Union County

Transportation System Plan
Final

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Prepared for
Union County

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Table of Contents
Union County Transportation System Plan

APPENDICES

List of Tables and Figures
Union County Transportation System Plan

Follows Page

CHAPTER 1: INTRODUCTION

The Union County Transportation System Plan (TSP) identifies existing transportation facilities and provides guidelines for future planned and constructed transportation facilities until the year 2018. This TSP updates the transportation element of the Union County Land Use Plan and replaces the 1979 Union County Transportation Plan. It is intended to satisfy the requirements of the Oregon Transportation Planning Rule (TPR) and implement Statewide Planning Goal 12: Transportation, which is Oregon's transportation planning law. The TPR requires local jurisdictions to coordinate land use and transportation planning, and to consider all modes of travel.

It is important to recognize the relationship between land use and transportation because vehicle trip generation is a direct result of land use. Intense land uses produce large amounts of traffic. If the transportation system around these land uses cannot accommodate the traffic, then congestion, delays, and pollution can degrade quality of life and harm business opportunities. Planning for future development in conjunction with planning the future transportation system results in the most efficient possible transportation system. Identifying transportation needs for the next 20 years also provides the opportunity to plan the most equitable and economically beneficial transportation system for Union County. The TSP takes into account surrounding land uses as it identifies potential transportation projects.

PLANNING AREA

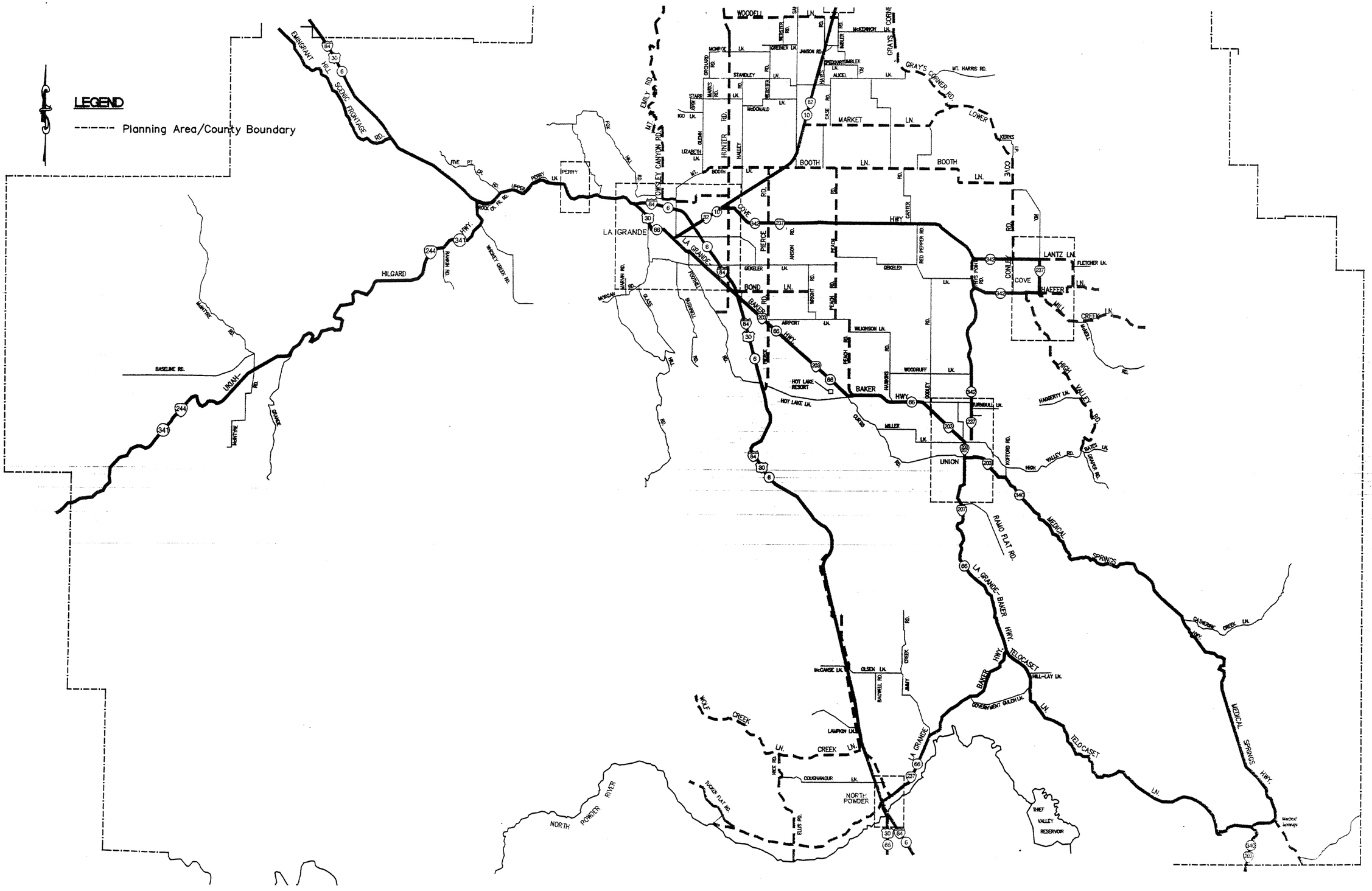
The TSP planning area includes all areas inside Union County but outside established Urban Growth Boundaries (UGB). Located along the Interstate 84 corridor in the northeast corner of Oregon, Union County is approximately 250 miles east of Portland, Oregon and 160 miles northwest of Boise, Idaho. The county area is 2,038 square miles and contains an estimated population of 24,500 people. The Grande Ronde Valley floor supports extensive agricultural activities. Principal industries include agriculture, timber, and public employment. The natural beauty of Union County provides a stunning backdrop for many outdoor activities, including skiing, hunting, fishing, and hiking. National Forest land comprises the majority of the 49% publicly owned lands in Union County.

A large foldout map showing the Union County planning area is located in Figures 1-1A and 1-1B. The maps show state highways, county roads, and key United States Forest Service (USFS) roads.

The major transportation corridors are primarily comprised of state facilities. Six highways (including Interstate 84) link 7 of the 8 county incorporated jurisdictions. Interstate 84 is part of the federal interstate system, providing Union County with a significant link to the surrounding region and other parts of the country. Though five of the six facilities originate in Union County, none of them terminate within the county's boundaries. At the local level, these transportation corridors are principal arterials, and support a large volume of freight and passengers.

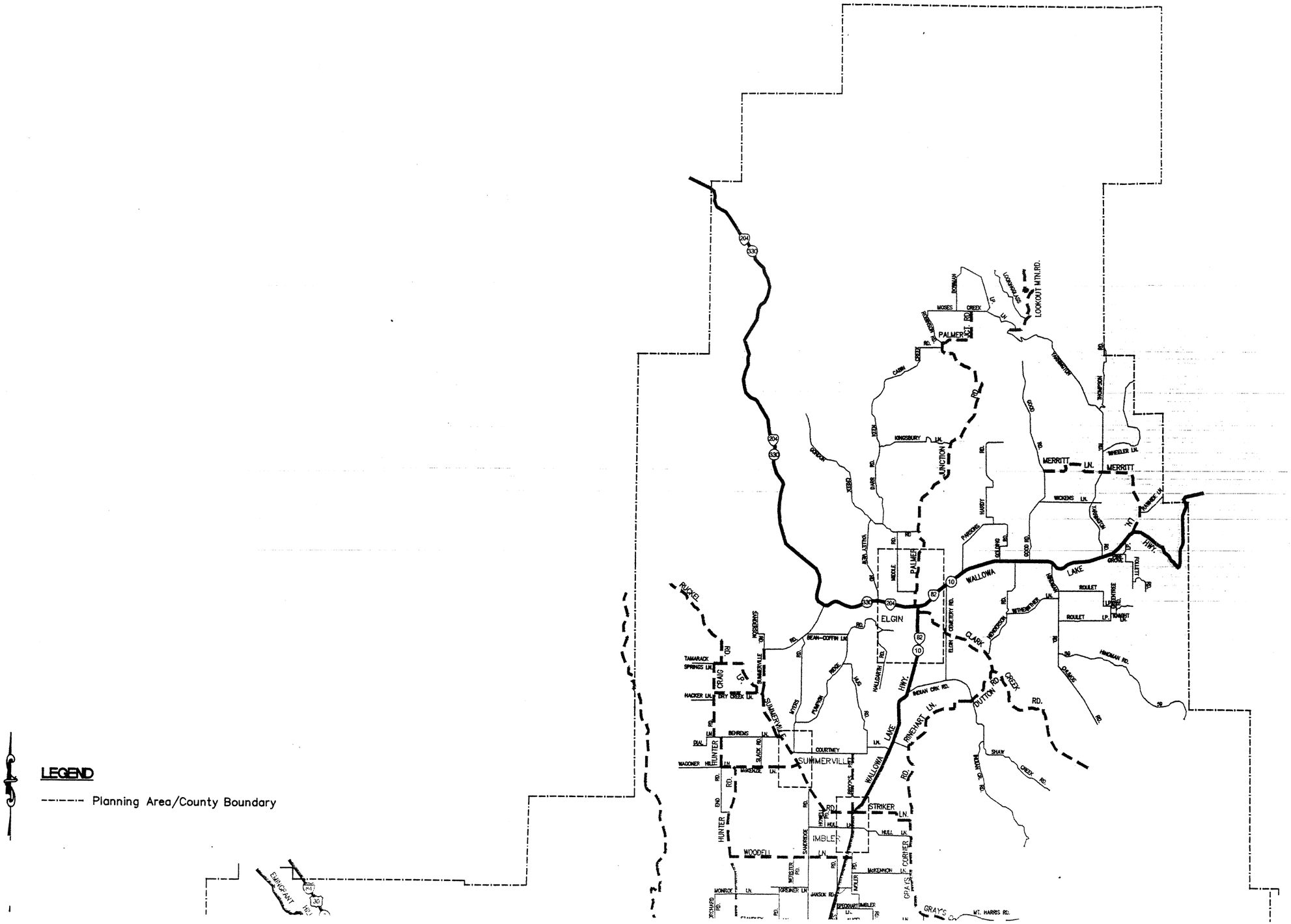
In addition to state facilities, a web of county roads connects the state system and outlying jurisdictions. The county road system serves many purposes but the primary function is individual property access. County roads also provide connectivity between urban street grids, agricultural activities, recreational areas, and national forests.

