this chapter, not all of these considered improvements were included as planned improvements. The decisions were based on costs and benefits relative to traffic operations, the transportation system, and the community livability.

EVALUATION CRITERIA

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

Safety was the first qualitative factor to be evaluated. Although driver safety is considered in these projects, pedestrian and bicycle safety are a critical concern for the city. Environmental factors were also evaluated, such as air quality, noise, and water quality. Evaluation of socioeconomic and land use impacts considered right-of-way requirements, impacts to adjacent lands, and community livability. The final factor in the evaluation of each potential transportation improvement was cost. Costs were estimated in 1997 dollars based on preliminary alignments for each potential transportation system improvement.

STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM PROJECTS

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

The 1998 to 2001 STIP, published in 1996, identified one major highway improvement within the City of Enterprise. The Enterprise sections of Highway 82 (milepost 62.1 - 64.7) are planned to have upgraded surfacing, width, structures and drainage, sidewalk reconstruction and new construction, and a new overlay and chip seal in 1999. The cost of the project is estimated at $6.9 million. The STIP projects are also shown in Figure 5-1. The Enterprise sections of Highway 3 (milepost 41.2 to 43.2) was planned for 1998 and was completed during dependency of the Transportation Planning process.

IMPROVEMENT OPTIONS EVALUATION

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

Option 1. Revise Zoning and Development Codes

One of the goals of the Oregon Transportation Planning Rule (TPR) is to reduce the reliance on the automobile. One way city jurisdictions can do this is through amendments in zoning and development codes to permit mixed use developments and increases in density in certain areas. The City permits overhead apartments in the CBD zone and allows residences as a conditional use in the C-1 zone. Specific amendments include allowing neighborhood commercial uses within residential zones. Such code amendments might

encourage residents to walk and bicycle throughout the community by providing shorter travel distances between land uses.

These code revisions are typically more effective in medium- to large-sized cities with populations of 25,000 and over. Because of Enterprise's size, the decision of what mode of transportation to use when making a trip inside the city is not influenced much by distance. The longest distance between city limit boundaries in Enterprise is around one mile, a distance short enough to walk, ride a bike, or drive. Distances between different land uses, such as residential and commercial, is even shorter. Fourteen percent of the population already walks to work, which is higher than the statewide average. It is unlikely that such zone changes would significantly increase the use of pedestrian or bicycle transportation mode.

Increasing density may have some effect on development in Enterprise. Population is projected to increase by 9 percent (186 additional residents) over the next 20 years.

The City is not required by the transportation planning rule to include demand management strategies within its TSP since the City's population is presently less than 2,500. The City is not including a higher density or mixed use zoning alternative because (1) the City does not now experience significant traffic congestion and is unlikely to do so in the future, (2) such zoning alternatives are unlikely to be effective in reducing reliance on the automobile transportation mode and (3) sacrifice other values and goals which underlie the current plan and zoning rules.

Option 2. Reduce the Speed on Highway 82

The speed limit on Highway 82 between Florence Street and Hurricane Creek Road is currently 45 mph. Some residents are concerned that with the limited sight distance on this section of highway and the proximity of school crossings, the speed limit should be 25 mph to increase safety to children crossing the highway.

The city requested this change from ODOT in the past, when the posted speed limit was 35 mph. ODOT conducted a speed study on this section of highway and found the 85th percentile speed to be close to 45 mph, and thus raised the posted speed limit from 35 mph to 45 mph.

Generally, if a posted speed limit does not reflect the speed at which drivers want to travel for the given road conditions, most drivers tend to ignore the speed limit altogether. When drivers ignore speed limits, the variation in speeds becomes very high, which usually is a greater safety hazard than a high posted speed limit.

The City of Enterprise determines and recommends to ODOT that the speed limit on this section of Highway 82 be reduced to avoid hazards to the school children and particularly, to reduce hazards caused by westbound traffic entering the Hurricane Creek Highway and Residence Street intersection at excessive rates of speed.

Option 3. Install a Traffic Signal at the Intersection of River Street (Highway 82) and Main Street

This improvement option was suggested at one of the community meetings because it was assumed that a traffic signal or a flashing signal at the intersection of River Street (Highway 82) and Main Street would slow traffic to a safer speed.

The need for traffic signals at currently unsignalized intersections is determined by the Manual of Uniform Traffic Control Devices' (MUTCD) signal warrant analysis. A signal is warranted at a particular intersection if a minimum vehicular volume is met or if there is a need for an interruption of continuous traffic on a major

street. Furthermore, the primary function of traffic signals is to control right-of-way for vehicles and pedestrians entering and passing through an intersection, and not for controlling speed on a particular roadway segment.

This intersection does not meet the minimum vehicular volume for either of the two signal warrants, therefore a traffic signal at this location is not included in the TSP.

Option 4. Change Two-Way Streets to One-Way Operation

At one of the community meetings it was suggested that the two-way streets Depot Street and SW 2nd Street be changed to one-way operation to relieve congestion. It was thought that Depot Street is too narrow for two-way traffic with parking on one side, as it exists today, and that it would be difficult to widen because it already has curbs and electric power lines near the right-of-way.

In general, residents of the area which would be affected by the one-way operation of these streets are opposed to the change. Although no specific guidelines exist for converting two-way streets to one-way operation to relieve congestion, traffic volumes in Enterprise are not high enough to justify such a change during the planning period and this option is not included in the TSP.

Option 5. Reduce the Number of Safeway Access Points

Currently the Safeway store has two driveways on North Street (Highway 82), two driveways on Holmes Street and one driveway on Golf Course Road. Some residents are concerned that the multiple driveways into the Safeway parking lot cause dangerous turning movements to occur on Highway 82.

A 1993 study by Kittelson & Associates, Inc., examined the possibility of closing either the driveway on Golf Course Road or the driveway on Highway 82. The analysis results indicated that both of the options would maintain an acceptable level-of-service at the driveway intersections. The recommendation was made to close the driveway on Golf Course Road to minimize driveway access and traffic conflict on Golf Course Road.

The Oregon Department of Transportation and the City of Enterprise have completed planning for a Highway 82 reconstruction project within the City, scheduled to commence in 1999. As part of that process, decisions were made as to the number and location of access points to Safeway. Access from Highway 82 will be reduced to one driveway and the west access point, near the Golf Course Road intersection will be closed. The access points on Golf Course Road and Holmes Street will be unchanged.

Because this option would improve safety, it is recommended. Its estimated cost is negligible.

Option 6. Reconstruct the Intersection of Highway 82 and Golf Course Road

The intersection of Highway 82 and Golf Course Road is currently located along a horizontal curve in the highway with limited sight distance. In addition, Hamel Drive was recently dedicated to provide access to a subdivision west of Golf Course Road. Hamel Drive intersects Golf Course Road near its intersection with Highway 82, and opposite the Safeway driveway. These accesses add potential danger to the turning movements at this intersection. There is also access to a mobile home park and other properties along the south side of the highway.

The 1993 Wallowa Lake Highway Study by Kittelson & Associates, Inc., recommended additional study of this intersection to determine potential queuing requirements, turn-lane storage requirements, and impacts of potential closure of private driveways.

ODOT's plans for reconstruction of Highway 82, to be undertaken in 1999, include a right turn lane on Highway 82 for westbound traffic entering Golf Course Road and a left turn lane for Golf Course Road traffic entering Highway 82. This should improve traffic flow at the intersection.

Both ODOT and the City are monitoring the Golf Course Road and will further review and study methods to improve the intersection.

Option 7. Extend Silver Street

Silver Street is planned to be extended west to provide access to the vacant land west of the Wallowa County Fairgrounds, where low-income housing is planned. The extension of Silver Street is consistent with the city's grid system as it would connect Lyle Street with a new road parallel to Golf Course Road in such a way that it would no longer be a dead end. Maintaining city grid systems and eliminating dead ends is a goal of the State Transportation Planning Rule. This road is planned for construction in the near future and has already been platted.

During the pendency of the transportation planning process a grant was obtained and Silver Street was extended to the west side of the fairgrounds, but not all of the way to the Park Street right of way. Further extension of Silver Street would be appropriate to serve development to the west of the existing senior housing project or to connect to Park Street in the event the same is improved.

This option is included in the TSP.

Option 8 & 9. Construct a New Street Parallel to Golf Course Road and Extend Flora Street

A new street is planned east of and parallel to Golf Course Road. There are three alternate locations and none have yet been selected. The new street would connect the Silver Street extension Street with Golf Course Road near the City shops. This new street, like the Silver Street extension, would provide access to the vacant land west of the Wallowa County Fairgrounds, where low-income housing is planned.

This improvement is estimated to be a relatively moderate to high cost roadway improvement; however some of the cost of the improvement could be borne by the developer of the adjacent land. The estimated cost for a new roadway is around $300 per linear foot. Assuming this project entails a 1,800-foot roadway, this project would cost approximately $540,000.

Flora Street is planned to be extended west to connect with the planned new road parallel to Golf Course Rd. The extension of Flora Street would provide a new connection between Highway 3 and Golf Course Road which would eliminate the need to drive through the center of town for trips between those two points.

This improvement is estimated to be a relatively moderate to high cost roadway improvement. The estimated cost for a new roadway is around $300 per linear foot. Assuming this project entails a 1,600-foot roadway, this project would cost approximately $480,000.

The entire area of the City east of Golf Course Road, West of the County Fairgrounds and south of Flora Street is deficient in street lay out and circulation. In addition, it would be desirable to have a street which connects Golf Course Road with Highway 3, so as to relieve pressure on Highway 82. It is the City's policy to improve street circulation in the above area, but selection of improvement alternatives is being deferred until a later date. Option 8 and 9 are included in the TSP; however, a decision on the location and design will be deferred to a later date.

Option 10. Protect the Idaho Northern Pacific Railroad Right-of-Way

During the transportation planning process, the Idaho Northern Pacific Railroad (INP) has secured approval to abandon the railroad right-of-way between Elgin and Joseph. A recreational trail might still be constructed in the right-of-way as a "Rails to Trails" project.

In March 1997, the Federal Surface Transportation Board granted INP an exemption from regulations restricting railroad abandonment in rural areas. With the exemption, INP can operate the railroad or rip it out. The company bought the branch line from the Union Pacific Railroad in 1993 for the sole purpose of ripping out the rails and the ties and selling them for scrap. Before removing the rails and the ties, INP must confer with the Army Corps of Engineers on the removal of more than 20 bridges. It must also confer with the county to make sure that salvage operations do not violate any provisions of the Wallowa County Nez Perce Salmon Recovery Plan.

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

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

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

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

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

It is estimated that a "Rails to Trails" improvement option would have moderate to high construction costs. The Enterprise section of this trail would be a small part of a much larger county-wide project. 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*. 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 section of this project within the City of Enterprise is approximately 2,800 feet. Excluding the cost of the right-of-way, the cost to construct this path in the City of Enterprise would be $45,000. A less costly option would be to not pave the path.

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

During the transportation planning process, administrative approval to abandon the railroad was obtained by INP. Efforts to acquire the right of way by the State of Oregon Parks Department have been unsuccessful to date. However, that agency is continuing to explore funding options for that acquisition. The City supports the Parks Department's efforts to acquire the right of way.

Option 11. Install Landscaping Strips Along Highway 82

One of the citizen concerns in Enterprise is that drivers along Highway 82 do not slow down when entering the city. One option to help control driver speeds would consist of adding a vertical architectural element to the sides of Highway 82 within the city to give the appearance of narrowness. This technique, sometimes called "Gateway Treatment," also gives drivers a sense of "place," i.e., that they have entered an urban area with lower speed limits, on street parking, conflicting pedestrian and bicycle movements and increased highway access.

The most common and most aesthetically pleasing way of accomplishing this is with the use of trees in a landscaped strip along the highway's edge. The subliminal effect of getting drivers to slow down when driving a stretch of highway treated in this way is best achieved when the trees consist of mature shade trees which provide a canopy over the road somewhat limiting peripheral vision.

One disadvantage of this option is that it could take many years for newly-planted trees to reach the maturity level to provide the desired effect. It is also important to select trees that are suitable for the climate in Enterprise.

Other vertical elements which could be used in place of trees are period street lamps, signs or even moving building lines closer to the highway edge to provide the effect of a more narrow right-of-way.

This option is a popular improvement because of its aesthetic value. This improvement is estimated to have moderate to high construction costs. Six- to eight-foot trees can be purchased for $40 to $150 depending on the species and are usually planted 15 to 20 feet on-center. For a typical 240-foot block in Enterprise, 24 trees would be required to provide landscaping strips on both sides of the street. Depending on the species of tree used, the materials costs would be $960 to $3,600 per block. This cost does not include the installation labor

cost for the landscaper. The total cost for the project is highly variable, depending on the species of tree used and the number of blocks which receive this treatment.

While some planter strips have been installed in the Highway 82 project plan for 1999, the "Safeway" planting discussed under this option has not. It seems unlikely therefore, that this option will be implemented in the future. However, the City includes and supports co-operative efforts with adjacent land owners, and ODOT, to improve the appearance of the Highway 82 and 3 corridors by appropriate plantings.

Option 12. Provide a Bikeway on Highway 82 or on Hurricane Creek Road

Goals and objectives of the city'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 adding a bikeway on Highway 82 or Hurricane Creek Road.

Shared roadways, where bicyclists share normal vehicle lanes with motorists, are generally acceptable if speeds and traffic volumes are relatively low. On the collector and local streets in Enterprise, shared roadways are not an issue; however, on arterial roadways bike lanes are recommended.

Highway 82 functions as an arterial street through Enterprise, which means that it should have bike lanes on both sides of the street as specified in the recommended street standards listed in Chapter 7 and as required by the TPR.

On Highway 82, volumes are already over 5,000 vehicles per day. Accident statistics on the highway do not indicate that there are frequent conflicts between bicyclists and motorized vehicles. This is due in part to relatively low bicycle usage in the area. To install bicycle lanes along Highway 82 would involve removing on-street parking through downtown Enterprise. Shoulders would need widening on sections where no on-street parking exists. Some of these improvements would be expensive and others would be controversial. At this time, no specific bikeway improvements are recommended for Highway 82; however, ODOT should track both traffic volumes and accident rates on this facility to identify any problems in the future.

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

Oregon Highway 82 Corridor Plan

The *Oregon Highway 82 Corridor Plan* describes a bike route 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 a near term priority.

Option 13. Upgrade Structurally Deficient Bridges

The City of Enterprise had one bridge which had deficiencies[2] that needed to be addressed as soon as possible; that bridge (on Greenwood Street), has now been replaced. In addition, the city bridge on East Residence Street has a sufficiency rating below 55, indicating that it may reach a deficient level in the near future. Bridges which fall into either of these three categories will need to be repaired or replaced some time in the next 20 years. The River Street Bridge will be replaced as part of the 1999 Highway reconstruction project.

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.

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. The estimated cost to repair or replace the bridge on East Residence Street is $411,000. This estimate should be increased by 15 percent, to $472,000, to reflect present day (1997) dollars.

The Residence Street Bridge should be replaced within 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.

Option 14. 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 transportation measures within the community. The State Transportation Planning Rule recommends that cities should evaluate TDM measures as part of their Transportation System Plans. However, as a City with less than 2,500 population, the City is not required to include any such measures in its' TSP.

The City is not including any transportation demand strategies in its' TSP, other than a wide variety of sidewalk improvements, for the following reasons.

(1) The City is not required to do so by the transportation planning rules.

(2) Traffic congestion is not a problem presently, nor will it be in the future given projected future traffic volumes. To illustrate, the busiest intersection in the City does not meet ODOT traffic volume standards for installation of a traffic signal.

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

(3) Without traffic congestion, as a motivating factor, demand reducing strategies are unlikely to have public support, are unlikely to succeed and may involve utilizing funds that would best be utilized for other purposes.

SUMMARY

Table 5-1 summarizes the decisions regarding the street system modal plan based on the evaluation process described in this chapter. Chapter 6 discusses how these improvement options fit into the modal plans for the Enterprise area.

TABLE 5-1
TRANSPORTATION IMPROVEMENT OPTIONS: DECISION SUMMARY

Option	Decision
1. Revise Zoning and Development Codes	• Do not implement, demand strategy unnecessary
2. Reduce the Speed on Highway 82	• Desirable to implement; ODOT has jurisdiction
3. Install a Traffic Signal at the Intersection of River St. (Highway 82) and Main St.	• Do not implement; traffic volumes do not warrant traffic signal
4. Change Two-Way Streets to One-Way Operation	• Do not implement; traffic volumes do not warrant change
5. Reduce the Number of Safeway Access Points	• Implement
6. Reconstruct the Intersection of Highway 82 and Golf Course Rd.	• Study further; ODOT has jurisdiction
7. Extend Silver St.	• Implement; can be paid for by developer
8. Construct a New Street Parallel to Golf Course Rd.	• Further study; can be paid for by developer
9. Extend Flora St.	• Further study
10. Protect the Idaho Northern Pacific Railroad Right-of-Way	• Implement, but may now be moot
11. Install Landscaping Along Highway 82	• Implement, but may now be moot
12. Provide a Bikeway on Highway 82 or on Hurricane Creek Rd.	• Implement where volumes warrant bike lane; otherwise provide paved shoulder
13. Upgrade structurally deficient bridges	• Implement
14. Transportation Demand Management Strategies	• Don't implement

CHAPTER 6: TRANSPORTATION SYSTEM PLAN

The purpose of this chapter is to provide detailed operational plans for each of the transportation systems within the community. The Enterprise Transportation System Plan covers all the transportation modes that exist and are interconnected throughout the urban area. Components of the street system plan include street classification standards, access management recommendations, transportation demand management measures, modal plans, and a system plan implementation program.