USFS roads are important roads in Union County because they provide access to the surrounding Umatilla and Wallowa-Whitman National Forests.



Union County Transportation System Plan

FIGURE 1-1B
Planning Area
South Section



Union County Transportation System Plan

FIGURE 1-1A
Planning Area
North Section

PLANNING PROCESS

The Union County Transportation System Plan is part of a larger project funded by the Transportation and Growth Management Program to also develop individual TSPs for the incorporated jurisdictions of Imbler and Elgin. The Imbler and Elgin City Councils served as the Technical Advisory Committees (TACs). In Union County, the County Transportation Advisory Committee served as the Technical Advisory Committee. Important components of the process include:

- Involving the Union County community (Chapter 1)
- Developing goals and objectives (Chapter 2)
- Reviewing existing plans, policies, and transportation conditions (Chapters 3 & 4)
- Developing travel volume forecasts (Chapter 5)
- Developing and evaluating potential transportation system improvements (Chapter 6)
- Developing the modal plans (Chapter 7)
- Identifying funding options (Chapter 8)
- Developing implementing policy and ordinance amendments (Chapter 9)

Community Involvement

Community involvement is an important aspect of any planning process. Part of the transportation planning process includes providing opportunity for the public to participate in the development of the Union County Transportation System Plan. The opportunity for the public to become involved depends on distribution of notice to affected citizens. Letters mailed to stakeholders, local officials, and interested citizens are the most direct method of notification, and proved most useful to Union County. Posters, flyers, and public service announcements in local newspapers also serve to notify citizens of upcoming opportunities for public participation. At each public meeting, comment cards were available to those who wished to write down their comments and recommendations. A public involvement record is included in Appendix A.

Goals and Objectives

The goals and objectives of the Union County TSP were developed using input from the TAC. These goals and objectives were used to make decisions about potential improvement projects. They are described in Chapter 2.

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

In order to understand the present conditions of the current transportation system, and to identify system deficiencies, an analysis of existing plans and policies took place, as well as an inventory of the current system and facilities. The purpose of this inventory and analysis is to assess Union County's growth and development based on existing policies and ordinances, and to catalog the current transportation system and facilities.

The inventory of existing conditions is included in Appendix B and is explained in detail in Chapter 3, while Chapter 4 describes how the system functions.

Future Transportation System Demands

The Transportation Planning Rule requires a 20-year forecast be incorporated into each TSP. Future traffic volumes for the existing, plus committed, transportation system were projected using ODOT's Level 1 - Trending Analysis methodology. The travel forecasts are discussed in detail in Chapter 5.

Potential Transportation System Improvements
Once future traffic volumes were developed, then an evaluation of several potential improvement projects took place. These potential projects were also weighed against the goals and objectives identified in Chapter 2. The evaluation of potential improvements was based on many factors, including the estimated cost of each project, land use impacts, safety, and equity to all transportation users. The potential improvement projects were identified with the help of the TAC, community members, and Union County staff. After an assessment of the potential improvement projects was complete, recommended transportation system improvements were selected. These recommended system improvements are detailed in Chapter 6.

Transportation System Plan
The Transportation System Plan addresses all modes of travel for Union County. This section of the TSP provides a framework for implementation by including street design standards, access management standards, and a capital improvement program. The roadway system plan was developed from the traffic forecasting analysis and evaluation of potential transportation improvement projects. The Union County Bicycle and Pedestrian Plan is a separate document adopted by the Union County Commissioners on October 2, 1996. The public transportation, rail, air, pipeline, and waterborne transportation plans were developed based on discussions with the owners and operators of the facilities and services. Chapter 7 details each of the modal plans and discusses street standards and access management techniques.

Funding Options
Union County will have to work with ODOT and each of the other eight county incorporated jurisdictions to pay for new transportation projects over the next 20 years. A survey of potential financing and funding opportunities is described in Chapter 8.

Recommended Policies and Ordinances
Recommended policy and ordinance amendments for the Union County Land Use Plan and the Union County Zoning, Partition, and Subdivision Ordinance are included in Chapter 9. These policy and ordinance changes are necessary in order to implement the TSP and meet the requirements of the TPR.

RELATED DOCUMENTS
The Union County TSP addresses regional and local transportation needs in the rural portions of the county. There are several other documents related to specific local and regional transportation needs, which are listed below.

City Transportation System Plans
Three city TSPs were developed and adopted during the summer of 1998 for communities in the southern portion of Union County. These are:

- City of Cove Transportation System Plan
- City of Union Transportation System Plan
- City of North Powder Transportation System Plan

Additionally, La Grande and Island City are in the process of preparing a joint TSP to address transportation needs within both cities. This TSP is slated for adoption during fall 1999.

In conjunction with the Union County TSP, two more city TSPs were developed. These are:

- City of Elgin Transportation System Plan
- City of Imbler Transportation System Plan

All small city TSPs address local needs within each community's Urban Growth Boundary (UGB). Each plan describes street development standards, access management standards, a Street System Plan showing the layout of future streets, modal plans, and policy and ordinance changes necessary for the implementation of each TSP. There are instances where projects that are identified in the individual city TSPs also need to be addressed in the County's TSP. These projects include:

- A multi-use path along the abandoned Idaho Northern Pacific railroad right-of-way between Elgin and Joseph. (Elgin TSP)
- Improvements to, and possible reconstruction of, Godley Lane. (Union TSP)

Corridor Strategies
Oregon Highway 82 is a highway of statewide significance and constitutes a major transportation corridor in Union County. A final Oregon Highway 82 Corridor Plan was completed in May, 1998 and details several corridor strategy objectives in order to protect the function of the state highway system.

Other Plans
The Union County TSP will coordinate with the Oregon Highway 82 corridor strategies as well as the following plans:

- Oregon Transportation Plan (1992)
- Oregon Highway Plan (1991)
- Union County Bicycle and Pedestrian Plan (1996)
- Oregon Aviation System Plan (1974 – currently being updated)
- La Grande/Union County Airport Master Plan Update (1998)
- Oregon Rail Freight Plan (1994)
- Oregon Public Transportation Plan (1997)

CHAPTER 2: GOALS AND OBJECTIVES

The following goals and objectives provide a framework against which to compare each element of the TSP; specifically, the potential transportation system improvement projects. These goals and objectives were developed with input from the Technical Advisory Committee.

OVERALL TRANSPORTATION GOAL
Develop a transportation system that enhances the livability of Union County and accommodates growth and development through careful planning and management of existing and future transportation facilities.

GOAL 1:
Improve and enhance safety and traffic circulation on the county road system.

Objectives:
A) Develop an efficient road network for the county.
B) Improve and maintain existing roadways.
C) Ensure planning coordination between the county and the state.
D) Identify truck routes to reduce truck traffic in urban areas where needed.
E) Ensure that roads created in land division and development be designed to tie into existing and anticipated road circulation patterns.
F) Review and revise, if necessary, street cross section standards for local, collector, and arterial streets to enhance safety and mobility.
G) Evaluate the need for traffic control devices.
H) Analyze the safety of traveling speeds and consider proposals to modify posted speeds.
I) Identify local problem spots and recommended solutions.

GOAL 2:
Preserve the function, capacity, level of service, and safety of the state highway system.

Objectives:
A) Develop access management standards.
B) Develop alternative, parallel routes.
C) Promote alternative modes of transportation.
D) Promote demand management (rideshare, park & ride).
E) Promote transportation system management (signal synchronization, median barriers, etc.)
F) Develop procedures to minimize impacts to and protect transportation facilities, corridors, or sites during the development review process.
G) Promote railroad freight service.

GOAL 3:
Identify the 20-year roadway system needs to accommodate developing or undeveloped areas without undermining the rural nature of Union County.

Objectives:
A) Adopt policies and standards that address street connectivity, spacing, and access management.
B) Integrate new arterial and collector routes into improved grid systems with an emphasis on removing the pressure from traditionally heavy traffic collectors.
C) Examine improved access into and out of the county for goods and services.
D) Explore improved access on and off arterials to encourage growth.

E) Determine whether there are opportunities to promote railroad freight service to reduce truck-related traffic.

GOAL 4:

Increase the use of alternative modes of transportation (walking, bicycling, rideshare/carpooling, and transit) through improved access, safety, and service.

Objectives:

A) Identify where shoulder bikeways are appropriate on rural collector and arterial roads.
B) Promote alternative modes and rideshare/carpool programs through community awareness and education.
C) Promote future expanded transit service by recommending funding to local transit efforts and seeking consistent state support.
D) Promote air freight and air passenger service to and from the La Grande/Union County Airport.

CHAPTER 3: TRANSPORTATION SYSTEM INVENTORY

Part of the planning process includes an inventory of Union County's existing transportation system. The inventory records the roadway system and roadway classifications, pedestrian and bicycle facilities, public transportation, rail service, and whether air service, pipeline systems, and waterborne transportation are present.

ROADWAY SYSTEM

The most obvious element of the transportation system is the roadway system. Historically, reliance on the automobile and rapid urbanization have led to the majority of transportation dollars being spent on building and maintaining roads. Recently, consideration of other modes, in addition to vehicular travel, has emerged as an alternative focus for transportation dollars.

This TSP inventories and discusses all modes of travel, but in rural Union County, the automobile remains the prevalent mode. As a result, over the 20-year planning period, the roadway system will remain the emphasis of the transportation system; therefore, maintaining a safe, equitable transportation system is the primary focus of this TSP.

The existing roadway system in Union County was inventoried through several different methods and includes facilities under different jurisdictions. All state highways and county arterials, collectors, and local roads included in the planning area were cataloged. Components of the inventory include:

- Road name, classification, and jurisdiction
- Road length, pavement width and total right-of-way width
- Road surface and surface condition
- Number of travel lanes
- Presence of parking, bicycle, and pedestrian facilities
- Posted speed limits

The complete inventory of Union County's roadway system is included in Appendix B.

Roadway Classification

Roads inventoried for the TSP include those under federal, state, and county jurisdiction. Each jurisdiction has a separate process for identifying road classifications based on the road function. The TSP recognizes state and federal road classifications as being separate from the county classification system. Union County roadways are classified into three categories, which are rural arterials, rural collectors, and rural local roads.