STREET DESIGN STANDARDS

Street 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. Street 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.

Existing Street Standards

Existing City of Enterprise ordinances require a basic minimum right-of-way of 20 feet for alleys, 60 feet for residential and collector streets and 90 for collector and arterial streets. Currently, preliminary street standards exist for minimum pavement widths, shoulders, sidewalks, curbs and buffers as described below. No improvement specifications are given for alleys. There are no bikeway requirements.

- Residential Streets – Current standards are for a minimum right-of-way of 60 feet, minimum paved width of 22 feet, and minimum gravel shoulder of two feet. The existing right-of-way on some residential streets is as much as 90 feet. City officials expressed an interest in upgrading the minimum paved width to 24 feet and requiring sidewalks with a minimum width of four feet and a buffer between the sidewalk and roadway of six feet.

- Cul-de-sac Streets – Current standards are the same as those for residential streets, with a minimum bulb radius of 75 feet required.

- Collector and Arterial Streets -- Current standards are for a minimum right-of-way of 60 to 90 feet, minimum paved width of 35 feet, and minimum sidewalk width of six feet with no required setback from the street. Curbs are specified for the collector and arterial streets. Many of the streets in the commercial areas exceed these minimums, with typical paved widths of 35 to 45 feet from curb to curb, and Main Street has a paved width of 60 feet from curb to curb. City officials would like to require a sidewalk width of 12 feet in commercial areas with a minimum acceptable width of six feet.

- Special Commercial View Development Streets -- Recently, a special Commercial View Development zone was created for the residential development and hotel under construction north of Highway 82 and west of Golf Course Road. Standards for streets in that zone are for a minimum pavement width of 24 feet (no curb requirement), a minimum sidewalk width of four feet, and a landscaped buffer between the sidewalk and street (no minimum width requirement).

Street Standards

The development of the Enterprise Transportation System Plan provides the city with an opportunity to review and revise street design standards to more closely fit with the functional street classification. A number of alternate street standards and configurations were considered; they are shown graphically in Figure 7-1 through Figure 6-3 and summarized in Table 6-1. Since the Enterprise Transportation System Plan includes land within the UGB, urban street standards should be applied in these outlying areas as well. Although portions of the city, especially outside the city boundary, may presently have a rural appearance, these lands will ultimately be part of the urban area. Retrofitting rural streets to urban standards in the future is expensive and controversial; it is better to initially build them to an acceptable urban standard.

TABLE 6-1
STREET DESIGN STANDARDS CONSIDERED

Classification	Pavement Width	Right-of-Way Width	Min. Posted Speed
Residential -- Option 1	32-36 ft.	60 ft.	15-25 mph
Residential -- Option 2	28 ft.	40 ft.	15-25 mph
Residential -- Option 3	24 ft.	60 ft.	15-25 mph
Alley	16-20 ft.	20 ft.	15 mph
Collector -- Option 1	36 ft.	60 ft.	25-35 mph
Collector -- Option 2	30 ft.	50 ft.	25-35 mph
Arterial -- Option 1	36 ft.	60 ft.	25-45 mph
Arterial -- Option 2	52 ft.	80 ft.	25-45 mph

A good, well-connected grid system of relatively short blocks can minimize excessive volumes of motor vehicles by providing a series of equally attractive or restrictive travel options. This street pattern is also beneficial to pedestrians and bicyclists.

Where desirable, and at a minimum under the circumstances required by law, sidewalks should be included on all new streets as an important component of the pedestrian system. When sidewalks are located directly adjacent to the curb, they can include such impediments as mailboxes, street light standards, and sign poles, which reduce the effective width of the walk. Sidewalks buffered from the street by a planting strip eliminate obstructions in the walkway, provide a more pleasing design as well as a buffer from traffic, and make the sidewalk more useable by disabled persons. To maintain a safe and convenient walkway for at least two adults, a five-foot sidewalk should be used in residential areas.

Residential and Collector Streets

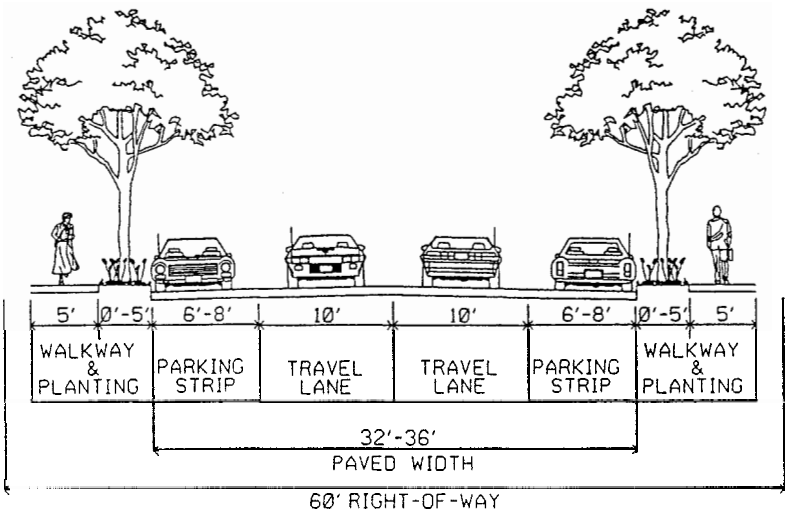
Residential

The design of a residential street affects its traffic operation, safety, and livability. The residential street should be designed to enhance the livability of the neighborhood as well as to accommodate less than 1,200 vehicles per day. Design speeds should be 15 to 25 mph. When traffic volumes exceed approximately 1,000 to 1,200 vehicles per day, the residents on that street will begin to notice the traffic as a noise and safety problem. To maintain neighborhoods, local residential streets should be designed to encourage low speed travel and to discourage through traffic.

(not to scale)

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

OPTION 1:



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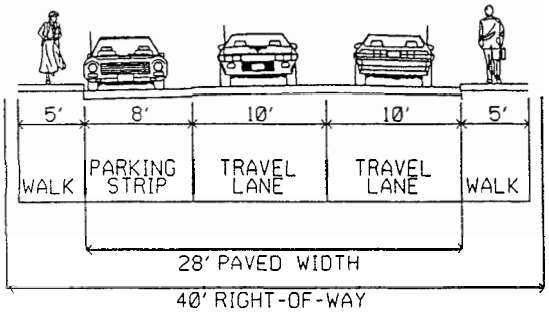
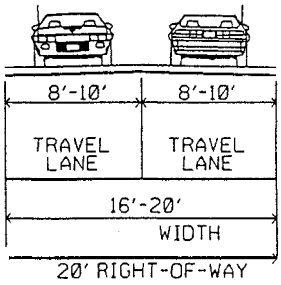
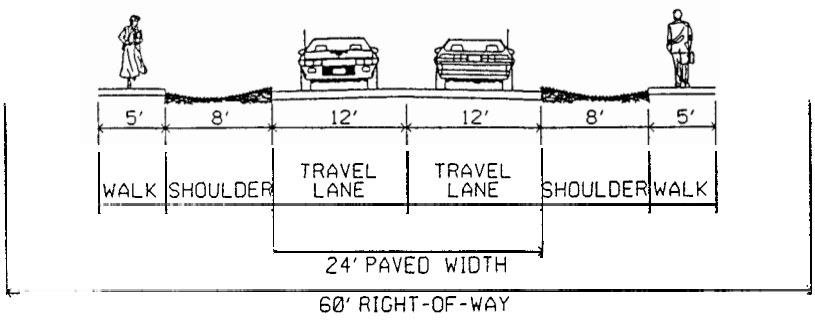


ALLEY Adopted Standard



OPTION 3: Adopted Standard for Residential and Collector Streets:



NOTE: For Collector Streets, Sidewalk to be 6' and shoulder 7'.

FIGURE 6-1
RECOMMENDED STREET STANDARDS -LOCAL RESIDENTIAL AND ALLEY STREETS

(not to scale)

DAVID EVANS
ND ASSOCIATES, INC
828 S.W. CORBETT AVENUE
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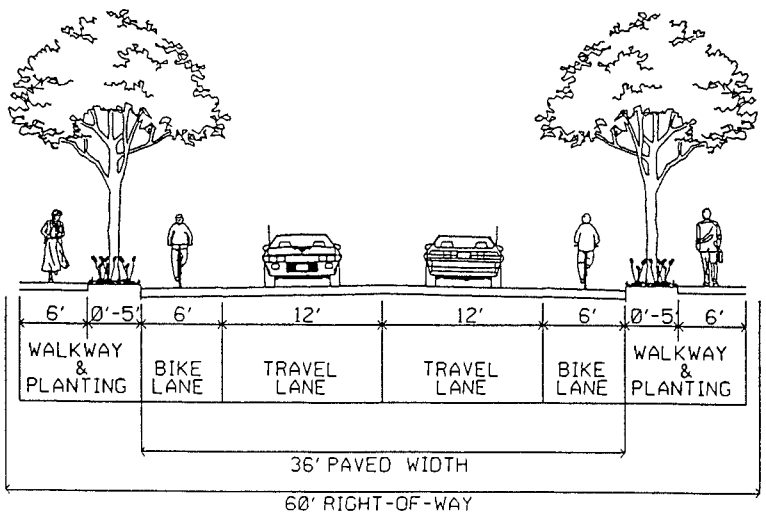
OPTION 1:



OPTION 2: Adopted Standard:

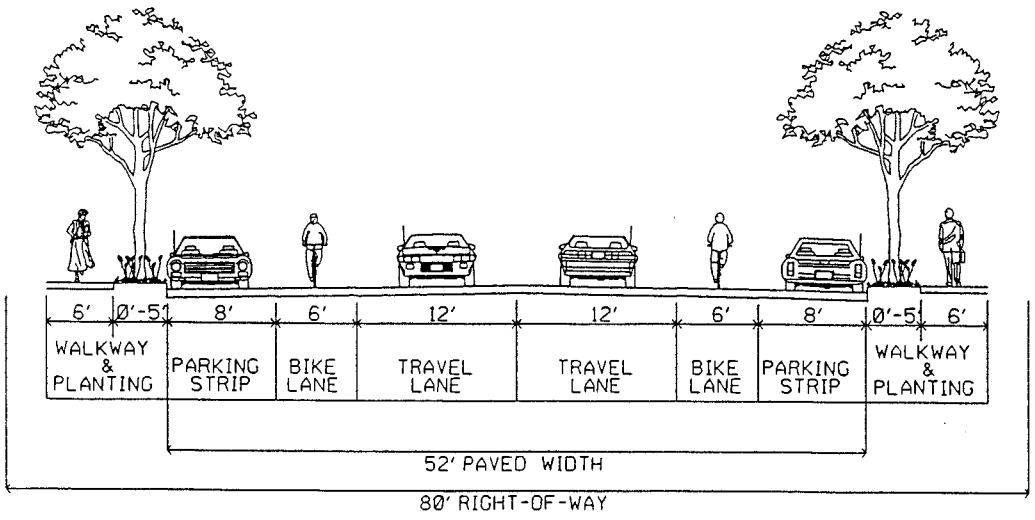
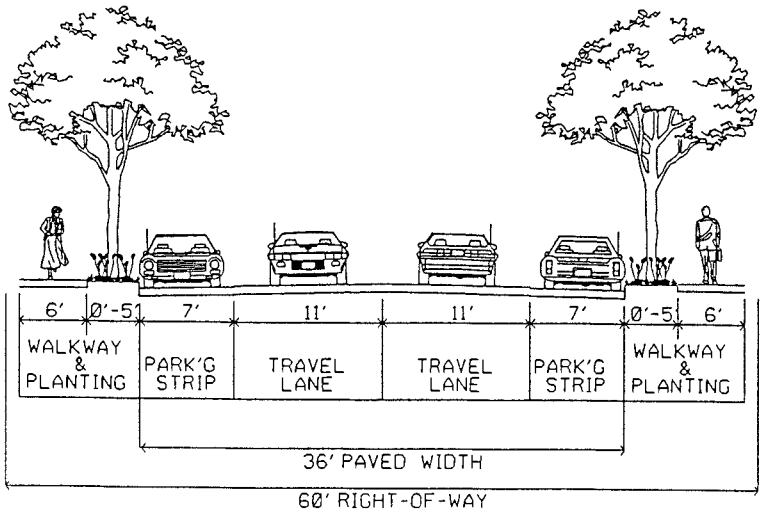


FIGURE 6-3
RECOMMENDED
STREET STANDARDS
-ARTERIAL STREETS

(not to scale)

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

OPTION 1:



OPTION 2:

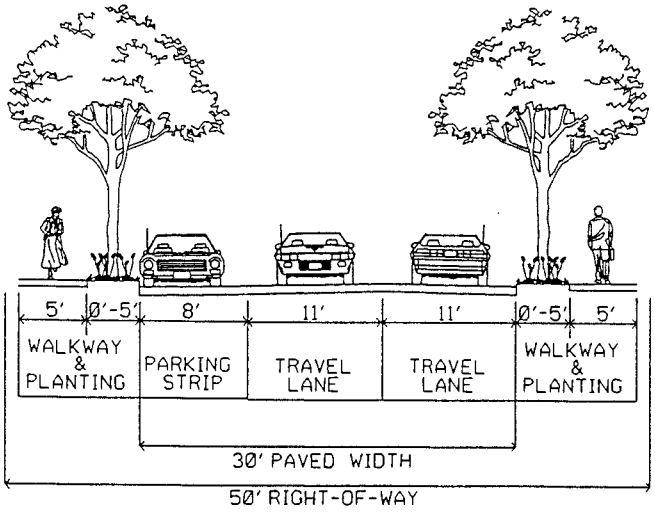


FIGURE 6-2
RECOMMENDED
STREET STANDARDS
-COLLECTOR STREETS

Cul-de-sac, or "dead-end" residential streets are intended to serve only the adjacent land in residential neighborhoods. These streets should be short (less than 300 feet long) and serve a maximum of 20 single-family houses. Because the streets are short and the traffic volumes relatively low, the street width can be narrower than a standard residential street, allowing for the passage of two lanes of traffic when no vehicles are parked at the curb at one lane of traffic when vehicles are parked at the curb.

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

Three street standard options were considered for residential streets, as shown in Figure 6-1. Each option provides a minimum of 24 feet of pavement and provide varying degrees of on-street parking.

Option 1

The standard to a local residential street should be a 32- to 36-foot roadway surface within a 60-foot right-of-way. The cross section will accommodate passage of one lane of moving traffic in each direction, with curb parking on both sides of the street. Five-foot sidewalks should be provided on each side of the roadway. An optional planting strip has been included with a width up to five feet.

Option 2

This option provides a 28-foot roadway surface within a 40-foot right-of-way. The cross section will accommodate passage of one lane of moving traffic in each direction, with curb parking on one side. Five-foot sidewalks should be provided on each side of the roadway, adjacent to the curb.

Narrower streets improve neighborhood aesthetics and discourage speeding and through traffic. They also reduce right-of-way needs, construction costs, storm water run-off, and the need to clear vegetation.

Option 3

A third option for residential street provides a 24-foot roadway within a 60-foot right-of-way. The cross section will accommodate passage of one lane of moving traffic in each direction, with on-street parking at appropriate locations in the planter strip. Five-foot wide sidewalks should be provided on the roadway and should be set back from the street approximately eight feet to allow for a grass or gravel shoulder.

Collector Streets

Collectors are intended to carry between 1,200 and 10,000 vehicles per day, including limited through traffic, at a design speed of 25 to 35 mph. A collector can serve residential, commercial, industrial, or mixed land uses. Collectors are primarily intended to serve local access needs of residential neighborhoods through connecting local streets to arterials. Bike lanes are typically not needed due to slower traffic speeds.

Two street standard options were considered for collectors, as shown in Figure 6-1. Both options provide one lane of moving traffic in each direction and can also be striped to provide two travel lanes plus left-turn lanes at intersections or driveways by removing parking for short distances.

Option 1

This option provides a 36-foot roadway surface within a 60-foot right-of-way. The cross section will accommodate passage of one lane of moving traffic in each direction, with curb parking on both sides of the street. Five-foot sidewalks should be provided on each side of the roadway. An optional planting strip has been included with a width up to five feet.