State Highways

In Union County, state highways serve as principal arterials and form the basis of the primary road network. This network facilitates the movement of large volumes of people and freight within and throughout Union County and the outlying area. State highways also link outlying jurisdictions and provide connections with the greater region and surrounding states. Though the purpose of an arterial is to expeditiously move cars and trucks from one destination to the next, state highways also serve to access property. This is evident in Union County where the state highways accommodate local, regional, and statewide transportation needs.

In Union County, there are six state highways: Interstate 84, Oregon Highway 82, Oregon Highway 237, Oregon Highway 203, Oregon Highway 204, and Oregon Highway 244. These principal transportation routes carry most of the county's traffic, and as a result, these routes link most of the

commercial and industrial development. This TSP, however, is primarily concerned with the sections of state highways that lie in the rural portions of Union County because incorporated jurisdictions' TSPs address the urban sections of state highways.

The Oregon Department of Transportation (ODOT) has a highway classification system to prioritize improvement needs and define operational objectives. The 1991 Oregon Highway Plan identifies four levels of importance, which are: interstate, statewide, regional, and district. A primary and secondary function is designated for each level of importance, as well as management objectives to guide highway operation. Union County has one highway of interstate significance, Interstate 84; one highway of statewide significance, Oregon Highway 82; one highway of regional significance, Oregon Highway 204; and the remaining three highways are of district significance, Oregon Highways 244, 203, and 237.

Interstate 84
Interstate 84 (I-84) traverses about 44 miles of Union County in a southeasterly direction. It enters Union County from Umatilla County near Kamela and exits into Baker County near North Powder. Interstate 84 is part of the federal interstate system and has two eastbound travel lanes and two westbound travel lanes. It is a fully controlled facility, therefore, there are no connecting roadways except for interchanges. I-84 has a posted speed of 55 for trucks and 65 for passenger vehicles. The pavement condition is generally "good." There are no pedestrian or bicycle facilities, though cyclists do utilize the shoulder on extended bicycle trips.

Interstate 84 is a highway of interstate significance, and according to the 1991 Oregon Highway Plan, the primary function of interstate highways is to provide connections and links to major cities, regions of the state, and other states. The management objective is to provide for safe and efficient high-speed, continuous-flow operation of vehicles in both urban and rural areas.

Oregon Highway 82
Oregon Highway 82 extends approximately 33 miles in a northeasterly direction to the Wallowa County line, connecting Interstate 84 and La Grande to Imbler and Elgin, and eventually terminating at Wallowa Lake in Wallowa County. Oregon Highway 82 is a two-lane, paved highway with a posted speed of 55 miles per hour, except within cities, and potentially hazardous areas due to topography or weather. Pavement condition is generally "good." There are passing lanes in the corridor that facilitates the movement of slow-moving vehicles, so traffic can move in an efficient manner and safety is not compromised. Turn refuge lanes are provided at different high volume locations to facilitate turning movements without jeopardizing safety or through travel. In rural areas, the highway does not have dedicated pedestrian or bicycle facilities but bicyclists commonly travel along the paved shoulders, which are typically 4 feet wide. Land uses along the highway in rural areas are generally zoned for exclusive farm use. County roads connect with the state highway to provide access to public and private lands.

Oregon Highway 82 is a highway of statewide significance whose purpose is to provide connections and links to larger urban areas, ports and major recreation areas that are not directly served by interstate highways. Statewide highways also provide connection to the interstate system. The management objective of statewide highways is to provide for safe and efficient high-speed, through travel in rural areas and high-to-moderate speed traffic flow with limited interruptions in urban and urbanizing areas.
According to the 1991 Oregon Highway Plan, Oregon Highway 82 is part of the Access Oregon Highway classification system which was developed in order to identify a network of primary statewide highways that link major economic and geographic activity centers to each other, to other high level highways, to ports, and to other states. Designation as an Access Oregon Highway means that the Oregon Highway 82 corridor is a top priority for improvement project funding. Oregon Highway 82 is

also part of the Hells Canyon Oregon Scenic Byway system and portions of the corridor in Wallowa County are part of the Oregon Scenic Waterway and National Wild and Scenic Study Corridor, which is tied to the Wallowa and Minam River systems.

According to the Oregon Highway 82 Corridor Plan, "the overall strategy for the Highway 82 Corridor is to maintain the condition and increase the functionality of existing transportation facilities."[1] Corridor strategy objectives were identified in order to achieve the overall strategy and are grouped into either "transportation performance measures" or "transportation impacts." These are terms developed by ODOT to provide common language for statewide corridor analysis and are based on Oregon Transportation Plan goals and policies. Each corridor strategy objective is also associated with specific "decisions." Decisions can be either "management decisions," "capital improvement decisions," or "service improvement decisions." These decisions, then, become the recommended improvement projects from the plan for the next 20 years. ODOT chose to use the term "decision" in order to demonstrate that some action was proposed to address an identified need within the corridor. These decisions, or improvement projects, will be implemented through the Statewide Transportation Improvement Program (STIP) and the ODOT Region 5 work program. The STIP balances recommended improvement projects from the Oregon Highway 82 Corridor Plan with other recommended improvement projects throughout the state in order to achieve a safe, efficient, and equitable transportation system. Each decision, or recommended improvement project, is prioritized as a "near" (0-5 years), "mid" (5-10 years), or "long" (10-20 years) term project. A more detailed discussion of improvement projects follows in Chapter 6.

Oregon Highway 204

Oregon Highway 204, also known as the Weston-Elgin Highway, is a highway of regional significance. It originates in Weston (Umatilla County) and extends roughly 20 miles in a southeasterly direction to its terminus at the junction with Oregon Highway 82 in Elgin. It is a two lane, paved highway with turn-outs provided for slow-moving vehicles, and snow storage during periods of heavy snow. There are no pedestrian facilities but there are two-foot wide paved shoulders. Posted speeds are 55 miles per hour, except where topography or weather necessitates lower speeds, or within cities. Generally, pavement conditions are "fair" to "poor." Land uses along the highway in rural areas are generally zoned for timber and grazing uses. County and Forest Service roads connect with the state highway to provide access to resource lands.

The primary function of regional highways is to provide connections and links to areas within regions of the state, between small, urbanized areas and larger population centers, and to higher level facilities. A secondary function is to serve land uses in the vicinity of these highways. The management objective of regional highways is to provide for safe and efficient high-speed, through travel in rural areas, except where there are significant environmental constraints, and moderate-to-low speed traffic operation in urban and urbanizing areas with moderate interruptions of traffic flow.

[1] Otak, "Oregon Highway 82 Corridor Plan," May 1998, 7-1.

Oregon Highways 203, 237, and 244
Oregon Highway 203 originates in La Grande and extends in a southeasterly direction to Union and continues on to Medical Springs at the southern boundary of Union County. This section of highway is approximately 30 miles in length. Oregon Highway 203 terminates at its junction with Interstate 84 in Baker County.

Oregon Highway 237 extends about 46 miles from Island City east to Cove and continues in a southerly direction to Union, terminating in North Powder. Both Oregon Highway 203 and Oregon Highway 237 are important connectors for the southeast portion of Union County and at one time provided the only links with Baker County and the eastern region of the state.

Oregon Highway 244 originates in the City of Ukiah (Umatilla County). In Union County, the highway extends about 25 miles in a northeasterly direction to its terminus at Interstate 84 near Hilgard Junction State Park. This state facility provides access to Ukiah from Interstate 84 and provides an important link to the north-central region of Oregon.

Oregon Highways 203, 237, and 244 are district level highways, which are two lane, paved highways with generally "fair" to "good" pavement conditions. Posted speed is 55 miles per hour, except where topography or weather necessitates lower speeds, or within cities where highways are subject to lower speeds. Highway 237 provides a two-foot gravel shoulder that is utilized by bicyclists but Oregon Highways 203 and 244 provide very little shoulder. In urban areas, pedestrian facilities are present. Land uses along the highways in rural areas are generally zoned for exclusive farm use, or timber and grazing uses. County and Forest Service roads connect with the state highways to provide access to resource lands.

The primary function of district highways is to serve local traffic and land access. These highways are often routes that held a higher function during the early development of Oregon's highway system. The management objective of district highways is to provide for safe and efficient moderate-to-high speed, through travel in rural areas, and moderate-to-low speed traffic operation in urban and urbanizing areas with a moderate-to-high level of interruption in traffic flow.

U.S. Forest Service Roads
The U.S. Forest Service has jurisdiction over a significant number of roads in Union County. Most of these Forest Service roads are located in the Wallowa-Whitman National Forest. The primary function of these roads is to provide access for commercial and recreational vehicles. Figures 3-1A and 3-1B show major U.S. Forest Service roads and their connections to the Union County road system.

The U.S. Forest Service is not a public road agency; therefore, responsibilities and liabilities are not the same as those for the county and state. Roads may be closed, opened, and maintained as use, environmental constraints, and budgetary constraints dictate. U.S. Forest Service road maintenance level descriptions can be obtained from any U.S. Forest Service office, and are located in the Forest Service Handbook (FSH), Section 7709.58, Chapters 10 and 12.3.

County Roads
Union County has 188 public and public use roads totaling approximately 650 miles in its jurisdiction. These roads connect with the state highway system to form a network that provides circulation between towns, cities, and rural areas, and provides individual land access. County roads are generally two-lane facilities, though some of the less traveled, primitive roads become one-lane facilities with turnouts. There is no on-street parking or identified pedestrian facilities provided on county roads in the rural areas. The adopted Union County Bicycle and Pedestrian Plan identifies bicycle facilities on selected

county roads and is included in Appendix C. Recommended roadway functional classifications for Union County are shown in Figures 3-1A and 3-1B.

For the purposes of the TSP, county roads are divided into three functional classifications. Functional classifications for state highways are determined at the state level. Their function is mobility (movement *through* Union County) versus access (movement to a specific destination *within* Union County), and they carry the highest traffic volumes. County roads are designated either as rural arterials, rural collectors, or rural local roads based on their function. Rural arterials carry higher traffic volumes than rural collectors or rural local roads, and their function is to facilitate efficient traffic and freight movement. Rural collectors balance mobility and access. Most collectors are paved, but some are gravel. Local roads carry the lowest traffic volumes and their purpose is primarily to provide access to individual properties. Rural local roads are largely gravel.