Option 2

This option provides a 30-foot roadway surface within a 50-foot right-of-way. The cross section will accommodate passage of one lane of moving traffic in each direction, with curb parking on one side. Five-foot sidewalks should be provided on each side of the roadway, adjacent to the curb.

Adopted Standard – Residential and Collector Streets

The City has adopted Option 3 on Figure 6-1, with slight modification, as its street standard for both residential and collector streets: The adopted street standard is as follows:

(1) Minimum street right of way is 60 feet in width;

(2) For residential streets, a 5 foot sidewalk width on both street sides and for collector streets a 6 foot sidewalk width on both street sides; however, the City may permit sidewalks on one side of the street only;

(3) 24 feet minimum paved street width with sidewalks and curbs on both sides of the street; paved street up to 36 feet may be required in appropriate circumstances.

(4) 8 foot planter/parking strip between the traveled way and curb. To be graveled for parking where on-street parking is desired; otherwise plantings and landscaping are encouraged.

(5) In determining whether to require sidewalks on one street side only the City shall consider whether the sidewalks will connect to existing or planned sidewalk facilities, the cost thereof; and the benefit to the public and owners of adjacent properties.

Alleys

Alleys can be a useful way to diminish street width by providing rear access and parking to residential areas. Including alleys in a subdivision design allows homes to be placed closer to the street and eliminates the need for garages to be the dominant architectural feature. This pattern, once common, has been recently revived as a way to build better neighborhoods. In addition, alleys can be useful in commercial and industrial areas, allowing access by delivery trucks that is off of the main streets. Alleys should be encouraged in the urban area of Enterprise. Alleys should be 16 to 20 feet wide, with a 20-foot right-of-way. (See Figure 6-1).)

Arterial Streets

Arterial streets form the primary roadway network within and through a region. They provide a continuous roadway system that distributes traffic between different neighborhoods and districts. Generally, arterial

streets are high capacity roadways that carry high traffic volumes with minimal localized activity. Design speeds should be between 25 and 45 mph. (See Figure 6-3).

Option 1

This option consists of a 60-foot right-of-way and a 36-foot paved width. The 36-foot cross section allows two 12-foot travel lanes with two six-foot bike lanes. Six-foot sidewalks should be provided on each side of the roadway. An optional planting strip has been included with a width up to five feet. In commercial or business areas, the sidewalks may be 12 feet wide or extend to the property line, and may be located adjacent to the curb to facilitate loading and unloading at the curb.

Option 2

Another option for arterial streets maintains on-street parking. The section provides a 52-foot paved surface within an 80-foot right-of-way to allow for two 12-foot travel lanes, two six-foot bike lanes, and two eight-foot parking lanes. The bike lanes should be striped between the parking lane and the travel lane.

Six-foot sidewalks should be provided on each side of the roadway. An optional planting strip has been included with a width up to five feet. In commercial or business areas, the sidewalks may be 12 feet wide or extend to the property line, and may be located adjacent to the curb to facilitate loading and unloading at the curb.

Adopted Arterial Street Standard

The City adopts option 2 as its street standard for arterials. Street right of way width should be changed from a minimum of 90 feet to 80 feet.

Bike Lanes

In cases where a bikeway is proposed within the street right-of-way, 12 feet of roadway pavement (between curbs) should be provided for a six-foot bikeway on each side of the street, as shown on the cross sections in Figure 6-3. The striping should be done in conformance with the State Bicycle and Pedestrian Plan (1995). In cases where curb parking will exist with a bike lane, the bike lane will be located between the parking and travel lanes. In some situations, curb parking may have to be removed to permit a bike lane.

Under ODOT standards, it is appropriate to plan for bicycle and automotive travel on a shared road, when average daily traffic counts are less than 3,000 or where posted legal speed limits are 25 or less miles per hour. Based upon the traffic counts set forth at pages 3-1 to 3-2 and in Figure 3-1 the following conclusions emerge:

(1) A shared roadway is appropriate on Highway 3 north to the City limits line, due to the low traffic volumes and 25 mph speed limit;

(2) A shared roadway is appropriate for most of Highway 82, within the City, either because of speed limits of 25 mph or less or because of average daily traffic counts less than 3,000; and

(3) That average daily traffic counts on all City streets other than streets on which the state highways are routed are less than 3,000 vehicles per day and due to speed limits of 25 or less miles per hour, shared automotive/bicycle roadway is appropriate.

ODOT decided not to include shoulder bikeways in its upcoming Highway 82 reconstruction project due to conflicts with needed on street parking. Bikeway facilities are under the jurisdiction of ODOT for the state highways within the city limits.

The City will plan for bicycle travel on roadways shared by automobiles and bicycles. This is an appropriate method of accommodating the bicycle mode of travel for all streets within the City, all of Highway 3 within the City and most of Highway 82.

Sidewalks

Sidewalks on residential streets should have a five-foot wide paved width. Collector and arterial streets should have six-foot wide sidewalks, and downtown commercial streets should have 12-foot wide curb sidewalks. In addition, pedestrian and bicycle connections should be provided between any cul-de-sac or other dead-end streets.

Curb Parking Restrictions

Curb parking should be prohibited at least 12 feet from the end of an intersection curb return to provide sight distance at street crossings. This standard is applicable to all city streets, including those on which state highways are situate. A greater distance may be prescribed by the City Council or Superintendent of Public Works, where appropriate.

Street Connectivity

Street connectivity is important because a well-connected street system provides more capacity than a disconnected one, provides alternate routes for local traffic, and is more pedestrian and bicycle-friendly. It is likely that the City of Enterprise's relative lack of congestion is in part due to its grid system. Ensuring that this grid is extended as development occurs is critical to Enterprise's continued livability. Provision should be made for connecting streets to provide connectivity between adjacent areas. Street circulation plans which do not provide for such connecting streets where they are feasible, should not be approved.

ACCESS MANAGEMENT

Terminology and Legal Requirements

OAR 666-012-0005(1) defines "access management" as "measures regulating access to streets, roads and highways from public roads and private driveways. Measures included in the legal definition of access management are restrictions on interchanges, restrictions to access on roadways and use physical controls such as signals and various traffic channelization methods.

OAR 660-012-0045(2) sets forth required regulations to protect the function and capacity of transportation facilities. That section provides, as follows:

> *(2) Local governments shall adopt land use or subdivision ordinance regulations, consistent with applicable federal and state requirements, to protect transportation facilities, corridors and sites for their identified functions. Such regulations shall include:*

(a) Access control measures for example, driveway and public road spacing, median control and signal spacing standards, which are consistent with the functional classification of roads and consistent with limiting development on rural lands to rural uses and densities;

(b) Standards to protect future operation of roads, transit ways and major transit corridors;

(c) Measures to protect public use airports by controlling land uses within airport noise corridors and imaginary surfaces, and by limiting physical hazards to air navigation.

(d) A process for coordinated review of future land use decisions affecting transportation facilities, corridors or sites.

(e) A process to apply conditions to development proposals in order to minimize impacts and protect transportation facilities, corridors or sites.

(f) Regulations to provide notice to public agencies providing transportation facilities and services, MPOs, and ODOT of:

(A) Land use applications that require public hearings;

(B) Subdivision and partition applications;

(C) Other applications which affect private access to roads; and

(D) Other applications within airport noise corridors and imaginary surfaces which affect airport operations.

(g) Regulations assuring that amendments to land use designations, densities, and design standards are consistent with the functions, capacities and levels of service of facilities identified in the TSP.

Highway 82 from the Golf Course Road intersection to the Resident Street intersection and Highway 3 to the north City limits line are routed on city streets under the authority of ORS chapter 373. ORS 373.020 (1) provides for joint control of such a street as follows:

> *Complete jurisdiction and control of streets taken over by the Department of Transportation as provided in ORS chapter 366 and ORS 105.760, 373.010, 373.015, 373.030 and this section, is vested in the department and extends from curb to curb.... Responsibility for the jurisdiction over all other portions of the street or road remains in the city.*

ORS 374.305 requires a permit from ODOT prior to construction of an approach road or driveway "on the right of way of any state highway". Representatives of ODOT have advised the City that the Department of Justice is of the opinion that this statute confers authority upon the department to issue access permits on state highways routed on city streets under chapter 373 and that this authority is exclusive. However, it is unclear to the City that the statute in fact confers authority for such permits where the highway is routed on a city street. The permit statute covers access to the "right of way" of any state highway and ORS 373.020 although mentioning authority under other statutes does not specifically refer to authority under ORS 374.305.

The only case of substance involving the interpretation of ORS chapter 373 is ***Cabell v Cottage Grove***, 170 Or 256, 130 p2d 1013 (1942). In that case, the Supreme Court held that a city street over which a state highway was routed retained it character as a city street and that the highway department could not unilaterally close access to the street on which the highway was routed from an intersecting city street. Even if the above statutes were interpreted to confer jurisdiction to issue access permits in those areas where a highway is on a city street, it is not clear to the City that this jurisdiction would be exclusive, given the fact that the public way retains it character as a city street and that the City has statutory jurisdiction beyond the curb.

ODOT representatives have advised the City that ODOT is exercising access permit jurisdiction statewide in those areas where a highway is routed on a city street. ODOT further advised that they intend to require and process access permit applications within the City of Enterprise for those highway segments which are routed on city streets. The City is not aware that ODOT has generally required permits in those locations previously.

Where a land use application proposes access to a state highway, it is the City's decision, in this regulatory context, to coordinate its land use permit review, which includes a review of proposed access to city streets, with ODOT's access permit review under ORS 374.305. This coordinated review would occur for new uses or facilities involving access to a deeded highway right of way and access to a city street on which a state highway is routed. The object of the review would be to attempt to reach an access decision which complies with ODOT's and the City's regulations and policies.

Local Circumstances

The arterial streets within the City of Enterprise include Highway 82 from the west City limits line to its exit from the City southeast corner of the City and Highway 3 from North Street to the north City limits line. From the Golf Course Road intersection to the Hurricane Creek Road intersection, Highway 82 is situate on platted City streets. From Golf Course Road to the west City limits line and from the Hurricane Creek Road intersection to the east City limits line, Highway 82 is situate on deeded highway right of ways. Highway 3, from North Street to the north City limits line is entirely located on platted City streets.

The portions of the highways that are routed on City platted streets generally serve property that has been subdivided into relatively small lots and which are generally developed either for residential or commercial purposes. There are a limited number of parcels which have not yet been developed. The abutting owners may have a legal right of access to the adjacent streets on which their lot fronts and an access control measure which precludes such access would, in the absence of reasonable alternative access, be legally impermissible . However, the number of such access points, their location and where traffic impact would warrant, physical traffic control measures may be regulated or required by the City and/or ODOT to secure proper traffic flow and safety.

The analysis of traffic volumes and highway system capacity, contained in Chapter 4 herein arrived at one principal conclusion, namely, that under anticipated projected traffic volumes to the year 2018, the City street system and Highways 82 and 3 will maintain their functional capacity, with acceptable levels of delay during peak traffic periods. The analysis followed ODOT prescribed technical standards for assessing levels of congestion and delay.

Access Management Techniques

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

- Restricting spacing between access points (driveways) based on the type of development and the speed along the arterial.

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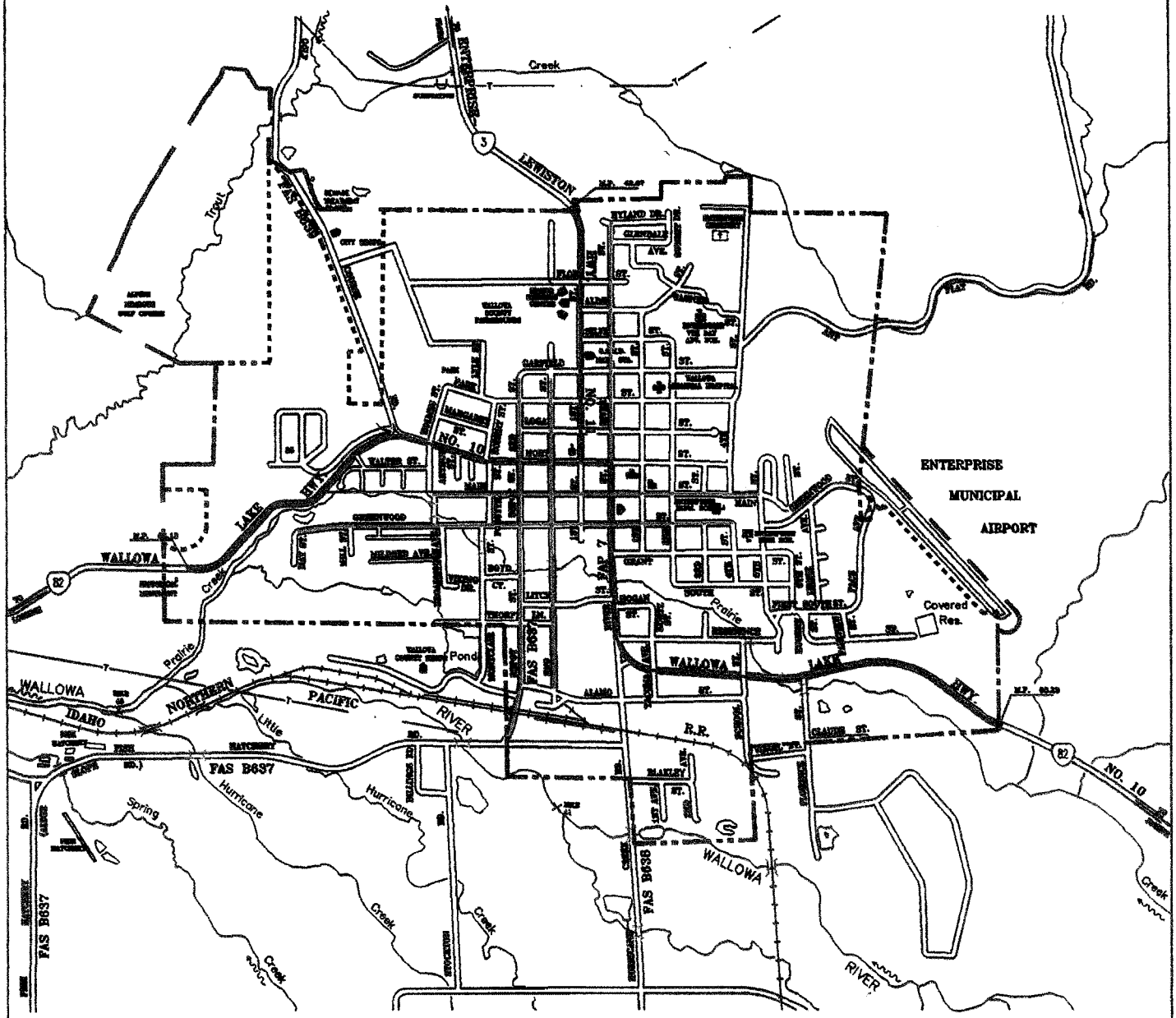

LEGEND

- ARTERIAL
- COLLECTOR
- RESIDENTIAL STREET
- CITY LIMITS
- URBAN GROWTH BOUNDARY

SCALE
1600 800 0 800 1600 FEET

FIGURE 6 - 4

STREET SYSTEM PLAN

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

Recommended Access Management Standards

David Evans & Associates recommended the access management standards set forth in Table 6-2.

TABLE 6-2
RECOMMENDED ACCESS MANAGEMENT STANDARDS

	Intersections			
Functional	**Public Road**		**Private Drive[2]**	
Classification	**Type[1]**	**Spacing**	**Type**	**Spacing**
Arterial				
Highway 82: General	at-grade	¼ mile	L/R Turns	500 ft.
Highway 3: General	at-grade	250 mile	L/R Turns	500 ft.
Other Arterials within UGB	at-grade	250 ft.	L/R Turns	100 ft.
Collector	at-grade	250 ft.	L/R Turns	100 ft.
Residential Street	at-grade	250 ft.	L/R Turns	Access to Each Lot
Alley (Urban)	at-grade	100 ft.	L/R Turns	Access to Each Lot

Notes:
(1) For most roadways, at-grade crossings are appropriate.
(2) Allowed moves and spacing requirements may be more restrictive than those shown to optimize capacity and safety. 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.

Most of the standards contained in the above table were taken from access spacing standards contained in the 1991 Oregon Highway Plan. The City has carefully reviewed these standards and finds that they are not

practical within the City limits due to the highly parcelized ownerships adjacent to Highway 82 within the City. The City believes it inappropriate to adopt and enforce a standard which will require resort to an exceptions process in a high number of cases.

Under the proposed 1998 Oregon Highway Plan, a special transportation area can be created for highways in urbanized areas and access guidelines can be established which are appropriate for that area. The City desires to work with ODOT to create a special transportation area for Highway 82 within the City of Enterprise. This process could not go forward until such time as ODOT adopts the 1998 plan.