Table 3-1 lists existing rural arterials and collectors. County roads not identified as rural arterials or collectors are classified as local roads. Table 3-2 lists the recommended rural functional classifications. Figures 3-1A and 3-1B depict the roadway system and recommended functional classifications for Union County.

Table 3-1
Existing Union County Functional Classifications

Union County Rural Arterials
Summerville Road
Hunter Road
Dry Creek Lane
Mt. Glen Road
Market Lane
Lower Cove Road
Booth Lane
Pierce Road
Buchanan Lane
North Powder River Lane
Grande Ronde River Road
Union County Rural Collectors
Palmer Junction Road
Valley View Road
McKenzie Lane
Courtney Lane
Brooks Road
Woodell Lane
Gekeler Lane
Foothill Road
Airport Lane
Hot Lake Lane
High Valley Road
Mill Creek Lane
Lantz Lane
Haefer Lane
Stackland Road

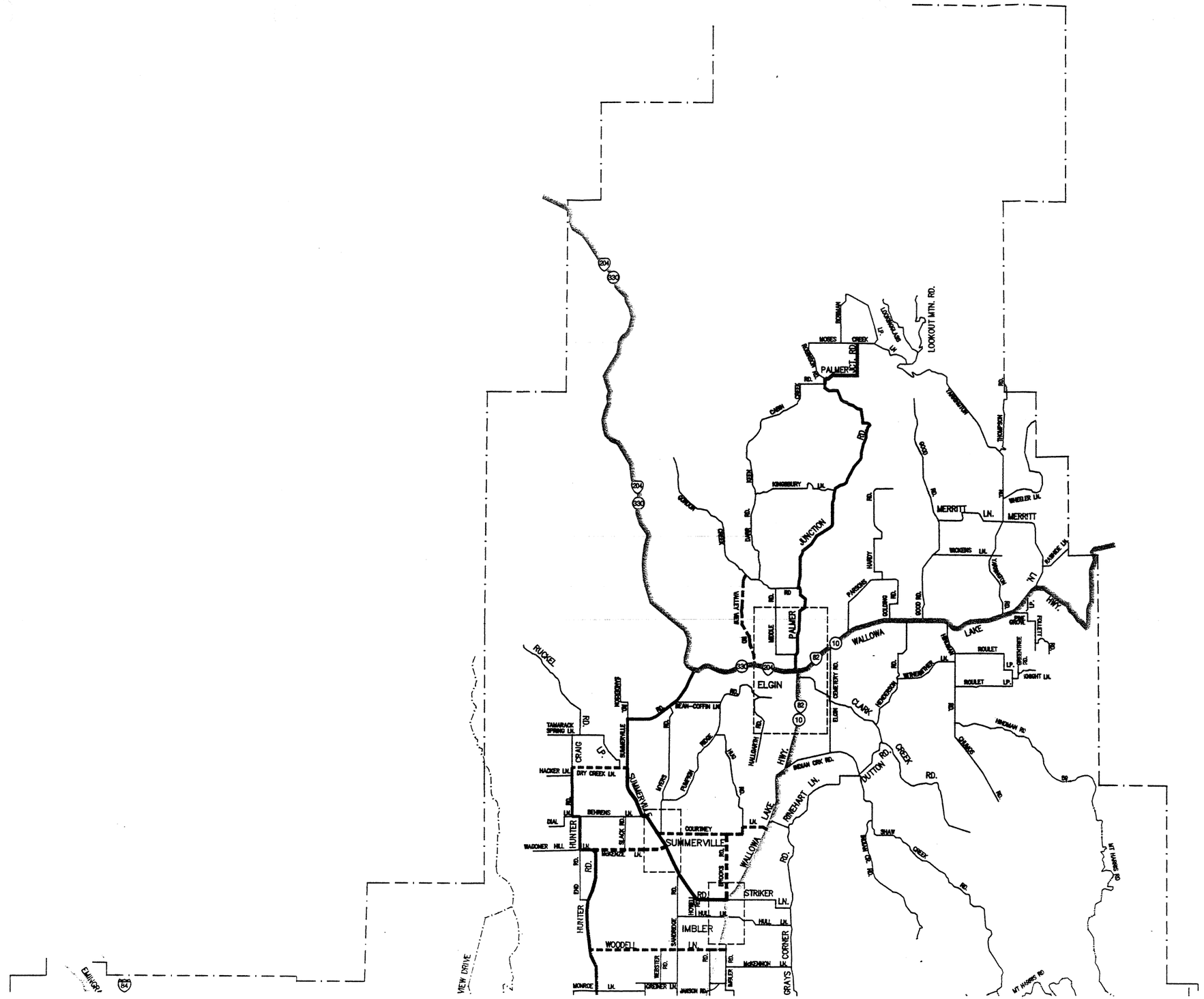
Table 3-2
Recommended Union County Functional Classifications

Union County Rural Arterials
Summerville Road
Hunter Road
Market Lane
Lower Cove Road
Pierce Road – Foothill Exit to Oregon Highway 82
North Powder River Lane
Palmer Junction Road
Mt. Glen Road – La Grande City Limit to Booth Lane
McAlister Road – Buchanan Lane to Oregon Highway 203
Union County Rural Collectors
Valley View Road
McKenzie Lane
Courtney Lane
Brooks Road
Woodell Lane
Gekeler Lane – McAlister Road to Pierce Road
Airport Lane – Pierce Road to east airport property
Hot Lake Lane
Mill Creek Lane
Lantz Lane
Haefer Lane – to Stackland Road
Stackland Road
Dry Creek Lane
Booth Lane – Mt. Glen Road to Oregon Highway 82
Buchanan Lane – La Grande east City Limit to McAlister Road
Grande Ronde River Road
Walton Road
Mt. Glen Road – Booth Lane to Standley Lane
Standley Lane – Mt. Glen Road to Hunter Road

Bridges

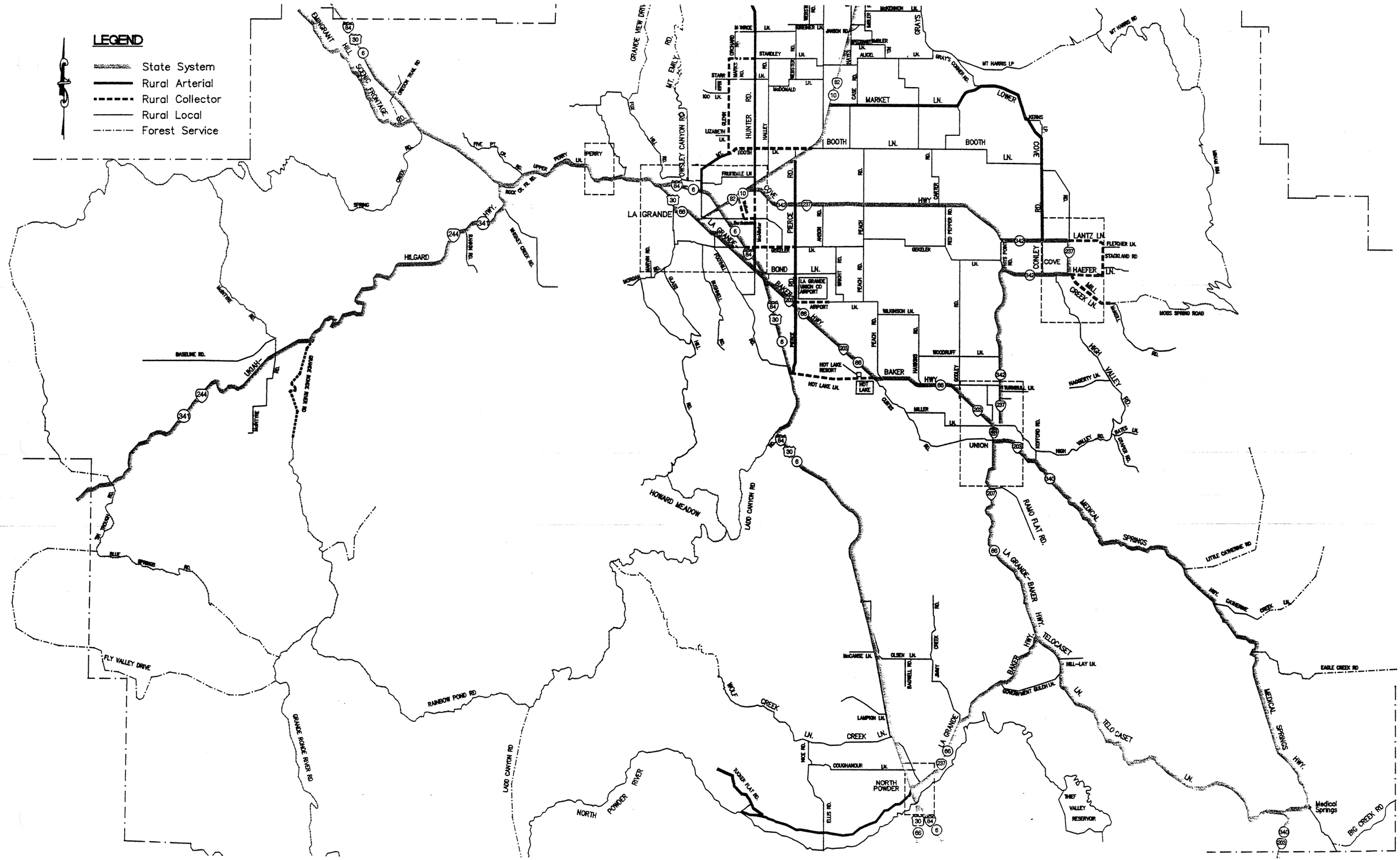
There are 203 bridges in Union County on both county and state facilities. Union County has 70 bridges in its jurisdiction, 22 of which are less than 20 feet in length, making them ineligible for federal rehabilitation funding. ODOT has 133 bridges on its system. Union County bridges are relatively new, or have recently undergone maintenance and improvement.