ADOPTED ACCESS MANAGEMENT PLAN

The City elects to control access through a case by case process pursuant to generalized criteria. Access to public streets will be reviewed as part of the City's site plan review procedures, for uses which are subject to such review. These include commercial uses and a number of other uses of a more intensive nature. Access review for other uses would be conducted as part of a zoning permit or conditional use permit review. Where access is proposed to a state highway on a deeded right of way or where routed on a city street, the City will coordinate its review with ODOT's access permit review.

Access would be reviewed pursuant to the following general criteria:

1. The City will seek to minimize impact upon traffic flow though the number and location of private driveways.

2. The City may permit more than one driveway entering a city street if business necessities and appropriate utilization of the property warrant.

3. For corner lots abutting a major city street on one side and an intersecting minor city street on the other side, the City may (a) in the case of a commercial use, prohibit driveway access on the major city street and require that driveway access be on the adjacent city streets and (b) in the case of residential uses, where feasible, require that the driveway access be from the adjacent minor city street.

4. Where the public safety requires, the City may preclude any access to a public street or highway.

5. Where warranted, the City may require the construction of turn refuge lanes or other traffic channelization devices and/or traffic signals or other regulating signs or devices.

6. The underlying object of such review shall be to preserve the effective functional use, safety, access spacing and site distance of each street according to the functional classification of each.

7. The City shall coordinate its review of land use applications involving access to a state highway with ODOT's access review under ORS 374.305 and the City shall undertake a concurrent access review for access to highways routed on city streets. The purpose of such coordinated review shall be to find a specific access plan that complies with the City's land use development and access policies and regulations and which also complies with ODOT's access policies and regulations.

MODAL PLANS

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

Street System Plan

The street system plan recommends changes to the current street classification system and outlines a series of improvements that are recommended for construction within the City of Enterprise during the next 20 years. These options have been discussed in Chapter 6 (Improvement Options Analysis). The proposed street system plan is summarized in Table 6-3 and shown in Figure 6-4.

Street System Functional Classification

Street system functional classifications relate the design of a roadway to its function. The function is determined by operational characteristics such as traffic volume, operation speed, safety and capacity.

The City of Enterprise previously classified all streets within the corporate boundary as either major arterials, minor arterials or collectors. The analysis of the existing street system indicated that many of the streets within the community function differently than their classification. For example, most roadways are classified as collectors when they actually function as local streets. Most of these streets do not meet the design standards of collectors which may include multiple travel lanes, on-street parking, curbs and sidewalks and access limitations. In addition, the TPR requires that streets classified as major collectors or higher (including major and minor arterials) must include bike lanes. Currently, none of the major or minor arterials in Enterprise include bike lanes.

Enterprise should reclassify its street system so that each street's classification more closely matches its actual design and function. This could be accomplished by classifying all streets as either arterial, collector, local, or alley. The following roadway classifications are adopted:

- Highway 82 (North Street west of River Street and River Street south of North Street) -- change classification from major arterial to arterial, as it is a State Highway of statewide level of importance, it carries the highest traffic volumes in the city, and it is the primary route to Enterprise from the rest of the state.

- Highway 3 (1st Street north of North Street) -- change classification from collector to arterial, as it is a State Highway of district level of importance, it is the primary route to and from points north of Enterprise, and otherwise functions more as an arterial than as a collector.

- River Street (north of North Street) -- change classification from minor arterial to collector, as its function is to connect local neighborhoods with the arterial roadway system.

- Main Street -- change classification from minor arterial to collector, as its function is to connect local neighborhoods with the arterial roadway system.

- Greenwood Street -- change classification from minor arterial to collector, as its function is to connect local neighborhoods with the arterial roadway system, and with a significant segment of the road being a dead end, it currently does not function as an arterial.

- Depot Street -- retain classification as a collector, as its function is to connect local neighborhoods with the arterial roadway system.

- 2nd Street -- retain classification as a collector, as its function is to connect local neighborhoods with the arterial roadway system.

- All other roadways -- change classification from collector to residential.

No direct costs are associated with making the classification changes.

Street Improvement Projects

Table 6-3 presents street improvement projects, including bridges on city streets, that are included in the street system plan. The projects are listed as high priority (construction expected in the next 0 to 5 years), medium priority (construction expected in the next 5 to 10 years), and low priority (construction expected in the next 10 to 20 years).

TABLE 6-3
STREET SYSTEM PROJECTS

Location	Project	Priority	Cost
Highway 82 & 3	Upgraded surfacing, width, structures, drainage, and sidewalks (1998 STIP Project)	High	$6,900,000
Highway 82	Reconstruct the intersection of Highway 82 and Golf Course Rd.	High	$500,000
Highway 82	Close one of the Safeway driveways on Highway 82	High	$1,000
Silver St.	Extend one block west of Lyle St.	High	$150,000
Greenwood Street	Bridge replacement	High	$348,000
A New Street	Construct a new street parallel to Golf Course Rd. connecting Park St. with Golf Course Rd.	Medium	$540,000
Flora St.	Extend west to connect with the planned new road parallel to Golf Course Rd.	Low	$480,000
East Residence Street	Bridge replacement	Low	$472,000
Subtotal High Priority Projects			$7,899,000
Subtotal Medium Priority Projects			$540,000
Subtotal Low Priority Projects			$952,000
Total			$9,391,000

Speed Control Measures

The existing speed control measures along Highway 82 is in Enterprise are, with minor adjustments, adequate. ODOT has exclusive jurisdiction over posted speed limits on the highways which, with the exception of those areas discussed at table 5-3, are adequate to secure public safety. Enforcement is generally in the hands of the City Police Department, although other agencies such as the Oregon State Police and the Wallowa County Sheriff's office are involved in occasional enforcement of these speed limits. An appropriate speed control program is (1) implementation of the speed limit changes requested by the City and (2) monitoring of compliance by the City with targeting of enforcement efforts as is necessary. The additional speed control measures discussed in Appendix C are not adopted.

Pedestrian System Plan

The City is adopting a pedestrian system plan which places a much higher priority on pedestrian travel and provision of an adequate sidewalk system. The plan can be broken into two basic components, namely (1) proposed projects to retrofit existing streets with appropriate sidewalks (essentially a capital improvement program) and (2) as part of the land use planning and permitting process requiring a sidewalk system in conjunction with new subdivisions, new streets and most commercial development. Each one of those components will be addressed separately.

Sidewalk Improvements on Existing Streets and Highways

A sidewalk inventory revealed that the downtown core of Enterprise has fairly good sidewalk coverage, although curb cuts for wheelchair access are generally lacking. Many of the existing roadways outside of the downtown area do not have sidewalks, or sidewalks are segmented and curb cuts are lacking.

The city's sidewalk system should be expanded to include, at a minimum, sidewalks along both sides of Highways 82 and 3, except for portions near the city limits line, which are not yet developed. Other blocks within the city's grid system that have a significant amount of pedestrian activity, such as in front of stores or schools, etc., should also have sidewalks.

The primary goal of this improvement option is to improve pedestrian safety; however, an effective sidewalk system has several qualitative benefits as well. Providing adequate pedestrian facilities increases the livability of a city. When pedestrians can walk on a sidewalk, separated from vehicular street traffic, it makes the walking experience more enjoyable and may encourage walking, rather than driving, for short trips. Sidewalks enliven a downtown and encourage leisurely strolling and window shopping in commercial areas. This "Main Street" effect improves business for downtown merchants and provides opportunities for friendly interaction among residents. It may also have an appeal to tourists as an inviting place to stop and walk around.

The cost to construct a concrete sidewalk facility is around $35 per linear foot. This assumes that the sidewalks are 6 feet wide and include curbs. The cost estimate also assumes the sidewalks are composed of four inches of concrete and six inches of aggregate.

New sidewalks should be constructed with curb cuts for wheelchairs at every crosswalk to comply with the Americans with Disabilities Act (ADA).

As street improvements are made to the existing street system, projects involving the construction of new sidewalks may require on-street parking to be implemented in place of parking on grass or gravel shoulders.

The existing sidewalk system and proposed new sidewalks are shown on figure 6-5. There is a fully developed existing sidewalk grid in the core area of the City. The balance of the City is generally not served by sidewalks.

The proposed additional sidewalks are shown in red and are as follows:

(1) A sidewalk system adjacent to Highway 82 from just east of the west City limits line to Florence Street on the east side of the City. A major portion of this sidewalk is planned for construction in 1999 (i.e., that portion from Walter Street to School Street on the east side of the City).

(2) A sidewalk system on Highway 3 from North Street to the north City limits line; the portion to Flora Street was constructed in 1998 as part of the Highway 3 reconstruction program.

(3) A sidewalk along Highland Avenue from Highway 82 to the new Best Western Hotel; this sidewalk is required to be constructed by the developers of the Best Western Motel.

(4) In addition, to provide pedestrian paths to each quadrant of the City, the following additional sidewalks are proposed:

(a) Additional sidewalks on Greenwood Street from River Street to 5th Street.

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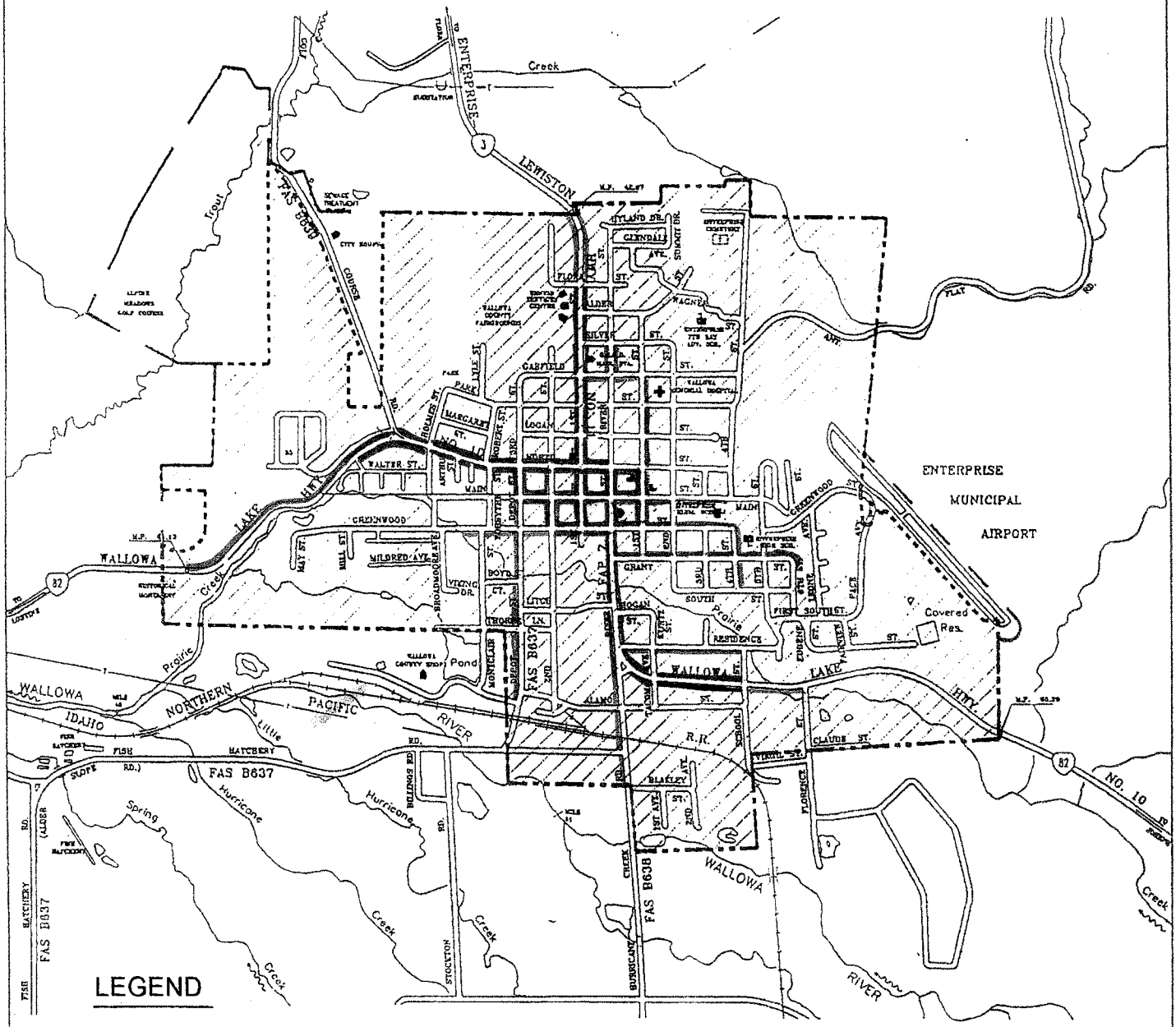


EXISTING SIDEWALKS
PROPOSED AND FUNDED
PROPOSED AND NOT FUNDED

CITY LIMITS

URBAN GROWTH BOUNDARY

SCALE
1600 800 0 800 1600 FEET

FIGURE 6-5

PEDESTRIAN PLAN

(b) Residence Street from River Street to School Street (one side).

(c) River Street from Highway 82 to Blakley Street (one side).

(d) Garfield Street from Highway 3 to 1st Street, to connect the new sidewalk on Highway 3 to the existing sidewalk adjacent to Wallowa Memorial Hospital.

(e) 4th Street from South Street to Greenwood Street to connect with Enterprise School to Ortman Field (one side).

(f) 1st Street from hospital to Silver Street (one side).

(g) Depot Street from North Street to Alamo Street (one side).

The bulk of the Highway 82 and Highway 3 sidewalks will be completed by the fall of 1999 and facilities for pedestrian travel will be substantially improved. The Highland Avenue sidewalk is required to be installed by the developer. The balance of the sidewalk projects are not funded; it is unlikely that the budgetary considerations will permit funding of these projects from general fund resources. In order to implement these projects, the City will need to secure funding from other sources.

The on-street pedestrian improvements only include sidewalk projects. Although shoulder additions serve pedestrians, they are not ideal because they are not separated from the roadway; however, in rural areas where development may not occur quickly, the addition of shoulders is often the most practical improvement that can be implemented. Generally, shoulders are more of a benefit to cyclists than to pedestrians; therefore, proposed shoulder-widening or additions are discussed in the Bicycle System Plan section of this chapter.

A six-foot-wide sidewalk with curbs already in place costs about $30 per linear foot. Adding a curb as well as a six-foot-wide sidewalk costs about $35 per linear foot. In commercial areas, a 12-foot-wide sidewalk with a curb would cost about $65 per linear foot. Applying these costs to a typical block in Enterprise would require about 600 linear feet of sidewalk (2 x 300 feet). For a six-foot wide sidewalk including curbs, the cost would be approximately $21,000. With curbs already in place, the cost would be approximately $18,000.

Missing sidewalk segments should be infilled whenever an opportunity presents itself (such as infill development, special grants, etc.), concentrating on arterial streets, collectors, and school routes.

TABLE 6-4
PLANNED PEDESTRIAN PROJECTS

Location	Project	Priority	Length (ft)	Cost
STATE HIGHWAYS:				
W. 1st St. (Hwy 3)	Logan Street to Flora St.	High	1,600	$112,000.
W. 1st St. (Hwy 3)	Flora Street to north City limit	Low	800	$56,000.
North St. (Hwy 82)	Holmes Street to Depot Street	High	900	$64,000.
North St. (Hwy 82)	Depot Street to River Street (south side only)	High	900	$32,000.
River St. (Hwy 82)	Greenwood Street to Residence Street	High	1,200	$84,000.
Hwy 82, East	Residence Street to School Street	Medium	1,400	$87,000
Hwy 82, East	School Street to Florence Street	Low	650	$45,500
Hwy 82, West	Holmes Street west to Walter Street	Medium	800	$56,000
Hwy 82, West	Walter Street, West to Highland Avenue (one side only)	Low	2600	$91,000
OTHER STREETS:				
Highland Avenue	Highland Avenue to Best Western	Medium	800	$24,000
Greenwood Street, West	River Street to Greenwood Street Bridge (south side only)	High	1,450	$43,500
Residence Street	River Street to School Street (south side only)	High	1,200	$36,000
Hurricane Creek Road	Hwy 82 to Blakely Street (one side only)	Medium	1,150	$34,500
Garfield Street	Hwy 3 to 1st Street	Low	550	$16,500
4th Street	Greenwood Street to South Street (east side only)	High		$15,000
1st Street	Garfield to Silver Street (east side only)	Low	300	$9,000
Depot Street	North Street to Alamo Street (one side only)	Medium	2200	$77,000
Subtotal High Priority Projects				$386,500
Subtotal Medium Priority Projects				$278,000
Subtotal Low Priority Projects				$218,000
Total				$883,000

Note: Pedestrian projects include sidewalks on both sides unless otherwise noted.

Land Use Planning Component

The second part of the City's pedestrian plan relates to required construction of sidewalks in conjunction with new development or on new streets. The City will fully comply with the transportation planning rule in this regard and will establish rules and policies requiring construction of sidewalks in other circumstances, where the transportation planning rule does not so require.

Sidewalks will be required in compliance with the transportation planning rule, in the following circumstances:

(1) In conjunction with new subdivisions, multi-family developments of four or more units, planned developments, shopping centers and commercial districts.

(2) Along an arterial collector street and most local streets in conjunction with new uses served by a new street.

(3) On-site facilities shall be provided which provide safe and convenient pedestrian and bicycle access within new subdivisions, multi-family developments, planned developments, shopping, centers and commercial districts to adjacent residential areas transit stops and to neighborhood activity centers within one half mile of the development.

In addition to the foregoing, sidewalks shall be required in conjunction with new residential or commercial uses, or other uses subject to site plan review, where (1) the use is in the CBD zone or other area presently served by a sidewalk system or is adjacent to such an area, (2) The use is in, or adjacent to, an area presently served by a sidewalk area that is planned for future sidewalks under the City's TSP capital improvements program or (3) where installation of sidewalks would be in the public's interest due to public safety or other cause.

With regard to new single family dwellings on existing parcels, a sidewalk will not generally be required unless (1) the dwelling is in an area presently served by a sidewalk system or (2) in an area planned for future sidewalks to which the new sidewalk would connect.

In new subdivisions and on new streets, sidewalks will generally be required on both sides of a street. However, the City will include criteria to permit sidewalks on one street side only in appropriate circumstances, for an example, if cost is excessive or there is lack of connectivity to a sidewalk system in adjacent developed areas.

Nothing in this TSP is intended to limit the City in requiring installation of sidewalks in appropriate circumstances under the general ordinances of the City.

The foregoing pedestrian plan will require most new development of any significant scale to provide sidewalk facilities. If the plan were completely implemented it would approximately triple the lineal feet of sidewalk on existing streets available for public use and should serve to substantially increase the pedestrian transportation mode for short trips within the City.

The City has previously adopted a pedestrian/Bicycle Plan; the provisions contained in the TSP supercede and replace that plan.

Bicycle System Plans

Goals and objectives of the city'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 adding a bikeway on Highway 82 and Hurricane Creek Road.

Shared roadways, where bicyclists share normal vehicle lanes with motorists, are generally acceptable if speeds and traffic volumes are relatively low. On the collector and local streets in Enterprise, shared roadways are not an issue; however, on arterial roadways bike lanes would be desirable.

Highway 82 functions as an arterial street through Enterprise, which means that it should have bike lanes on both sides of the street as specified in the recommended street standards described earlier and as required by the TPR. Due to conflict with needed on street parking, a bike lane was not included in ODOT's plans for reconstruction of Highway 82. Accident statistics on the highway do not indicate that there are frequent conflicts between bicyclists and motorized vehicles. To install bicycle lanes along Highway 82 would involve removing on-street parking through downtown Enterprise. Shoulders would need widening on sections where no on-street parking exists. Some of these improvements would be expensive and others would be controversial. At this time, no specific bikeway improvements are included in the plan for Highway 82; however, ODOT should track both traffic volumes and accident rates on this facility to identify any problems in the future.

Sharing of roadways for bicycles and automobiles is appropriate under ODOT standards for Highway 3 and all City streets, and most of Highway 82 within the City. The City will plan on accommodating the bicycle mode of travel by shared roadways.

The Wallowa County TSP describes a bikeway on Hurricane Creek Road between Enterprise and Joseph. In rural areas without curbs and sidewalks, the typical recommended facility is a shoulder bikeway, where a six-foot standard paved shoulder is provided for bicycles. According to the *Oregon Bicycle and Pedestrian Plan*, the guideline for rural collectors with an ADT of less than 400 vpd, the paved shoulder can be as little as two feet wide. Hurricane Creek Road would not meet the traffic volume requirement for a separate bike lane, but a two-foot-wide paved shoulder for bikes is recommended.

In addition to the Hurricane Creek Road project, a "Rails to Trails" project is proposed for the Idaho Northern Pacific Railroad right-of-way. At this point in time it is unlikely that this will occur.

Bicycle parking is generally lacking in Enterprise. Bike racks should be installed in front of downtown businesses and all public facilities (schools, post office, library, city hall, and parks). Typical rack designs cost about $50 per bike plus installation. An annual budget of approximately $1,500 to $2,000 should be established so that Enterprise can begin to place racks where needs are identified and to respond to requests for racks at specific locations.

Oregon Highway 82 Corridor Plan

The *Oregon Highway 82 Corridor Plan* describes a bike route 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 a high priority project (for the next 0 to 5 years).

The *Oregon Highway 82 Corridor Plan* also 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.

Transportation Demand Management Plan

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

In Enterprise, where traffic volumes are low and the population and employment is small, implementing TDM strategies is not practical in most cases. Moreover, due to its small population, the transportation planning rule does not require that the City implement a TDM strategy. However, the sidewalks improvements recommended earlier in this chapter are also considered TDM strategies. By providing these facilities, the City of Enterprise is encouraging people to travel by other modes than the automobile. In rural communities, TDM strategies include providing mobility options.

Because intercity commuting is a factor in Wallowa County, residents who live in Enterprise and work in other cities should be encouraged to carpool with a fellow coworker or someone who works in the same area. Implementing a local carpool program in Enterprise alone is not practical because of the city's small size; however, a county-wide carpool program is possible. The City of Enterprise should support state and county carpooling and vanpooling programs which could further boost carpooling ridership.

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

Public Transportation Plan

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

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

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

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

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

The city has no local fixed-route transit service at this time. The small size and low traffic volumes on city streets indicate that mass transit is not necessary nor economically feasible at this time. The Transportation Planning Rule exempts cities with a population of less than 25,000 from including mass transit facilities in their development regulations. However, Enterprise 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 Enterprise 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.

Oregon Highway 82 Corridor Plan

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

Rail Service Plan

Enterprise has no passenger rail service. The Idaho Northern Pacific Railroad (INP) has a freight line which runs through the southern part of town. INP ceased operation of the line and recently secured approval to abandon the same. INP can operate the railroad or rip it out and sell the rails and ties for scrap. However, the rails and bridges are in good condition and retaining freight service on the line is a goal of the local jurisdictions. Discussions among INP, ODOT, local jurisdictions and shippers concerning the future of the rail line and right-of-way are on-going. At this point in time, however, it is likely that the rails will be removed and the right of way abandoned.

If the line is abandoned, and the rails and ties ripped out and sold as scrap as planned, efforts should be made to retain the right-of-way as a utility corridor and as a possible recreational trail. To date, such efforts have failed. At this point, preservation of the right of way for such purposes seems unlikely, although the State Parks Department is continuing its efforts to secure funding for the acquisition. The City supports efforts of the Parks Department to acquire such right of way. The Transportation Planning Rule requires that jurisdictions protect right-of-ways for future operation of transportation corridors.

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

Air Service Plan

The Enterprise Municipal Airport is under the jurisdiction of the City, is located on approximately 10 acres in the northeast quadrant of the City limits and is zoned A-1 (Airport Zone).

The City of Enterprise has received funding from the USDA Forest Service and private donations for the recently completed resurfacing of the existing runway. The paved runway measures 2,850 feet in length and is 50 feet wide. A paved taxiway 20 feet in width parallels the runway. 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 visual approaches to the runway are free of obstructions.

The runway length, width, and taxiway dimensions for the airport are less than federal standards. Minimum FAA standards to accommodate high performance single engine and multi-engine aircraft require a runway length of 5,100 feet and width of 75 feet. Topographical constraints limit the development of the runway to meet these 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. The Oregon Aviation System Plan - *Airport Roles and Requirements* document suggests that the runway be widened to 60 feet and the taxiway to 25 feet to better accommodate the small general aviation aircraft that currently use the facility.

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 are three Fixed Base Operators (FBOs) at the airport that provide aviation fuel, aircraft maintenance, and air charter services. The airport provides a multitude of services including recreational transportation, search and rescue, medical transport, fire fighting as well as some types of commerce transport.

Ground access to the airport is provided from Highway 82 in downtown Enterprise on Greenwood Street which is a two-lane facility. Passengers can easily walk the six blocks from downtown Enterprise to the airport; however, an airport courtesy car is available for short trips into town.

The airport currently provides no scheduled commercial air service. The closest airport with regularly scheduled commercial air service is located in Pendleton approximately 110 miles to the west. Scheduled air service and daily non-stop flights are available to Portland and then to other locations in the western United States.

Efforts should be made by the city to retain or expand its air service through compatible land use planning.

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

Water Transportation Plan

Enterprise has no waterborne transportation services.

TRANSPORTATION SYSTEM PLAN IMPLEMENTATION PROGRAM

Implementation of the Enterprise Transportation System Plan will require both changes to the city comprehensive plan and zoning code and preparation of a 20-year Capital Improvement Plan. These actions will enable Enterprise to address both existing and emerging transportation issues throughout the urban area in a timely and cost effective manner.

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

20-Year Capital Improvement Program

The CIP is shown with the following priorities:

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

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

Table 6-5 summarizes the CIP. It lists the projects by type, prioritizes them, and provides cost information. The cost estimates for all the project listed on the CIP were prepared on the basis of 1997 dollars. These costs include design, construction, and some contingency costs. They are preliminary estimates and generally do not include right-of-way acquisition, water or sewer facilities, adding or relocating public utilities, or detailed intersection design.

Enterprise has identified a total of projects in its CIP with a cost of $9,397,500.00. Twelve high priority projects have been identified with a cost of about $8,105,000.00. Six medium priority projects have been identified with a cost of approximately $747,500.00. Finally, three low priority projects have been identified, with a cost of about $545,000.00.

TABLE 6-5
PRIORITIZED CAPITAL IMPROVEMENT PROGRAM (1997) DOLLARS

Project Description	Local Cost	County Cost	State Cost	Total Cost
High Priority				
Highway 82 & 3 Upgraded surfacing, width, structures, drainage, and sidewalks (1998 STIP Project)			$6,900,000	$6,900,000
Close the Safeway driveway on Highway 82			$1,000	$1,000
Extend Silver St. one block west of Lyle St.	$150,000			$150,000
Sidewalk, Hwy 3-Logan to Flora Street			$112,000	$112,000
Sidewalk, Hwy 82-Walter Street to Depot Street (both sides)			$120,000	$120,000
Sidewalk, Hwy 82-Depot to River (south side)			$32,000	$32,000
Sidewalk, Hwy 82-Greenwood to Residence Street			$84,000	$84,000
Sidewalk, Greenwood Street , River to Greenwood St Br.	$43,500			$43,500
Sidewalk, Residence Street, River to School Street	$36,000			$36,000
Sidewalk, 4th Street, Greenwood to South Street	$15,000			$15,000
Hurricane Creek Rd. bikeway between Enterprise and Joseph[1]		$200,000		$200,000
Implement speed control measures on Highway 82	Unknown		Unknown	Unknown
Medium Priority				
Construct a new street parallel to Golf Course Rd. connecting Park St. with Golf Course Rd.	$540,000			$540,000
Sidewalk, Depot Street, North Street to Alamo Street (one side)	$77,000			$77,000
Sidewalk, Hwy 82, Residence to School			$87,000	$87,000
Sidewalk, Highland Avenue	$24,000			$24,000
Sidewalk, River Street, Hwy 82 to Blakley	$34,500			$34,500
Low Priority				
Sidewalk, Garfield St, Hwy 3 to 1st Street	$16,500			$16,500
Extend Flora St. west to connect with the planned new road parallel to Golf Course Rd.	$480,000			$480,000
Sidewalk, Hwy 3, Flora St to North limit			$56,000	$56,000
Sidewalk, 1st Street, Garfield to Silver Street	$9,000			$9,000
Sidewalk, Hwy 82, School to Florence			$45,500	$45,500
Sidewalk Hwy 82, Walter Street to Highland Avenue; (north side)			$91,000	$91,000
Subtotal High Priority	$244,500	$200,000	$7,249,000	$7,693,500
Subtotal Medium Priority	$675,000		$87,000	$762,000
Subtotal Low Priority	$505,500		$192,500	$698,000
Total	$1,425,000	$200,000	$7,528,500	$9,153,500

Notes:
1) Cost does not include right-of-way acquisition.
2) Most of this project is outside the Enterprise city limits.

CHAPTER 7: FUNDING OPTIONS AND FINANCIAL PLAN

The Transportation Planning Rule generally requires Transportation System Plans to evaluate the funding environment for recommended improvements. However, this rule does not apply to cities of less than 2,500 population and therefore, the City of Enterprise is not required to include this element in its TSP. The City is nevertheless including a financial plan in its TSP.

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. The City of Enterprise's TSP identifies $9,397,500.00 in improvements recommended over the next 20 years. This section of the TSP provides an overview of the City of Enterprise's revenue outlook and a review of some funding and financing options that may be available to the City of Enterprise.

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

HISTORICAL STREET IMPROVEMENT FUNDING SOURCES

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

Figure 7-1 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 7-1
SOURCES OF ROAD REVENUES BY JURISDICTION LEVEL

	Jurisdiction Level			Statewide
Revenue Source	**State**	**County**	**City**	**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.

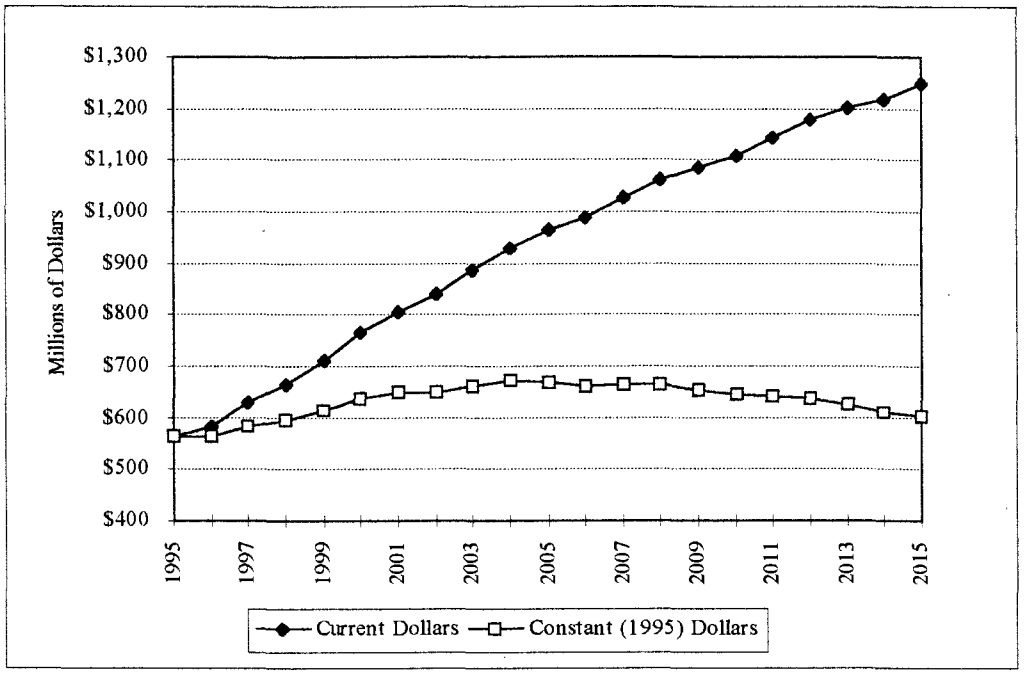
Transportation Revenue Outlook

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 7-1 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 7-1
STATE HIGHWAY FUND



Source: ODOT Financial Assumptions.

The State Highway Fund is expected to remain a significant source of funding for the City of Enterprise during the next 20 years. Although the city has historically received revenue from this fund for transportation maintenance and improvements, Enterprise 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 Enterprise, 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 the City of Enterprise; 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 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 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 increasing 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 upon the developments which increase demand on transportation, sewer or other infrastructure systems.

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

The City of Enterprise 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.

State Gas Taxes

Gas tax revenues received from the State of Oregon are used by all counties and cities to fund street and road construction and maintenance. In Oregon, the state collects gas taxes, vehicle registration fees, overweight/overheight fines and weight/mile taxes and returns a portion of the revenues to cities and counties through an allocation formula. The revenue share to cities is divided among all incorporated cities based on population. The theory is that these taxes are somewhat tied to the benefits people receive, since those who drive more would pay more. Like other Oregon cities, the City of Enterprise uses its State Gas Tax allocation to fund street construction and maintenance.

Local Gas Taxes

The Oregon Constitution permits counties and incorporated cities to levy additional local gas taxes with the stipulation that the moneys generated from the taxes will be dedicated to street-related improvements and maintenance within the jurisdiction. At present, only a few local governments (including the cities of Woodburn and The Dalles, and Multnomah and Washington Counties) levy a local gas tax. Based on the experiences of other local jurisdictions, the City of Enterprise may have difficulty gaining public support for a local gas tax, even on a county-wide basis.