The process for determining the priority of bridge rehabilitation projects is dependent upon several factors. ODOT has a program where a consultant bridge inspector is retained to inspect bridge facilities. Specific elements, such as structural conditions and functional obsolescence, are evaluated. A complex formula based on several factors is used to rate each bridge. The rating system ranges from 0 to 100 with numbers over 80 indicating bridge sufficiency. Bridges can, however, be considered functionally obsolete yet still be structurally sound. This means that the bridge no longer meets minimum horizontal or vertical size requirements because the amounts and types of vehicles have changed over time, yet the integrity of the structure is not compromised. Bridge ratings then serve to prioritize maintenance and rehabilitation projects. This information is forwarded to the appropriate



Union County Transportation System Plan

FIGURE 3-1A
Recommended Street Classifications
North Section



Union County Transportation System Plan

FIGURE 3-1B
Recommended Street Classifications
South Section

governmental unit. Union County's Public Works Department analyzes the information and determines local rehabilitation and maintenance projects based on the inspector recommendations, bridge ratings, and available funding. See Chapter 4 for a list of deficient and obsolete bridges.

PEDESTRIAN SYSTEM

Walking is a popular form of exercise, as well as the most basic form of transportation for people of all ages and income levels. Everyone is a pedestrian, yet in rural Oregon, pedestrian facilities are seldom designed as an integral component of the road system. According to the Oregon Bicycle and Pedestrian Plan, a person in reasonable physical condition can walk up to one kilometer (about .6 miles) in less than twenty minutes with minimal physical exertion. This makes walking a viable alternative to many short commuter trips, and actually may take less time than driving a car.

Most pedestrian traffic in Union County is concentrated within Urban Growth Boundaries where dense commercial and residential activity, including school activity, is centered. Since several miles separate each of the incorporated towns and cities in Union County, pedestrian traffic between each of these cities does not exist and is unlikely. County roads and state highways outside of UGBs do not have designated pedestrian facilities. One exception is along Oregon Highway 82 between La Grande and Island City. A continuous sidewalk exists along the south side of Oregon Highway 82, linking La Grande and Island City. This is a well-used route for the disabled and pedestrians of all ages.

In the rural portions of Union County, pedestrian activity is typically for exercise. Pedestrians utilize the shoulder of the road, and can generally do so safely because traffic volumes are relatively low. There are also many hiking trails present in the Umatilla and Wallowa-Whitman National Forests.

BIKEWAY SYSTEM

Bicycle facilities, like pedestrian facilities, are seldom designed as an integral component of the road system. Often, bikeways are added as an afterthought, and as a result, conflicts between cyclists and vehicles can occur, compromising safety.

Cycling is an efficient mode of travel, with the average bicycle trip being two miles in length, and cycling mitigates some of the negative impacts of growth, such as air and water pollution, traffic congestion, and noise.

The Union County Board of Commissioners adopted the Union County Bicycle and Pedestrian Plan on October 2, 1996. This plan identifies appropriate roads, based on traffic volumes and posted speeds, that could safely accommodate bicycle traffic. Few of these roadways contain facilities designated only for bicycle travel; the majority of bicycle travel is conducted in shared travel lanes with vehicles or on roadway shoulder bikeways.

Incorporated jurisdictions and the rural portions of Union County see a moderate level of bicycle use, both for recreational and transit purposes. Bicycle travel between cities commonly occurs on arterials and collectors. The recommendations from the Union County Bicycle and Pedestrian Plan will expand and enhance bicycle travel along these roads and is included in Appendix C.

The Union County Bicycle and Pedestrian Plan was funded by the Transportation and Growth Management Program and prepared in accordance with the TPR. The plan identifies a set of goals and objectives to guide the development of safe and efficient bikeway systems for the rural portions of Union County. The plan was developed involving citizen participation and was guided by the Union County Bicycle Advisory Committee.

PUBLIC TRANSPORTATION SYSTEM

Public transportation in Union County is provided by Community Connection, who provides transit services to the general public. Client transport services are provided by New Day Enterprises and the Center for Human Development for the elderly and disabled. Shelter from the Storm provides transportation to those escaping crisis situations, such as an abusive relationship, on a strictly volunteer basis. Wallowa Valley Stage Line, Blue Mountain Cab Company, Greyhound Bus Lines, and Mid-Columbia Bus Company offer a variety of specific transportation services, all affecting Union County.

Community Connection is a Dial-A-Ride transit service begun originally for the transportation disadvantaged, but has expanded to serve the general public. Requests for rides should be made a day in advance. The service area includes La Grande, Island City, Elgin, Cove, and Union. The bus fare is 50 cents per one way trip and $1.00 per round trip. A monthly transportation pass may be purchased for $20.00 for La Grande service only. Community Connection has six vans; four utilized in La Grande, one utilized in Elgin, and one utilized in Cove/Union. La Grande has one 15-passenger bus, one 14-passenger bus, one ADA mini-bus, and one 12-passenger bus. All vehicles except the 12-passenger bus are ADA accessible. Elgin has one 10-passenger bus, and Union has one 8-passenger bus; both of which are ADA accessible. Community Connection provides transit service within the La Grande/Island City area on a Dial-A-Ride basis between 7:00 A.M. to 6:00 P.M., Monday through Friday. Transit service in Cove, Union, and Elgin operates two days per week. All drivers are volunteers. On Tuesdays, the Union bus travels between Cove and Union, with a focus on the Union Senior Meal Site. On Wednesdays, the Union bus travels between Cove and Union, and then travels to La Grande. The Elgin bus also operates on Wednesdays, traveling to Elgin and Imbler, then continuing to La Grande. On Thursdays, the Elgin bus provides transit exclusively in Elgin, with a focus on the Elgin Senior Meal Site. Community Connection is projecting a substantial ridership increase. In the mid-1990s, countywide, Community Connection served about 13,650 rides per year, and this is anticipated to grow to 27,000 rides per year.

New Day Enterprises and the Center for Human Development both provide client transportation only. New Day Enterprises operates three lift-equipped vans, one lift-equipped mini-van, two standard vans, one standard mini-van, one lift-equipped station wagon, and one lift-equipped bus. The Center for Human Development operates one lift-equipped van, one lift-equipped bus, and three standard vans. These vehicles are used to transport group home clients on a 24-hour basis. Additionally, Union-Wallowa County Veteran's Services has one 8-passenger van stationed in La Grande for the transportation of veterans to the Veteran's Administration Hospital in Walla Walla, Washington two times per month. The van also travels periodically to Portland, Oregon. This van is used for medical transportation only and transported 700 people in 1997. There is no cost to passengers. The Veteran's Administration Hospital pays for vehicle maintenance and fuel and drivers are volunteers.

Together Community Connection, New Day Enterprises and the Center for Human Development provide necessary transit services for the transportation disadvantaged of Union County. In 1990, these three non-profit groups formed the Union County Transportation Coalition to pool resources in an effort to lower the cost per trip, and to efficiently increase service in Union County without duplicating services.

Shelter from the Storm is a non-profit organization that focuses on helping people through crisis situations. Their transportation program is voluntarily staffed and is comprised of rural outreach to those who are isolated from a range of services, including legal and medical services, trips to the grocery store, and trips to/from school. The largest obstacle to consolidating with the Union County Transportation Coalition is the varied needs of their clients. Because they are a crisis response organization, their transit needs do not often overlap with Community Connection or even local taxi service.

The Wallowa Valley Stage Line is owned by Moffit Brothers Transportation and is based out of the City of Lostine (Wallowa County). An 8-person van operates daily, except Sundays and holidays, between Joseph in Wallowa County and La Grande in Union County with stops in Enterprise, Lostine, Wallowa, Minam, Elgin, Imbler, and Island City. This transit service is a fixed route service but during the summer months, Wallowa Lake is added to the route on an on-call basis only. Scheduled departure from Joseph is 6:30 A.M. with arrival in La Grande at 8:45 A.M. and the return trip is scheduled to depart from La Grande at 11:55 A.M. with arrival in Joseph at 2:45 P.M. The cost for a one-way trip from Joseph to La Grande is $8.80 while a round trip costs $15.85. Fare prices vary depending upon trip length. Wallowa Valley Stage Line does not currently have a van with wheelchair transport capabilities but is taking steps to remedy this situation. Until they have a van that complies with the Americans with Disabilities Act (ADA), Wallowa Valley Stage Line rents a van with these capabilities when a patron specifically requests the service. In addition to transporting passengers, Wallowa Valley Stage Line also transports individual packages. Moffit Brothers Transportation also offers charter service.

Blue Mountain Cab Company provides 24-hour taxi service to the general public, though they do not comply with the ADA. Trips within La Grande's City Limits cost $5.00 one way and trips outside the city limits cost an additional $1.25 per mile. The cost for senior citizens is $2.50 one way, to any destination.

Greyhound Bus Lines does not provide transit service within Union County, but does provide connections with destinations outside of Union County. During the summer months there are eight buses per day traveling through Union County while during the rest of the year there are five buses per day traveling through the county. Wallowa Valley Stage Line coordinates its arrival in La Grande to connect with Greyhound Bus service. Greyhound Bus Lines has an agreement with AMTRAK whereby AMTRAK tickets can be used to ride Greyhound buses in order to facilitate the movement of passengers through areas no longer served by passenger rail.

Mid-Columbia Bus Company, based in Condon (Gilliam County), does not provide public transit services but does hold the contract in Union County for bussing school children. Additionally, Mid-Columbia Bus Company offers charter service.

RAIL SERVICE

Union County no longer has passenger rail service. AMTRAK's "Pioneer" route originated in Chicago, Illinois and ended in Seattle, Washington, utilizing the corridor that parallels Interstate 84 and stopping in La Grande. AMTRAK terminated its passenger rail service in May 1997 due to federal budget cuts. There is local interest in restoring AMTRAK service to La Grande. As passenger rail is developed in other parts of Oregon, an extension of this service to the east may be considered within the 20-year planning period. According to the ODOT Rail Section, there is a tentative proposal to implement a fleet of small, efficient trains for express service in the Willamette Valley within the 20-year planning period. This would serve as a test case to gauge support and ridership, and if successful, may impact eastern Oregon because express rail service may be extended to the eastern region of the state.

AMTRAK designated Greyhound Bus Lines a carrier of AMTRAK ticket holders in order to move passengers through areas no longer served by the passenger rail company. This means that through trips can be booked using the same ticket.

Union Pacific and Idaho Northern and Pacific railroads both operate freight lines in Union County.

The Union Pacific mainline enters Union County from Baker County near North Powder, traverses the county in a northwesterly direction, and exits into Umatilla County near Kamela. There are approximately 13 miles of double track used to accommodate two-way train travel. Peak freight movement typically includes between 35 and 40 trains per day running through Union County while the slower times include 25 to 30 trains per day. This line moves over 40 million gross tons of freight per year.

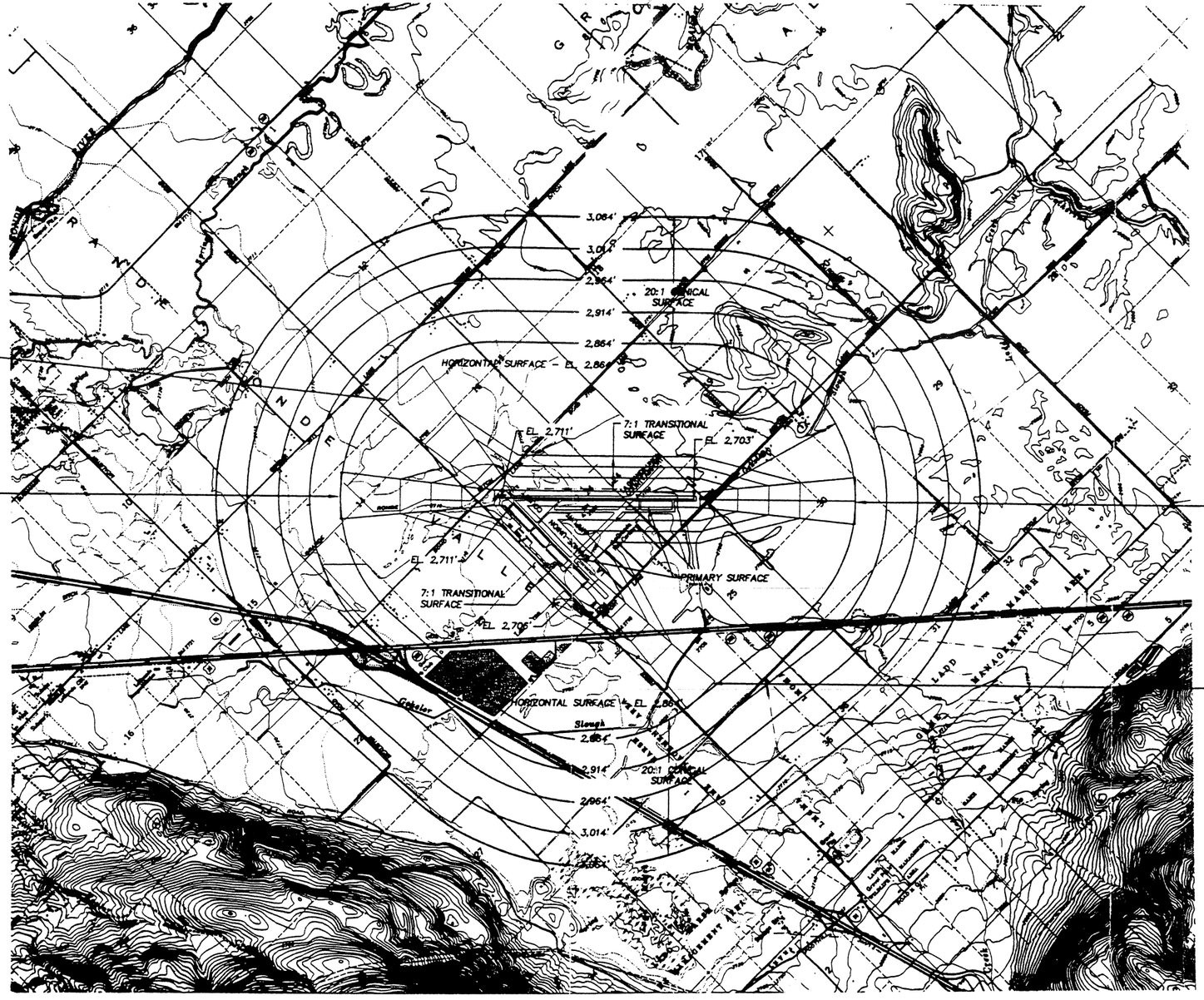
The Idaho Northern and Pacific (INP) railroad utilizes a branch line that diverges from the Union Pacific mainline in La Grande and heads due north along Oregon Highway 82 through Imbler to Elgin. This line moves less than one million gross tons of freight per year, mostly timber and agricultural products. In 1994, the Idaho Northern and Pacific petitioned the Surface Transportation Board to abandon roughly 61 miles of track between Elgin and Joseph, which lies mostly in Wallowa County. This petition for abandonment was approved March 12, 1997 by the Surface Transportation Board. The Oregon Highway 82 Corridor Plan identifies the acquisition of the INP railroad right-of-way to utilize as a multi-use path between Elgin and Joseph as a potential improvement project.

There is an intermodal freight transfer facility tentatively in use in the City of North Powder. The transfer facility is located at the southeast end of C Street on a half-mile of side track. The facility is within .5 miles of the Interstate 84 interchange and is primarily used to transfer agricultural goods from truck to train.

AIR SERVICE

Union County owns and operates the La Grande/Union County Airport, which is located roughly four miles to the southeast of the U.S. Highway 30 and Oregon Highway 82 junction in La Grande. Vehicle access is provided from Pierce Road, which intersects with Oregon Highway 82 north of Island City and intersects with Oregon Highway 203 south of La Grande. A light industrial park is situated south of the airport containing land uses that are fully compatible with airport uses. The airport and the airport light industrial park are on approximately 680 acres of land zoned for Public Airport and Light Industrial uses. Approximately half of the acreage is vacant and one scenario for future land use is to expand the light industrial park. Surrounding zoning is for exclusive agricultural use. According to the Union County Zoning, Partition & Subdivision Ordinance, an Airport Overlay Zone was “created in 1983 to provide safe and suitable airport operations without dangerous obstructions to air space and to provide an environment around airports which will not be adversely affected by noise and safety problems and which is compatible with an airport and its operations.” Figure 3-2 shows the airport overlay zone.

The La Grande/Union County Airport is currently a Transport Class Airport and is served by two runways, two parallel taxiways, and two stubtaxiways. Runway 12/30 is 5,600 feet long by 100 feet wide. Runway 16/34 is 3,400 feet long by 60 feet wide. The 1998 La Grande/Union County Airport Master Plan Update delineates two instrument approach procedures: a Non-Precision Instrument Global Positioning System (GPS) approach to Runway 16 or a circling type Non-Precision Non-Directional Beacon (NDB/GPS-A) approach to the airport; though this type is not aligned with a specific runway. In 1997, there were 40 based aircraft and an estimated 15,500 operations (take-offs and landings). As the number of based aircraft increases, so will the number of operations. Table 3-3 shows the forecast of based aircraft and operations until the year 2017.



LEGEND
THERE ARE NO FAR PART 77 TERRAIN ENCROACHMENTS.

NOTE:
PROTECTION FROM ENCROACHMENT INTO FAR PART 77 SURFACES IS PROVIDED BY UNION COUNTY ZONING ORDINANCE ARTICLE 16.00 – AIRPORT OVERLAY ZONE.

Drawing Reduced In Size
Not to Scale Shown

DATE	BY	REVISION	CK'D	APPR.

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LEE ANNE WALKER
Aviation Consultant

DESIGNED BY: CBC
DRAWN BY: HLG
CHECKED BY:
APPROVED BY:

LA GRANDE / UNION COUNTY AIRPORT

Figure 3-2 Airport Overlay Zone

LA GRANDE/UNION COUNTY OREGON

SCALE:	PROJECT NO.	DRAWING FILE NAME:	SHEET
AS SHOWN--	4-1800-0101	ALAGAA03.DWG	5 5/7

SECTION, TOWNSHIP, RANGE:

PLOT DATE: 7/15/98

LAST EDIT: RAI 7/13/98

Table 3-3
Based Aircraft and Operations Forecast

	2000	2005	2010	2017
Based Aircraft	40	42	49	54
Operations	16,436	17,661	18,971	20,983

Source: La Grande/Union County Airport Master Plan Update, 1998

The La Grande/Union County Airport does not have scheduled passenger air service, but charter services are available. Federal Express and United Parcel Service (UPS) both land at the La Grande/Union County Airport on a daily basis (except Sundays) to deliver and pick up individual packages, as well as business inventory. There is also a plane landing twice daily to pick up and deliver bank notes and other important banking documents. This airport also serves as a base of operations for the U.S. Forest Service during fire suppression season facilitating air tanker operations, transporting fire crews and smoke jumpers to fire sites, operating fire spotter planes, and storing and delivering food and materials. The U.S. Forest Service estimates that the La Grande/Union County Airport is the most economically efficient and most strategically located airport for fire suppression in this region.

The La Grande/Union County Airport is currently equipped to accommodate commuter passenger service, except for the necessary metal detectors and related safety equipment for the terminal facilities. Union County supports commuter passenger service and has studied this issue to determine ridership in order to draw an air carrier to Union County. According to the Union County Director of General Services, an informal study of local travel agencies determined that approximately 36 airline tickets per day are purchased in Union and Wallowa Counties. So, theoretically, an airline with a six to ten passenger plane performing four operations per day would have the ridership necessary to support it. It is hard to gauge potential ridership, though, until a carrier actually tries to provide the service. The Union County Director of General Services speculates that La Grande would have to be a stop in between two points and that fares would probably be high to cover start-up costs. So while the La Grande/Union County Airport would like to see commercial passenger service, it is not likely within the 20-year planning period.

PIPELINE SYSTEM
There are two major pipelines that traverse Union County.

The Chevron Pipeline carries refined products such as gasoline, diesel, and jet fuel. Chevron owns two lines but only one is utilized; the other is abandoned.

The Northwest Pipeline includes two large lines carrying natural gas, which is administered locally in Union County by WP Natural. This pipeline serves seven of the eight incorporated jurisdictions in Union County; only Cove does not have access to natural gas service.

Both the Chevron and Northwest Pipelines occupy the same corridor and enter Union County from Baker County at North Powder. They generally parallel Interstate 84 and exit into Umatilla County near Kamela.

WATER TRANSPORTATION SYSTEM
Union County has no navigable waterways, therefore Union County has no waterborne transportation services.

CHAPTER 4: CURRENT TRANSPORTATION CONDITIONS

As part of the planning process, the current operating conditions for the transportation system were evaluated. This evaluation focused primarily on street system operating conditions since the automobile is by far the dominant mode of transportation in Union County.