Vehicle Registration Fees

The Oregon Vehicle Registration Fee is allocated to the state, counties and cities for road funding. Oregon counties are granted authority to impose a vehicle registration fee covering the entire county. The Oregon Revised Statutes allow Wallowa County to impose a biannual registration fee for all passenger cars licensed within the county. Although both counties and special districts have this legal authority, vehicle registration fees have not been imposed by local jurisdictions. Like fuel taxes, this fee would be somewhat tied to the

benefits of the transportation system, because it would be paid by automobile owners in the county. In order for a local vehicle registration fee program to be viable in Wallowa County, all the incorporated cities and the county would need to formulate an agreement which would detail how the fees would be spent on future street construction and maintenance.

Local Improvement Districts

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

Grants and Loans

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

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

Immediate Opportunity Grant Program

The Oregon Economic Development Department (OEDD) and ODOT collaborate to administer a grant program designed to assist local and regional economic development efforts. The program is funded to a level of approximately $5,000,000 per year through state gas tax revenues. The following are primary factors in determining eligible projects:

- Improvement of public roads;
- Inclusion of an economic development-related project of regional significance;
- Creation of primary employment; and
- Ability to provide local funds to match grant (lesser matches may also be considered).

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

Oregon Special Public Works Fund

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

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

Special Small City Allotment Program

This program is restricted to cities with populations under 5,000 residents. Unlike the OEDD Immediate Opportunity Grant program and the Oregon Special Public Works Fund, no locally funded match is required for participation. Grant amounts are limited to $25,000 and must be earmarked for surface projects (drainage, curbs, sidewalks, etc.). However, the program does allow jurisdictions to use the grants to leverage local funds on non-surface projects if the grant is used specifically to repair the affected area.

Public Transportation Funds

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

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

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

Bicycle and Pedestrian Program Funds

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

ODOT Funding Options

The State of Oregon provides funding for all highway related transportation projects through the Statewide Transportation Improvement Program (STIP) administered by the Oregon Department of Transportation. The STIP outlines the schedule for ODOT projects throughout the state. The STIP, which identifies transportation for a three-year funding cycle, is updated on an annual basis. Starting with the 1998 budget year, ODOT will then identify projects for a four-year funding cycle. In developing this funding program, ODOT must verify that the identified projects comply with the Oregon Transportation Plan (OTP), ODOT Modal Plans, Corridor Plans, local comprehensive plans, and ISTEA Planning Requirements. The STIP must fulfill ISTEA planning requirements for a staged, multi-year, statewide, intermodal program of transportation projects. Specific transportation projects are prioritized based on a review of the ISTEA planning requirements and the different state plans. ODOT consults with local jurisdictions before highway related projects are added to the STIP.

The highway-related projects identified in the City of Enterprise's TSP will be considered for future inclusion on the STIP. The timing of including specific projects will be determined by ODOT based on an analysis of all the project needs within Region 5. The TSP will provide ODOT with a prioritized project list for the City of Enterprise for the next 20 years. The City of Enterprise, Wallowa County, and ODOT will need to communicate on an annual basis to review the status of the STIP and the prioritization of individual projects within the project area. Ongoing communication will be important for the city, county, and ODOT to coordinate the construction of both local and state transportation projects.

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

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

FINANCING TOOLS

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

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

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

Limited Tax Bonds

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

Bancroft Bonds

Under Oregon Statute, municipalities are allowed to issue Bancroft bonds which pledge the city's full faith and credit to assessment bonds. As a result, the bonds become general obligations of the city but are paid with assessments. Historically, these bonds provided a city with the ability to pledge its full faith and credit in order to obtain a lower borrowing cost without requiring voter approval. However, since Bancroft bonds are not voter approved, taxes levied to pay debt service on them are subject to the limitations of Ballot Measures 5 and 50 (revised Measure 47). As a result, since 1991, Bancroft bonds have not been used by municipalities who were required to compress their tax rates.

CHAPTER 8: POLICIES AND ORDINANCES TO IMPLEMENT TSP

The City is required to implement its TSP by Land Use Plan provisions and Land Use Ordinance provisions, all in accordance with Goal 12 and the specific requirements of the Transportation Planning Rules. Amendments to the City's Land Use Plans and Land Use Ordinance have been drawn concurrently with this TSP. A brief summary of the principal policy decisions and specific ordinance provisions is set forth below:

The policy and ordinance provisions required to implement the TSP are as follows:

(1) Regulations to protect transportation facilities, corridors and sites for identified functions. These regulations include:

(a) Access control regulations to review proposed new access points to highways and streets, and assure that sufficient streets and highways maintain their identified functions.

(b) Provisions to protect the operation of roads, including the above described access control regulations.

(c) Continue existing provisions in the airport zone, and in the urban growth agreement for the airport, which control land areas adjacent to the airport and which create imaginary surfaces to protect the airport approaches from conflicting development.

(d) A land use policy, and implementing notice provision, providing for coordinated review of decisions affecting transportation facilities, corridors or sites.

(e) Provision of a process to apply conditions to development proposals in order to minimize impacts and protect transportation facilities. This will be done principally as part of the City's existing site plan review process, supplemented by reviews as part of the zoning permit and conditional use process for uses not subject to site plan review.

(f) Regulations requiring notice to ODOT, and other agencies providing transportation services, that cover the applications specified by OAR 660-12-0045 (2)(f).

(g) A land use plan policy requiring that amendments to land use plans and regulations, including zoning designation, density standards and design standards are consistent with the function, capacities and levels of service of transportation facilities included in the TSP.

(2) The City is adopting changes to its land use regulations, including subdivision regulations, to provide for safe and convenient pedestrian, bicycle and vehicular circulation consistent with access management standards. These regulations consist of the following:

(a) Amendments to implement the very specific requirements of OAR 660-12-0045 (3) regarding the provision of pedestrian, bicycle and street transportation facilities in conjunction with new or modified land uses.

(b) Additional provisions regarding the provision of such transportation facilities under circumstances where they are not specifically required by the transportation planning rules.

(3) The City has reviewed standards for local streets to minimize both pavement and right of way width, consistent with good operation of the streets. New street improvement standards are being adopted. The

City is retaining the 60' general right of way standard because a right of way width that wide is required to accommodate the street and sidewalk facilities. Under the design standards adopted in the TSP. The right of way for arterial streets is being reduced from 90 feet to 80 feet.

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APPENDIX A

Review of Existing Plans and Policies

10-1. That roads created in land division and development projects be designed to tie into existing and anticipated road circulation patterns.

10-2. That commercial development and use access onto major arterials by means of improved city streets.

10-3. That continued and improved rail transportation services be encouraged.

10-4. That the State be encouraged to improve the Trout Creek to Enterprise section of Highway 82 as well as the existing highways and bridges within the City.

10-5. That the Airport Master Plan be developed for the City of Enterprise Airport and such plan to address the following:

a. Important airport noise and safety impacts and areas affected.

b. Procedures to incorporate the Airport Master Plan into the local Comprehensive Plan.

c. Appropriate zoning and other implementation actions required.

d. Responsible jurisdiction for each action and suggested timetable for implementation.

e. A monitoring mechanism to assure early recognition of potential land use conflicts.

f. Adjacent land uses which will cause no future conflicts for the essential activity or commercial air service.

10-6. That the City develop a program of periodically assessing pedestrian and bicycle modes of transportation within the City and develop programs to meet demonstrated needs.

A 1975 visual survey of City streets, sidewalks, and curb conditions which lists the mileage of paved, gravel, and unimproved City and County facilities is included in one of the appendices. The survey does not list street names or functional classifications. The plan contains traffic counts conducted by ODOT in 1975 and 1979; DEA was able to obtain ODOT data for these locations for the years 1993 and 1995. No projections of future traffic demand were presented. No analysis of existing or future system operations was performed. No future improvements were recommended. All of these elements will need to be included to meet the requirements of the TPR.

APPENDIX B

Existing Street Inventory

REVIEW OF EXISTING PLANS AND POLICIES
CITY OF ENTERPRISE

The City of Enterprise Land Use Plan was reviewed to establish the history of planning in the City and a comparison was made of the information in the existing Plan with the requirements of the Oregon Transportation Planning Rule (TPR). A description of the information in the Plan is provided followed by comments in italics.

CITY OF ENTERPRISE LAND USE PLAN

The Enterprise Land Use Plan was adopted by the City Council and approved by the Mayor on April 28, 1997.

The achievement of the following objectives is the overall aim of the Plan, Plan Map, and the Goals and Policies therein:

1. To provide for and to promote orderly growth.

2. To recognize and protect existing development, and those related investments which have been made in the community.

3. To maintain and enhance economic stabil
   ty without diminishing livability of the area.

4. To conserve the air, land, water, and energy resources which make the area a most desirable place to live, work, and recreate.

5. To provide for community housing, employment, and recreation needs within the financial and natural limitations of the area.

The Plan consists of twelve goals:

I. Citizen Involvement

II. Land Use Planning

III. Agricultural Lands

IV. Forest Lands

V. Natural Resources, Scenic & Historic Areas, and Open Spaces

VI. Air, Water and Land Resource Quality

VII. Areas Subject to Natural Hazard

VIII. Recreational Needs

IX. Public Facilities and Services

X. Public Transportation

XI. Energy Conservation

TABLE 1

1997 MAJOR STREETS INVENTORY

Enterprise Transportation System Plan

Street Segment	Jurisdict.	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalks	Bikeway	Pavement Condition
Fish Hatchery Road / Alder Slope Road											
west of Billings Road	County	local	25	60	25	2	no	no	no	no	poor
Billings Road to Stockton Road	County	local	25	60	25	2	no	no	no	no	poor
Stockton Road to Hurricane Creek Road	County	local	25	60	25	2	no	no	no	no	poor
Blakley Street											
Hurricane Creek Road to 1st Avenue	City	local	25	60	25	2	no	no	no	no	Good
1st Avenue to 2nd Avenue	City	local	25	60	25	2	no	no	no	no	Good
Claude Street											
east of Florence Street	City	local	25	40	25	2	no	no	no	no	Gravel
Alamo Street											
Wallowa County Shops to Montclair Street	County	local	25	60	25	2	no	no	no	no	fair
Montclair Street to Depot Street	City	local	25	60	25	2	no	no	no	no	fair
Depot Street to 2nd Street	City	local	25	60	25	2	no	no	no	no	fair
2nd Street to River Street	City	local	25	60	25	2	no	no	no	no	fair
River Street to Tacoma Avenue	City	local	25	60	25	2	no	no	no	no	Poor
Tacoma Avenue to School Street	City	local	25	60	25	2	no	no	no	no	Poor
Thorpe Lane											
west of Montclair Street	City	local	25	60	25	2	no	no	no	no	gravel
Montclair Street to Depot Street	City	local	25	60	25	2	no	no	no	no	fair
Depot Street to 2nd Street	City	local	25	60	25	2	no	no	no	no	Gravel
Hogan Street											
River Street to Kurtz Street	City	local	25	60	20	2	no	no	no	no	gravel
Residence Street											
River Street to Tacoma Avenue	City	local	25	60	25	2	no	no	no	no	fair
Tacoma Avenue to School Street	City	local	25	60	25	2	no	no	no	no	fair
School Street to 5th Street	City	local	25	60	25	2	no	no	no	no	fair
Eugene Street to Fairview Street	City	local	25	60	25	2	no	no	no	no	fair
east of Fairview Street to Pace	City	local	25	60	25	2	no	no	no	no	fair
First South Street											
5th Street to 6th Street	City	local	25	90	25	2	no	no	no	no	fair
6th Street toEugen Street	City	local	25	90	25	2	no	no	no	no	fair

TABLE 1

1997 MAJOR STREETS INVENTORY

Enterprise Transportation System Plan

Street Segment	Jurisdict.	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalks	Bikeway	Pavement Condition
Eugen Street to Pace Avenue	City	local	25	70	25	2	no	no	no	no	fair
Litch Street											
Depot Street to 2nd Street	City	local	25	60	25	2	no	no	no	no	fair
2nd Street to River Street	City	local	25	60	25	2	no	no	no	no	fair
South Street											
2nd Street to 3rd Street	City	local	25	90	25	2	no	no	no	no	fair
3rd Street to 4th Street	City	local	25	90	25	2	no	no	no	no	fair
4th Street to 5th Street	City	local	25	90	25	2	no	no	no	no	fair
5th Street to 6th Street	City	local	25	90	25	2	no	no	no	no	fair
Viking Drive											
east of Broadmoore Avenue	City	local	25	60	25	2	yes	no	no	no	Good
Boyd Ct.											
Montclair Street to Depot Street	City	local	25	30	25	2	no	no	no	no	fair
Grant Street											
River Street to 1st Street	City	local	25	90	25	2	Yes	Yes	no	no	good
1st Street to 2nd Street	City	local	25	90	25	2	Yes	Yes	Yes	no	good
2nd Street to 3rd Street	City	local	25	90	25	2	Yes	Yes	Yes	no	good
3rd Street to 4th Street	City	local	25	90	25	2	Yes	Yes	Yes	no	good
4th Street to 5th Street	City	local	25	90	25	2	Yes	Yes	Yes	no	good
5th Street to 6th Street	City	local	25	90	25	2	Yes	Yes	no	no	good
Greenwood Street											
May Street to Mill Street	City	local	25	90	25	2	no	no	no	no	½ paved ½ gravel
Mill Street to Broadmoore Avenue	City	local	25	90	25	2	no	no	no	no	gravel
Broadmoore Avenue to Montclair Street	City	local	25	90	25	2	no	no	no	no	Good
Montclair Street to Forsythe Street	City	local	25	90	25	2	no	no	no	no	fair
Forsythe Street to Depot Street	City	local	25	90	25	2	no	no	no	no	fair
Depot Street to 2nd Street	City	local	25	90	25	2	Yes	Yes	no	no	fair
2nd Street to 1st Street	City	local	25	90	50	2	yes	Yes	yes	no	Good
1st Street to River Street	City	local	25	90	50	2	yes	Yes	yes	no	good
River Street to 1st Street	City	local	25	90	50	2	yes	Yes	yes	no	good
1st Street to 2nd Street	City	local	25	90	25	2	Yes	no	Yes	no	good
2nd Street to 3rd Street	City	local	25	90	25	2	no	no	Yes	no	good
3rd Street to 4th Street	City	local	25	90	25	2	no	no	Yes	no	good

TABLE 1

1997 MAJOR STREETS INVENTORY

Enterprise Transportation System Plan

Street Segment	Jurisdict.	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalks	Bikeway	Pavement Condition
5th Street to Leone Avenue	City	local	25	90	25	2	no	no	no	no	good
Leone Avenue to Pace Avenue	City	local	25	90	25	2	no	no	no	no	good
Main Street											
Holmes Avenue to Forsythe Street	City	local	25	90	40	2	Yes	yes	no	no	fair
Forsythe Street to Depot Street	City	local	25	90	40	2	Yes	yes	no	no	fair
Depot Street to 2nd Street	City	local	25	90	60	2	yes	yes	yes	no	Good
2nd Street to 1st Street	City	local	25	90	60	2	yes	yes	yes	no	Good
1st Street to River Street	City	local	25	90	60	2	yes	yes	yes	no	Good
River Street to 1st Street	City	local	25	90	60	2	yes	yes	yes	no	Fair
1st Street to 2nd Street	City	local	25	90	60	2	Yes	no	Yes	no	Poor
2nd Street to 3rd Street	City	local	25	90	30	2	Yes	no	Yes	no	Poor
3rd Street to 4th Street	City	local	25	90	30	2	no	no	yes	no	good
4th Street to 5th Street	City	local	25	90	20	2	no	no	Yes	no	good
east of 5th Street	City	local	25	90	20	2	no	no	no	no	good
Walter Street											
Wallowa Lake Hwy. to Holmes Street	City	local	25	60	25	2	no	no	no	no	poor
North Street / Wallowa Lake Hwy											
west of Golf Course Road	State	arterial	30	90	30	2	no	no	no	no	good
Golf Course Road to Holmes Street	State	arterial	30	90	30	2	yes	no	no	no	good
Holmes Street to Arthur Street	State	arterial	30	90	30	2	no	no	no	no	good
Arthur Street to Robert Street	State	arterial	30	90	30	2	no	no	no	no	good
Robert Street to 3rd Street	State	arterial	30	90	30	2	no	no	no	no	good
3rd Street to 2nd Street	State	arterial	30	90	30	2	yes	no	yes	no	good
2nd Street to 1st Street	State	arterial	30	90	30	2	yes	no	yes	no	good
1st Street to River Street	State	arterial	30	90	30	2	yes	no	yes	no	good
River Street to 1st Street	City	local	25	90	25	2	yes	yes	yes	no	fair
1st Street to 2nd Street	City	local	25	90	25	2	no	no	no	no	fair
2nd Street to 3rd Street	City	local	25	90	25	2	no	no	no	no	fair
3rd Street to 4th Street	City	local	25	90	25	2	no	no	no	no	fair
Arthur Street											
south of North Street	City	local	25	60	25	2	no	no	no	no	Gravel
Margaret Street											
Holmes Street to Robert Street	City	local	25	50	25	2	no	no	no	no	gravel

TABLE 1

1997 MAJOR STREETS INVENTORY

Enterprise Transportation System Plan

Street Segment	Jurisdict.	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalks	Bikeway	Pavement Condition
Logan Street											
Depot Street to 2nd Street	City	local	25	90	30	2	no	no	no	no	gravel
2nd Street to 1st Street	City	local	25	90	30	2	no	no	no	no	fair
1st Street to River Street	City	local	25	90	40	2	½ Yes	Yes	no	no	fair
River Street to 1st Street	City	local	25	90	30	2	Yes	Yes	no	no	fair
1st Street to 2nd Street	City	local	25	90	30	2	no	no	no	no	fair
east of 2nd Street	City	local	25	90	30	2	no	no	no	no	fair
Park Street											
Holmes Street to Robert Street	City	local	25	90	30	2	no	no	no	no	fair
Robert Street to 3rd Street	City	local	25	90	30	2	no	no	no	no	Good
3rd Street to 2nd Street	City	local	25	90	30	2	no	no	no	no	Good
2nd Street to 1st Street	City	local	25	90	30	2	no	no	no	no	Good
1st Street to River Street	City	local	25	90	30	2	no	no	no	no	fair
River Street to 1st Street	City	local	25	90	30	2	no	no	no	no	fair
1st Street to 2nd Street	City	local	25	90	30	2	½no	no	½ no	no	fair
2nd Street to 4th Street	City	local	25	90	30	2	no	no	no	no	fair
Garfield Street											
3rd Street to 2nd Street	City	local	25	90	30	2	no	no	no	no	gravel
2nd Street to 1st Street	City	local	25	90	30	2	no	no	no	no	gravel
1st Street to River Street	City	local	25	90	30	2	no	no	no	no	Fair
River Street to 1st Street	City	local	25	90	30	2	no	no	no	no	fair
1st Street to 2nd Street	City	local	25	90	30	2	no	no	no	no	fair
2nd Street to 4th Street	City	local	25	90	30	2	no	no	no	no	fair
Silver Street											
1st Street to River Street	City	local	25	90	25	2	no	no	no	no	gravel
River Street to 1st Street	City	local	25	90	25	2	no	no	no	no	gravel
1st Street to 2nd Street	City	local	25	90	25	2	no	no	no	no	gravel
Alder Street											
1st Street to River Street	City	local	25	90	25	2	no	no	no	no	gravel
River Street to 1st Street	City	local	25	90	25	2	no	no	no	no	Good
1st Street to Wagner Street	City	local	25	90	25	2	no	no	no	no	Fair
east of Wagner Street	City	local	25	90	25	2	no	no	no	no	gravel
Wagner Street											
Glendale Avenue to Alder Street	City	local	25	60	25	2	no	no	no	no	Good

TABLE 1

1997 MAJOR STREETS INVENTORY

Enterprise Transportation System Plan

Street Segment	Jurisdict.	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalks	Bikeway	Pavement Condition
Alder Street to 4th Street	City	local	25	60	25	2	no	no	no	no	gravel
Ant Flat Road											
east of 4th Street	County	local	25	60	25	2	no	no	no	no	fair
Flora Street											
west of 1st Street	City	local	25	45	20	2	no	no	no	no	fair
1st Street to River Street	City	local	25	45	20	2	no	no	no	no	fair
east of River Street	City	local	25	45	20	2	no	no	no	no	gravel
Glendale Avenue											
River Street to Summit Drive	City	local	25	60	20	2	no	no	no	no	fair
Hyland Drive											
River Street to Summit Drive	City	local	25	60	20	2	no	no	no	no	fair
Summit Drive											
Hyland Drive to Glendale Avenue	City	local	25	60	25	2	no	no	no	no	fair
Golf Course Road											
north of Wallowa Lake Highway	County	local	25	60	25	2	no	no	no	no	fair
May Street											
south of Greenwood Street	City	local	25	60	25	2	no	no	no	no	gravel
Mill Street											
south of Greenwood Street	City	local	25	30	25	2	no	no	no	no	gravel
Broadmoore Avenue											
Greenwood Street to Viking Drive	City	local	25	60	25	2	no	no	no	no	good
Holmes Street											
Greenwood Street to Main Street	City	local	25	60	25	2	no	no	no	no	fair
Main Street to Walter Street	City	local	25	60	25	2	Yes	no	no	no	fair
Walter Street to North Street	City	local	25	60	25	2	Yes	no	no	no	fair
North Street to Margaret Street	City	local	25	60	25	2	no	no	no	no	Poor
Margaret Street to Park Street	City	local	25	60	25	2	no	no	no	no	fair
Lyle Street											

TABLE 1

1997 MAJOR STREETS INVENTORY

Enterprise Transportation System Plan

Street Segment	Jurisdict.	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalks	Bikeway	Pavement Condition
north of Park Street	City	local	25	60	25	2	no	no	no	no	fair
Montclair Street											
Alamo Street to Thorpe Lane	County	local	25	60	25	2	no	no	no	no	fair
Thorpe Lane to Boyd Ct.	City	local	25	60	25	2	no	no	no	no	fair
Boyd Ct. to Greenwood Street	City	local	25	60	25	2	no	no	no	no	fair
Forsythe Street											
Greenwood Street to Main Street	City	local	25	50	25	2	no	no	no	no	fair
Main Street to North Street	City	local	25	50	25	2	no	no	no	no	fair
Robert Street											
North Street to Margaret Street	City	local	25	50	25	2	no	no	no	no	gravel
Margaret Street to Park Street	City	local	25	50	25	2	no	no	no	no	gravel

TABLE 1

1997 MAJOR STREETS INVENTORY

Enterprise Transportation System Plan

Street Segment	Jurisdict.	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalks	Bikeway	Pavement Condition
Depot Street											
Hatchery Road to Alamo Street	City	local	25	60	25	2	no	no	no	no	fair
Alamo Street to Thorpe Lane	City	local	25	60	25	2	Yes	Yes	no	no	fair
Thorpe Lane to Litch Street	City	local	25	60	25	2	Yes	Yes	no	no	fair
Litch Street to Boyd Ct.	City	local	25	60	25	2	Yes	Yes	no	no	fair
Boyd Ct. Greenwood Street	City	local	25	60	25	2	Yes	Yes	no	no	fair
Greenwood Street to Main Street	City	local	25	60	25	2	Yes	Yes	no	no	fair
Main Street to North Street	City	local	25	60	25	2	yes	Yes	yes	no	fair
3rd Street											
North Street to Logan Street	City	local	25	90	25	2	Yes	Yes	no	no	fair
Logan Street to Park Street	City	local	25	90	25	2	no	no	no	no	fair
Park Street to Garfield Street	City	local	25	90	25	2	no	no	no	no	gravel
2nd Street											
south of Alamo Street	City	local	25	90	25	2	no	no	no	no	good
Alamo Street to Thorpe Lane	City	local	25	90	25	2	Yes	Yes	Yes	no	good
Thorpe Lane to Litch Street	City	local	25	90	25	2	Yes	Yes	no	no	good
Litch Street to Greenwood Street	City	local	25	90	25	2	Yes	½ no	no	no	good
Greenwood Street to Main Street	City	local	25	90	25	2	yes	yes	yes	no	good
Main Street to North Street	City	local	25	90	25	2	yes	yes	yes	no	fair
North Street to Logan Street	City	local	25	90	25	2	no	no	no	no	fair
Logan Street to Park Street	City	local	25	90	25	2	no	no	no	no	fair
Park Street to Garfield Street	City	local	25	90	25	2	no	no	no	no	fair
north of Garfield Street	City	local	25	90	25	2	no	no	no	no	Fair
1st Street / Enterprise Lewiston Hwy.											
north of Flora Street	City	local	25	90	25	2	no	no	no	no	good
Flora Street to Alder Street	City	local	25	90	25	2	no	no	no	no	good
Alder Street to Silver Street	City	local	25	90	25	2	no	no	no	no	good
Silver Street to Garfield Street	City	local	25	90	25	2	no	no	no	no	good
Garfield street to Park Street	City	local	25	90	25	2	no	no	no	no	good
Park Street to Logan Street	City	local	25	90	25	2	no	no	no	no	good
Logan Street to North Street	City	local	25	90	50	2	yes	Yes	yes	no	good
North Street to Main Street	City	local	25	90	50	2	yes	yes	yes	no	fair
Main Street to Greenwood Street	City	local	25	90	50	2	yes	yes	yes	no	fair
south of Greenwood Street	City	local	25	90	50	2	Yes	yes	½ no	no	fair

TABLE 1

1997 MAJOR STREETS INVENTORY

Enterprise Transportation System Plan

Street Segment	Jurisdict.	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalks	Bikeway	Pavement Condition
River Street											
Hyland Drive to Glendale Avenue	City	local	25	90	30	2	no	no	no	no	fair
Glendale Avenue to Flora Street	City	local	25	90	30	2	no	no	no	no	fair
Flora Street to Alder Street	City	local	25	90	30	2	no	no	no	no	fair
Alder Street to Silver Street	City	local	25	90	30	2	no	no	no	no	fair
Silver Street to Garfield Street	City	local	25	90	30	2	no	no	no	no	fair
Garfield street to Park Street	City	local	25	90	30	2	no	no	no	no	fair
Park Street to Logan Street	City	local	25	90	30	2	yes	no	yes	no	fair
Logan Street to North Street	City	local	25	90	30	2	yes	no	no	no	good
North Street to Main Street	State	arterial	30	90	30	2	yes	yes	yes	no	good
Main Street to Greenwood Street	State	arterial	30	90	30	2	yes	yes	yes	no	good
Greenwood Street to Grant Street	State	arterial	30	90	30	2	yes	yes	yes	no	good
Grant Street to Litch Street	State	arterial	30	60	30	2	no	no	yes	no	good
Litch Street to Hogan Street	State	arterial	30	60	30	2	no	no	yes	no	good
Hogan Street to Residence Street	State	arterial	30	60	30	2	no	no	yes	no	good
Residence Street to Alamo Street	City	local	25	60	30	2	yes	yes	yes	no	good
Alamo Street to Fish Hatchery Road	City	local	25	60	30	2	yes (to R & R)	yes	no	no	good
Hurricane Creek Road											
Fish Hatchery Road to Blakey Street	City	local	25	60	30	2	no	no	no	no	good
south of Blakey Street	County	local	25	60	30	2	no	no	no	no	good
1st Avenue											
south of Blakey Street	City	local	25	60	25	2	no	no	no	no	gravel
2nd Avenue											
north of Blakey Street	City	local	25	60	25	2	no	no	no	no	gravel
south of Blakey Street	City	local	25	60	25	2	no	no	no	no	gravel
Tacoma Avenue											
Residence Street to Wallowa Lake Hwy.	City	local	25	40	25	2	no	no	no	no	gravel
Wallowa Lake Hwy. to Alamo Street	City	local	25	40	25	2	no	no	no	no	fair
Kurtz Street											
Hogan Street to Residence Street	City	local	25	60	25	2	no	no	no	no	gravel

TABLE 1

1997 MAJOR STREETS INVENTORY

Enterprise Transportation System Plan

Street Segment	Jurisdict.	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalks	Bikeway	Pavement Condition
East 1st Street											
Alder Street to Silver Street	City	local	25	90	30	2	no	no	no	no	good
Silver Street to Garfield Street	City	local	25	90	30	2	no	no	no	no	good
Garfield Street to Park Street	City	local	25	90	30	2	yes	yes	yes	no	good
Park Street to Logan Street	City	local	25	90	30	2	yes	yes	yes	no	good
Logan Street to North Street	City	local	25	90	30	2	yes	yes	yes	no	good
North Street to Main Street	City	local	25	90	25	2	yes	yes	yes	no	fair
Main Street to Greenwood Street	City	local	25	90	25	2	yes	yes	yes	no	fair
Greenwood Street to Grant Street	City	local	25	90	25	2	yes	yes	no	no	fair
East 2nd Street											
Silver Street to Garfield Street	City	local	25	90	25	2	no	no	no	no	gravel
Garfield Street to Park Street	City	local	25	90	25	2	yes	yes	no	no	fair
Park Street to Logan Street	City	local	25	90	25	2	no	no	no	no	fair
Logan Street to North Street	City	local	25	90	25	2	no	no	no	no	fair
North Street to Main Street	City	local	25	90	25	2	no	no	no	no	poor
Main Street to Greenwood Street	City	local	25	90	25	2	no	no	no	no	poor
Greenwood Street to Grant Street	City	local	25	90	25	2	no	no	no	no	good
Grant Street to South Street	City	local	25	90	25	2	no	no	no	no	poor
East 3rd Street											
North Street to Main Street	City	local	25	90	25	2	no	no	no	no	good
Greenwood Street to Grant Street	City	local	25	90	25	2	no	no	no	no	good
Grant Street to South Street	City	local	25	90	25	2	no	no	no	no	gravel
north of Residence Street	City	local	25	90	25	2	no	no	no	no	poor
School Street											
Residence Street to Wallow Lake Hwy.	City	local	25	60	25	2	no	no	no	no	good
Wallowa Lake Hwy. to Alamo Street	City	local	25	60	25	2	no	no	no	no	poor
Alamo Street to Virgil Street	City	local	25	60	25	2	no	no	no	no	gravel
south of Virgil Street	City	local	25	60	25	2	no	no	no	no	gravel
4th Street											
north of Wagner Street	City	local	25	65	25	2	no	no	no	no	dirt
Wagner Street to Garfield Street	City	local	25	65	25	2	no	no	no	no	½ gravel
Garfield Street to Park Street	City	local	25	65	25	2	no	no	no	no	fair
Park Street to North Street	City	local	25	65	25	2	no	no	no	no	fair
North Street to Main Street	City	local	25	65	25	2	no	no	no	no	poor

TABLE 1

1997 MAJOR STREETS INVENTORY

Enterprise Transportation System Plan

Street Segment	Jurisdict.	Classification	Speed Limit (mph)	ROW Width (feet)	Street Width (feet)	# of Travel Lanes	Curbs	On-Street Parking	Sidewalks	Bikeway	Pavement Condition
5th Street											
loop north of Main Street	City	local	25	60	20	2	no	no	no	no	fair
Main Street to Greenwood Street	City	local	25	60	20	2	no	no	no	no	fair
Greenwood Street to Grant Street	City	local	25	60	20	2	no	no	no	no	fair
Grant Street to South Street	City	local	25	60	20	2	no	no	no	no	fair
South Street to First South Street	City	local	25	60	20	2	no	no	no	no	fair
First South Street to Residence Street	City	local	25	60	20	2	no	no	no	no	fair
Florence Street											
Wallowa Lake Hwy. to Claude Street	County	local	25	40	25	2	no	no	no	no	fair
Claude Street to Virgil Street	County	local	25	40	25	2	no	no	no	no	fair
south of Virgil Street	County	local	25	40	25	2	no	no	no	no	fair
6th Street											
Grant Street to South Street	City	local	25	60	25	2	no	no	no	no	fair
South Street to First South Street	City	local	25	60	25	2	no	no	no	no	fair
Eugene Street											
First South Street to Residence Street	City	local	25	60	25	2	no	no	no	no	good
Leone Avenue											
Greenwood Street to First South Street	City	local	25	60	25	2	no	no	no	no	Good
Fairview Street											
First South Street to Residence Street	City	local	25	60	25	2	no	no	no	no	Good
Pace Avenue											
Greenwood Street to First South Street	City	local	25	60	25	2	no	no	no	no	Good

TECHNICAL MEMORANDUM

SPEED CONTROL MEASURES

Numerous studies have been carried out to determine the influence of particular roadway features on traffic speed. Some of the most significant characteristics of roadway features are curvature, grades, length of grade, number of lanes, surface condition, sight distance, lateral clearance, number of intersections, and built-up areas near the roadways. Some of the main reasons drivers give for speeding include being in a hurry, to avoid a potential danger, to keep up with other traffic, and to maintain a speed with which the driver feels comfortable.

This technical memorandum describes a variety of speed control measures to address public concern over high-speed traffic through the downtown areas of many of the cities in Grant County. Speed control measures consist of physical controls, passive controls, and psycho-perception controls. Specific speed control techniques for each of these three categories are summarized in the following pages and listed in Table 1 located at the end of this memorandum.