TRAFFIC VOLUMES

A.M. and P.M. peak hour turning movement traffic volumes were collected by Union County and ODOT staff in August and September 1998 at the following study area intersections:

- Highway 82/Market Lane
- Highway 82/Pierce Road
- Highway 203/Pierce Road
- Highway 82/Particle Board Plant Access
- Booth Lane/Hunter Road
- Gordon Creek Road/Palmer Junction Road
- Highway 204/Summerville Road

The study intersections generally represent major intersections and access points for land uses generating significant amounts of traffic. These traffic volumes were adjusted by applying seasonal factors from *ODOT's 1997 Traffic Volume Tables*. The seasonal adjustment factors were derived from a permanent count station located on Highway 82 east of the Elgin City Limits. These seasonal factors are summarized in Table 4-1. The resulting A.M. and P.M. peak hour traffic volumes are shown in Figure 4-1.

The A.M. peak hour traffic counts indicate that the beginning of the A.M. peak hour varies between 6:30 and 7:30 A.M. The beginning of the P.M. peak hour varies between 3:30 and 4:30 P.M.

Truck traffic peak hour turning movements were counted during the A.M. and P.M. by intersection approach. Table 4-2 summarizes the truck volumes and percentages. As shown in Table 4-2, the truck percentage in the A.M. peak hour at the Union County study intersection approaches range from 0% to 40%. These percentages translate to 3 to 50 trucks per intersection in the A.M. peak hour. The truck percentages in the P.M. peak hour by intersection approaches range from 0% to 29%. These percentages translate to 4 to 74 trucks per intersection in the P.M. peak hour.

The relatively high truck percentages are primarily a function of the relatively low traffic volumes, which skew the importance of each truck. The truck percentages were used as one of the input parameters in the levels of service analysis.

Existing average daily traffic volumes for Highways 82, 203, 204, 237, and 244 were obtained from ODOT's *1997 Traffic Volume Tables.* To factor the 1997 daily traffic volumes to 1998 daily traffic volumes, an annual growth factor was derived from historical daily traffic volumes obtained from ODOT's Traffic Volume Tables between 1980 and 1997.

Based on the *ODOT Traffic Volume Tables* historical counts, Oregon Highway 82 traffic volumes have generally decreased from 1993 to 1997. Therefore, no growth factor was applied to the 1997 daily traffic volumes to derive the 1998 daily traffic volumes. The 1998 average daily traffic volumes on Oregon Highway 82 range from 1,600 to 5,500 vehicles per day in unincorporated Union County.

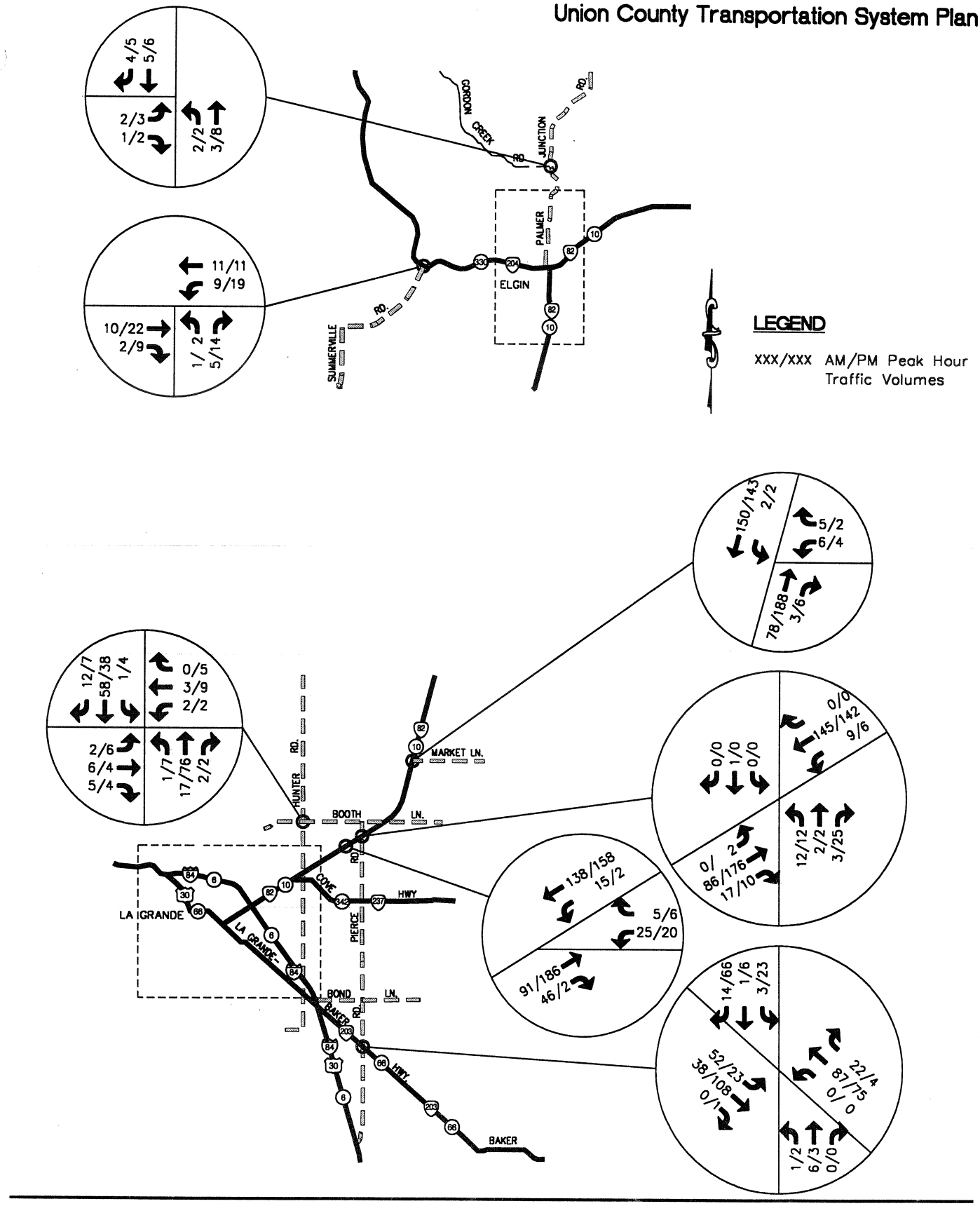


FIGURE 4-1
1998 AM/PM Peak Hour Traffic Volumes

Table 4-1
Summary of Seasonal Adjustment Factors

Month	Seasonal Adjustment Factors
January	1.27
February	1.22
March	1.25
April	1.22
May	1.02
June	0.93
July	0.79
August	0.80
September	0.87
October	0.97
November	1.05
December	1.27

Oregon Highway 203 traffic volumes between 1980 and 1997 have increased an average of 6.9% per year. This relatively high growth factor is a function of the low traffic volumes on Highway 203. The 1998 daily traffic volumes on Highway 203 range from 300 to 1,000 vehicles per day in unincorporated Union County.

Oregon Highway 204 has experienced an average annual traffic growth of 0.7% from 1980 to 1997. The 1997 daily traffic volumes on Highway 204 were factored by this 0.7% annual historical growth rate to obtain 1998 daily traffic volumes. The daily traffic volumes on Highway 204 range from 600 to 1,200 vehicles per day in unincorporated Union County.

Highway 237 has experienced an average annual traffic growth of 1.7% from 1980 to 1997. The 1997 daily traffic volumes on Highway 237 were factored by this 1.7% annual historical growth rate to obtain 1998 daily traffic volumes. The 1998 daily traffic volumes on Highway 237 range from 600 to 1,900 vehicles per day in unincorporated Union County.

Highway 244 has experienced an average annual traffic growth of 3.6% from 1980 to 1997. The 1997 daily traffic volumes on Highway 244 were factored by this 3.6% annual historical growth rate to obtain 1998 daily traffic volumes. The daily traffic volumes on Highway 244 range from 300 to 1,000 vehicles per day in unincorporated Union County.

Table 4-2
Truck Volume and Percentage Summary

A.M. Peak Hour Truck Volume and Percentage Summary												
	Intersection Approach											
	Northbound			Southbound			Eastbound			Westbound		
Intersection	Truck Vol	Total Vol	Truck %	Truck Vol	Total Vol	Truck %	Truck Vol	Total Vol	Truck %	Truck Vol	Total Vol	Truck %
Hwy 82/Market Lane	24	102	24%	19	190	10%	-	-	-	1	13	8%
Hwy 82/Pierce Road	3	22	14%	0	1	0%	31	128	24%	15	192	8%
Hwy 203/Pierce Road	1	9	11%	5	22	23%	4	112	4%	2	136	1%
Hwy 82/Particle Board Plant	16	171	9%	12	191	6%	-	-	-	2	37	5%
Booth Lane/Hunter Road	1	25	4%	0	89	0%	2	17	12%	0	7	0%
Gordon Ck/Palmer Junction	1	6	17%	2	11	18%	0	4	0%	-	-	-
Hwy 204/Summerville Road	0	7	0%	-	-	-	6	15	40%	8	25	32%
P.M. Peak Hour Truck Volume and Percentage Summary												
Hwy 82/Market Lane	17	243	7%	30	182	16%	-	-	-	0	7	0%
Hwy 82/Pierce Road	8	49	16%	0	0	0%	27	235	11%	39	185	21%
Hwy 203/Pierce Road	2	7	29%	13	119	11%	10	165	6%	6	99	6%
Hwy 82/Particle Board Plant	22	235	9%	36	199	18%	-	-	-	5	32	16%
Booth Lane/Hunter Road	1	106	1%	7	61	11%	0	17	0%	3	19	16%
Gordon Ck/Palmer Junction	3	12	25%	1	14	7%	0	7	0%	-	-	-
Hwy 204/Summerville Road	3	20	15%	-	-	-	3	38	8%	5	38	13%

LEVEL OF SERVICE

The following section provides a summary of the level of service (LOS) analysis conducted for the Union County intersections and roadways. The level of service definition, methodologies used in calculating level of service, and the results of the analysis are summarized below. The purpose of this information is to provide an overview of LOS and to identify its relationship to the transportation goals and policies of Union County.

Level of Service Definition

Level of service (LOS) is an estimate of the quality and performance of transportation facility operations in a community. The degree of traffic congestion and delay is rated using the letter "A" for the least amount of congestion to the letter "F" for the highest amount of congestion. The following level of service categories provide individual descriptions for local roadways. Communities decide what level of traffic congestion is tolerable (i.e. decides whether "C," "D," or some other level). The choice of a particular LOS threshold can vary by planning sub-area, roadway classification, or specific corridor or street.