Physical Controls

Physical speed controls are those measures which are physically constructed to restrict or affect vehicle operation or performance. Speed control techniques that can be designed or built into transportation systems include the use of road markings, texturing, medians, street narrowing, and other physical features. They often result in other "traffic calming" benefits such as reduced traffic volumes and noise levels in congested areas. High construction costs somewhat limit extensive use of these types of speed control measures.

Speed Bumps

Speed bumps are short bumps in a roadway used in parking lots, on private roads, and around universities. Their effectiveness at reducing speed is somewhat inconsistent, as drivers tend to slow down to reduce vehicle rocking while traveling over the bumps but will then increase their speeds between the bumps to make up for lost time. They increase the likelihood of vehicle damage and loss of control even when driving over them at low speeds. Speed bumps can be effective in lowering traffic volumes; however, they cause an increase in noise. They also cause problems for snowplows. Speed bumps have moderately high construction costs and little to no maintenance costs once constructed.

drivers to obey signs. Changes to the posted speed limit are not likely to result in any changes in traffic volumes or noise either.

Traffic Activated Signs

Radar can be used to activate variable message signs when vehicles are traveling faster than the speed limit. These signs display the speed indication and the message SLOW DOWN or TOO FAST with flashing beacons to drivers exceeding the posted speed limit. Speed limit signs without beacons produced no significant reductions in speed. Some tests indicated that there was an increase in the speed variance with the speed violation sign. This is an unfavorable effect since it has been shown to increase the likelihood of accidents. Other tests indicated that speeds became more uniform. It is unlikely that a traffic activated sign would have any effect on traffic volumes or noise. These signs have moderately high construction costs and low maintenance costs.

Psycho-Perception Controls

Psycho-perception controls are those speed control measures that rely on drivers' attitudes, perceptions, and reactions to their surroundings. These include knowledge about speed enforcement, perceived safe traveling speed, and reaction to changes in the surrounding environment. They rely less on physically slowing vehicles or driver compliance with the law and more on the human psyche. Nonetheless, their benefits can be quantified and they make an important contribution to speed control.

Enforcement

In the presence of police enforcement, motorists tend to slow down. The magnitude of the speed decrease depends on the relative level of the speed limit and the perceived severity of the threat and enforcement. A marked police vehicle parked with lights flashing and simulating an arrest produces the largest reduction in speed. Stationary enforcement is more effective than moving enforcement in controlling speed. In most cases, the decrease in speed is less than three mph but reductions up to ten mph have been observed. As would be expected, the greater the number of enforcement measures present in a given area or the greater the frequency of presence, the greater the impact on the speed of traffic in that area.

The distance that the speed suppression effect extends from the enforcement measure depends on the frequency or strategy of patrol, the patrol method, the traffic situation, and other factors. In most cases, this distance is less than three miles either side of the measure, but there have been reports of an effect up to four miles upstream and ten miles downstream of the enforcement.

Enforcement also appears to have a carryover effect. That is, the speed suppression effect remains for some period of time after the enforcement unit is removed. The duration of this effect and the factors

Providing painted crosswalks can be accomplished at a low construction cost (approximately $3 per linear foot) and do not require much maintenance beyond routine painting. Raised or textured crosswalks have higher construction costs and little to no maintenance costs.

Odd Speed Limit Signs

Differentiated speed limits and advisory speed limits can be considered "odd" speed limits. Differentiated speed limits can consist of different speed limits for day and night or different speed limits for cars and trucks. Advisory speed limits are often used to aid drivers in selecting safe speeds for hazardous locations such as curves, roadwork sites, intersections, and road sections with lower design speeds.

When different speed limits are used for day and night, the night speed limits are generally set at five to ten mph lower than day speed limits. There are no reports available on the effectiveness of these limits, although speeds are generally lower and accident risk has been found to be greater at night.

Different speed limits for cars and trucks have also been used. One study of differentiated speed limits indicated that the actual difference in car and truck speeds was less than the posted ten mph differential except on steep upgrades where trucks could not maintain speed. At most sites studied the actual difference between car and truck speeds was less than six mph.

Studies have indicated that drivers exceeded advisory speeds of 15 to 35 miles per hour but did not exceed 45 and 50 mph speed advisories. Advisory and regulatory 35 mph speed limit signs were shown to have little if any effect on speed compared to the standard curve sign. In general, drivers were not influenced by raising or lowering advisory speeds, but they were influenced by the sharpness of the curve. Additionally, drivers using a highway repeatedly, quickly learn the speed that curvature and road conditions will allow and advisory speeds can be expected to have little effect on them.

As with typical speed limit signs, odd speed limit signs can be installed at a low construction cost with little to no maintenance problems or cost; however, they rarely result in actual reductions in speed. These signs also have a tendency to be ignored, and are more subject to vandalism.

Vertical Elements Along Roadway

This option consists of adding a vertical architectural element to the sides of a two-lane highway within an urban area to give the appearance of narrowness. This technique, sometimes called "Gateway Treatment," also gives drivers a sense of "place," i.e., the feeling that they have entered an urban area with lower speed limits, on-street parking, conflicting pedestrian and bicycle movements, and increased highway access.

Bicycle Lanes

Bicycles should be accommodated on virtually all roadways. For most local streets, the traffic volume and speeds are low enough that bicycles and autos can safely share the same roadway. On collector streets and arterials, both the volume and speed of the automobile traffic is high enough that a designated space is needed for bicyclists. In urban areas where there are curbs, a six-foot bike lane is recommended for bicycles, and special care taken to secure safe bicycle passage through intersections. In rural areas without curbs and sidewalks, the typical recommended facility is a shoulder bikeway, where a six-foot standard paved shoulder is provided for bicycles. According to the Oregon Bicycle and Pedestrian Plan, the guideline for rural arterials with a design hour volume of less than 200 vpd is for a paved shoulder which is four feet wide.

Bicycle lanes also improve bicyclist safety and encourage more bicycle trips by improving the cycling experience by taking bike trips out of the general flow traffic lanes. Depending on the existing pavement width, bike lanes can be provided at a low construction cost simply by restriping an existing road (approximately $0.40 per linear foot). If a roadway has to be widened to provide a bike lane or a paved shoulder, it can be done at a relatively high construction cost (approximately $45 per linear foot for a facility five feet wide on both sides of the road, built to highway standards, with curbs and striping). After construction, little to no maintenance is required except for routine painting of pavement markings.

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APPENDIX D

Population and Employment Forecasts

POPULATION AND EMPLOYMENT FORECASTS

The traffic volume forecasts for Wallowa County and its municipalities are based on historic growth of 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 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 populations and employment forecasts were developed to determine future transportation needs. The amount of growth, and where it occurs, will affect traffic and transportation facilities in the study area. This report is not intended to provide a complete economic forecast or housing analysis, and it should not be used for any purpose other than that for which it is designed.

A more detailed description of existing and future land use projections is contained in the following pages. Both historic and projected population for Wallowa County and its incorporated cities are summarized in the table below:

WALLOWA COUNTY POPULATION TRENDS

	1970 (1)	1980 (2)	1990 (3)	1996 Estimate	2015 Projected
Wallowa County	6,247	7,273	6,911	7,250	8,025 (3)
Incorporated Cities:					
Enterprise	1,680	2,003	1,905	2,020	2,206
Joseph	839	999	1,073	1,255	1,460
Lostine	196	250	231	235	242
City of Wallowa	811	847	748	755	789

Source:
(1) US Bureau of the Census.
(2) Portland State University Center for Population Research and Census.
(3) State of Oregon Office of Economic Analysis.

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). The only jurisdiction able to achieve significant positive growth throughout the 1970s, 1980s and 1990s was Joseph, growing from 788 in 1970 to

1,073 in 1990. The population in the City of Enterprise rose from 1,680 in 1970 to just over 2,000 in 1980, falling again to just over 1,900 in the 1990 Census.

Projected

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

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

The population of Wallowa County is expected to increase by 11 percent over the next 20 years, from the 1995 estimate of 7,250 to an estimated 8,025 in year 2015. The only jurisdiction expected to grow faster is Joseph, with a forecast increase of nearly 23 percent over 20 years, from 1,190 in 1995 to 1,460 in 2015. Enterprise is expected to grow nine percent over the planning horizon, a rate slightly slower than the county as a whole. However, in recent years, the City as approved subdivisions resulting in an excess of 100 vacant residential lots, as well as some condominiums and a retirement center. Development is the residential lots and other units may affect the projected growth rate for Enterprise.

METHODOLOGY AND DATA SOURCES

Population estimates and projections were developed from historical data as reported by the Census Bureau. Portland State University's Center for Population Research and Census (PSU CPRC) developed annual population estimates for cities and counties for the purpose of allocating certain state tax revenues to cities and counties. The State of Oregon Office of Economic Analysis (OEA) provided long-term (through year 2040) state population forecasts, disaggregated by county, for state planning purposes. OEA also developed county-level employment forecasts based on covered employment payrolls as reported by the Oregon Employment Department.

The Office of Economic Analysis used business-cycle trends (as reflected by the Employment Department's employment forecasts) as the primary driver of population and employment for the short term. For the long term, the forecasts shift to a population-driven model, which emphasizes demographics of the resident population, including age and gender of the population, with assumptions regarding life expectancy, fertility rate, and immigration. DEA used a methodology based on OEA's county-distribution methodology in developing population and employment forecasts for each of the cities in Wallowa County. DEA calculated a weighted average growth rate for each jurisdiction (weighting recent growth more heavily than past growth) and combined this average growth rate with the projected county-wide growth rate. This methodology assumes convergence of growth rates because of the physical constraints of any area to sustain growth rates beyond the state or county average for long periods of time. These constraints include availability of land and housing, congestion, and other infrastructure limitations.

These 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.

CURRENT POPULATION AND EMPLOYMENT LEVEL

Estimated at 7,250 in 1995, the population of Wallowa County has remained relatively stable since the 1990 Census, with an average annual growth rate of less than one percent. The following table shows the estimated change in population for Wallowa County and the jurisdictions of Enterprise, Joseph, Lostine, and the City of Wallowa from 1990 to 1995.

Wallowa County Population Level

			1990-1995 Change	
	1990	1995	Number	CAARG*
Wallowa County	6,911	7,250	339	0.96%
Enterprise	1,905	2,010	105	1.08%
Joseph	1,073	1,190	117	2.09%
Lostine	231	230	(1)	-0.09%
City of Wallowa	748	755	7	0.19%

** Compound Average Annual Rate of Growth*

Source: Portland State University Center for Population Research and Census.

Employment levels have declined since 1990. This decline is, in part, attributable to an increase in the unemployment rate throughout Oregon. Average unemployment rates for Wallowa County hit a low for the decade at 7.5 percent in 1989. Since then, unemployment has climbed, reaching an average 11.1 percent in 1995.

Wallowa County Employment

			1990-1995 Change	
	1990	1995	Number	CAARG*
Wallowa County Employment	3,270	2,970	(300)	-1.91%
Unemployment Rate	7.6%	11.1%	n.a.	n.a.

** Compound Average Annual Rate of Growth*

Note: These figures are reported as place-of-work series, rather than place-of-residence. In other words, these estimated total jobs in Wallowa County may be held by residents of other counties. The impact of this difference is considered minimal for Wallowa County as the 1990 Census reports that over 96 percent of workers who live in Wallowa County also work in the County.

Source: Oregon Employment Department.

The unemployment rates contrast with the economic performance of the state as a whole. The state's unemployment rate has been at approximately 5 percent for several years, and has just begun creeping upward. As of November 1996, the statewide unemployment rate was 5.5 percent–still a historically low rate, but the state's highest level in over two years.

HISTORICAL GROWTH

Interestingly, 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 overall between the 1960 and 1990 Censuses (from 7,102 in 1960 to 6,911 in 1990). The following table shows the population trend for Enterprise, Joseph, Lostine, the City of Wallowa and Wallowa County as a whole.

Wallowa County Historical Population Trend

					1960-1990 Change	
	1960	1970	1980	1990	Number	CAARG *
Wallowa County	7,102	6,247	7,273	6,911	(191)	-0.09%
Enterprise	1,932	1,680	2,003	1,905	(27)	-0.05%
Joseph	788	839	999	1,073	285	1.03%
Lostine	240	196	250	231	(9)	-0.13%
City of Wallowa	989	811	847	748	(241)	-0.93%

* *Compound Average Annual Rate of Growth*

Source: U.S. Bureau of the Census.

The only jurisdiction able to achieve positive population growth between 1960 and 1990 was Joseph, growing from 788 in 1960 to 1,073 in 1990. This growth can attributed, in part, to the community's proximity to Wallowa Lake, and the recreational opportunities this amenity provides.

Wallowa County Population Forecast

	1995	2000	2005	2010	2015	1995-2000 CAARG	1995-2015 CAARG
Wallowa County	7,250	7,458	7,632	7,815	8,025	0.57%	0.51%
Enterprise	2,010	2,060	2,106	2,153	2,206	0.49%	0.47%
Joseph	1,190	1,260	1,329	1,396	1,460	1.15%	1.03%
Lostine	230	233	235	238	242	0.26%	0.25%
City of Wallowa	755	763	769	777	789	0.21%	0.17%

Source: 1995 estimates developed by Portland State University Center for Population Research and Census; County forecasts developed by State of Oregon Office of Economic Analysis; and Jurisdiction forecasts developed by David Evans and Associates, Inc.

The population of Wallowa County is expected to increase by 11 percent over the next 20 years, from the 1995 estimate of 7,250 to an estimated 8,025 in year 2015. The only jurisdiction expected to grow faster is Joseph, with a forecast increase of nearly 23 percent over 20 years, from 1,190 in 1995 to 1,460 in 2015.

The Office of Economic Analysis also developed forecasts of Non-Agricultural Employment by county. Oregon Employment data suggest that over one-quarter (an estimated 29 percent in 1995) of all employment in Wallowa County is agriculture-based. This agriculture-based proportion, although higher than the state average, is typical for counties in Eastern Oregon. The economy of Wallowa County has been moving toward a greater degree of diversification, going from 46 percent agricultural-based employment in 1970, to 29 percent in 1995, as shown in the table below.

Agricultural Employment Trend

Wallowa County

		1970	1975	1980	1985	1990	1995
Total Employment	Estimated	2,420	2,820	3,280	3,080	3,270	2,970
Nonfarm Employment	Payroll	1,310	1,620	1,860	1,780	2,270	2,110
Agricultural Proportion		46%	43%	43%	42%	31%	29%

Source: Oregon Employment Department.

The shift from agriculture occurred primarily in the late 1980s with agriculture-based employment accounting for 42 percent of all employment in 1985, falling to 31 percent just five years later. Statewide, the Office of Economic Analysis expects this diversification to continue, but at a decreasing rate. Applying this principle to Wallowa County employment, the following table shows forecast non-agricultural and estimated total employment for Wallowa County.

Wallowa County Employment Forecast*

	1995	2000	2005	2010	2015	1995-2000 CAARG	1995-2015 CAARG
Non-Agricultural Employment	2,110	2,302	2,377	2,423	2,438	1.76%	0.73%
Estimated Total Employment	2,970	3,201	3,274	3,314	3,317	1.51%	0.55%
Agricultural Proportion	29.0%	28.1%	27.4%	26.9%	26.5%	n.a.	n.a.

* *The Office of Economic Analysis inflated non-agricultural employment to 2,151 to correct for Oregon jobs not attributed to any specific county.*

Source: Non-Agricultural employment forecasts developed by the State of Oregon Office of Economic Analysis; 1995 estimates developed by the Oregon Employment Department; and estimated total employment forecasts developed by David Evans and Associates, Inc.

Despite minimal growth in population since 1970, other demographic changes have occurred that may impact the community's employment and travel patterns. For example, there have been national trends of both decreasing household size and increasing numbers of workers per household.

Household size in Wallowa County has gone from an average of 2.93 persons per household in 1970 to an average of 2.44 persons in 1990. Changes in life expectancy and lifestyle choices (i.e. electing to delay marriage and childbearing) have resulted in relatively high proportions of "empty-nester," "singles," and "couples-without-children" households.

The number of jobs per household has also been increasing. With 6,247 reported persons in 1970 and total employment estimated at 2,420, the population/employment ratio in 1970 was 2.58 persons per job. In 1995, there were 2,970 jobs for the estimated population of 7,250, for a population/employment ratio of 2.44 persons per job. The increasing numbers of jobs in relation to population is due to a number of factors including a low savings rate, increased life expectancy, and higher education levels. These factors have combined to increase the labor participation rate, particularly by women and older adults.

POPULATION AND EMPLOYMENT FORECASTS

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 forecast for Wallowa County and the jurisdictions of Enterprise, Joseph, Lostine, and the City of Wallowa are shown in five-year increments in the following table.

Employment is expected to grow by over 11 percent over the next twenty years, with the proportion captured by agricultural employment declining over time, from its current level of 29 percent, reaching 26.5 percent of total employment in Wallowa County in year 2015. The population/employment ratio will remain relatively stable (decreasing slightly from 2.44 persons per job to 2.42 persons per job).