The level of service methodology for unsignalized intersections was based on reserve or unused capacity available for critical turning movements. Level of service values range from LOS A, indicating free-flowing traffic, to LOS F, indicating extreme congestion and long vehicle delays. Table 4-3 summarizes the relationship between level of service and reserve capacity at unsignalized intersections.

Level of service at the roadway mid-blocks was calculated based on correlating the volume to capacity ratio (V/C) to LOS values. Table 4-4 summarizes the Volume/Capacity ratio ranges that have been developed for determining planning level roadway mid-block LOS on urban and rural roadways.

Table 4-3
Level of Service Criteria for Unsignalized Intersections

Level of Service	Reserve Capacity	Expected Delay
A	400 or more	Little or no delay
B	300 to 399	Short delays
C	200 to 299	Average delays
D	100 to 199	Long delays
E	0 to 99	Very long delays
F	less than 0	Failure - extreme congestion

Table 4-4
Level of Service Criteria for Roadway Mid-Blocks

LOS	Description	Volume/Capacity (V/C) Ratio
A	less than	0.60
B	less than or equal to	0.70
C	less than or equal to	0.80
D	less than or equal to	0.90
E	less than or equal to	1.00
F	Greater than	1.00

Existing Level of Service
Based on current A.M. peak hour, P.M. peak hour, and daily traffic volumes, levels of service were calculated for the study area intersections and roadway mid-blocks. The results of the unsignalized intersection level of service analysis are summarized in Table 4-5. The results of the roadway mid-block level of service are summarized in Table 4-6.

As shown in Table 4-5, all of the study area intersections in both the A.M. and P.M. peak hours operate at LOS A. All of the roadway mid-block sections are also operating at LOS A as shown in Table 4-6.

Table 4-5
Existing Intersection Level of Service

	AM Peak		PM Peak	
Unsignalized Intersection	**LOS**	**Reserve Capacity**	**LOS**	**Reserve Capacity**
Highway 82/Market Lane				
Southbound Left	A	1548	A	1358
Westbound Approach	A	886	A	730
Highway 82/Pierce Road				
Northbound Approach	A	743	A	791
Southbound Approach	A	740	-	-
Eastbound Left	A	1409	A	1413
Westbound Left	A	1492	A	1336
Highway 203/Pierce Road				
Northbound Approach	A	694	A	682
Southbound Approach	A	1035	A	776
Eastbound Left	A	1397	A	1511
Westbound Left	A	1591	A	1486
Highway 82/Particle Board Plant				
Southbound Left	A	1377	A	1307
Westbound Approach	A	637	A	595
Booth Lane/Hunter Road				
Northbound Left	A	1550	A	1614
Southbound Left	A	1661	A	1532
Eastbound Approach	A	1031	A	933
Westbound Approach	A	916	A	944
Gordon Creek Road/Palmer Junction Road				
Southbound Left	A	1680	A	1681
Westbound Approach	A	1113	A	1117
Highway 204/Summerville Road				
Northbound Approach	A	1279	A	1244
Westbound Left	A	1663	A	1614

Table 4-6
Existing Arterial Roadway Level of Service Summary

Roadway	Section	AADT	Capacity	V/C Ratio	LOS
Highway 82	0.01 mi east of Hunter Ln	5,600	14,000	0.40	A
	mi south of Stanley Ln	3,900	14,000	0.28	A
	On Grande Ronde River Bridge – MP 17.88	3,500	14,000	0.25	A
	mi west of Parson-Hug Rd	2,000	14,000	0.14	A
	Union-Wallowa County Line	1,600	14,000	0.11	A
Highway 203	mi west of Kofford Road	700	14,000	0.05	A
	0.05 mi west of Catherine Creek Park	400	14,000	0.03	A
	mi northwest of Mill Creek Road	300	14,000	0.02	A
	0.01 mi south of Collins Road	200	14,000	0.01	A
Highway 204	Umatilla-Union County Line	600	14,000	0.04	A
	mi east of Summerville Rd	800	14,000	0.06	A
	mi east of Foothill Rd	1,200	14,000	0.09	A
Highway 237	mi west of Pierce Ln	1,900	14,000	0.14	A
	mi west of Peach Ln	1,600	14,000	0.11	A
	At Grande Ronde River – MP 9.44	1,400	14,000	0.10	A
	mi west of Lower Cove Road	1,000	14,000	0.07	A
	0.01 mi west of Phys Point Rd	600	14,000	0.04	A
Highway 244	Umatilla-Union County Line	300	14,000	0.02	A
	0.10 mi west of Starkey Rd	400	14,000	0.03	A
	0.60 mi east of Jordon Creek Rd	600	14,000	0.04	A
	0.40 mi south of Old Oregon Trail (I-84)	1,000	14,000	0.07	A

TRAFFIC ACCIDENTS

Accident data at the study area intersections and roadway mid-block sections were obtained from ODOT. Data was provided for a five year period between January 1, 1993 and December 31, 1997. Table 4-7 summarizes the roadway mid-block accident data and Table 4-8 summarizes the intersection accident data.

The accident data was summarized by accidents per year rather than a rate because traffic volumes were not readily available at most of the accident locations. As shown in Tables 4-7 and 4-8, all of the county roadway mid-blocks and intersections have 1.0 accidents per year or less. Locations with 1.0 accidents per year or less are not considered high accident locations.

All of the state highway roadway mid-blocks had less than 5.0 accidents per year with the exception of the following three mid-block sections:

- I-84 between Summit Road and Spring Creek Road – 7.7 accidents/year
- I-84 between Ladd Creek Interchange and Ladd Canyon Interchange – 5.3 accidents/year
- Oregon 204 between Spout Springs Road and Valley View Road – 7.7 accidents/year

Table 4-7
Roadway Segment Accident Summary (January 1993 to December 1997)

County Road Roadway Segment	Average Accidents per Year by Severity			Total (acc/yr)[3]
	PDO[2]	Injury	Fatal	
Glass Hill Rd (CR 6)	0.0	0.7	0.0	0.7
Robb's Hill Rd (CR 7)	0.0	0.3	0.0	0.3
Monroe Lane (CR 10)				
Webster Rd to Hunter Rd	0.3	0.3	0.0	0.7
Igo Ln to Lizabeth Ln	0.0	0.3	0.0	0.3
Lizabeth Ln to Gaertner Ln	0.0	0.3	0.0	0.3
May St to Russell Ave	0.3	0.0	0.0	
Foothill Rd (CR 12)				
20 th St to McAlister Rd	0.3	0.3	0.0	0.7
McAlister Rd to I-84 Interchange	0.7	0.0	0.0	0.7
ORE203 to Miller Ln	0.0	0.3	0.0	0.3
Hunter Rd (CR 14)				
McKenzie Ln to End Rd	0.3	0.3	0.0	0.7
Woodell Ln to Monroe Ln	0.3	0.3	0.0	0.7
Fruitdale Ln to ORE82	0.3	0.0	0.0	0.3
Behrens Ln (CR 18)				
Hunter Road to Slack Ln	0.3	0.0	0.0	0.3
End Rd (CR17)	0.3	0.0	0.0	0.3
Hawkins Rd (CR 30)	0.0	0.3	0.0	0.3
Summerville Rd (CR 39)				
Crescent Rd to Howell Rd	0.0	0.3	0.0	0.3
Behrens Ln to Dry Creek Ln	0.3	0.0	0.0	0.3
Valley View Rd (CR 40)	0.3	0.0	0.0	0.3
Middle Rd (CR42)				
Hartford Ln to Gordon Creek Rd	0.0	0.3	0.0	0.3
Gordon Creek Rd to Palmer Jnct. Rd	0.3	0.3	0.0	0.7
Kingsbury Ln to Cabin Creek Rd	0.3	0.3	0.0	0.7
Palmer Jnct. to Bowman Lp	0.7	0.0	0.0	0.7
Lookout Mt. Rd (CR 43)	1.0	0.0	0.0	1.0
Palmer Junction Rd (CR 44)				
C St to N 9 th Ave	0.7	0.3	0.0	1.0
Golding Rd (CR 47)	0.0	0.3	0.0	0.3
Clark Creek Rd (CR 56)	0.7	0.0	0.0	0.7
Hindman Rd (CR 59)	0.0	0.3	0.0	0.3
Mill Creek Ln (CR 65)	0.0	0.3	0.0	0.3
Telocaset Ln (CR 70)	0.0	0.3	0.0	0.3
Miller Lane (CR 109)	0.3	0.0	0.0	0.3
Woodruff Ln (CR113)	0.0	0.3	0.0	0.3
Rock Creek Rd (CR 118)	0.3	0.0	0.0	0.3
Haefer Ln (CR 121)	0.0	0.3	0.0	0.3
Fruitdale Ln (CR 125)	0.3	0.0	0.0	0.3

Table 4-7A Continued
Roadway Segment Accident Summary (January 1993 to December 1997)

[2] PDO=property damage only
[3] acc/yr=total accidents per year

County Road Roadway Segment	Average Accidents per Year by Severity			Total (acc/yr)[5]
	PDO[4]	Injury	Fatal	
Booth Ln (CR 126)				
Glenn Rd to Hunter Rd	0.3	0.0	0.0	0.3
Roulet Lp (CR 137)	0.0	0.3	0.0	0.3
Russell Ave (CR 204)	0.0	0.3	0.0	0.3
State Highway Roadway Segment				
I-84 (Old Oregon Trail)				
Summit Rd to Spring Creek Rd	4.0	2.7	1.0	7.7
Spring Creek Rd to ORE244	1.0	2.0	0.3	3.3
ORE244 to Hamilton Canyon Rd	2.0	2.3	0.0	4.3
Hamilton Canyon Rd to Robbs Hill Rd	0.7	0.3	0.3	1.3
Robbs Hill Rd to ORE203	0.7	0.7	0.0	1.3
ORE203 to Hwy. No. 10	0.3	1.0	0.0	1.3
ORE82 to ORE203	1.0	1.0	0.0	2.0
ORE203 to Foothill Rd	2.3	1.0	0.0	3.3
Foothill Road to Rest Area	0.0	0.3	0.0	0.3
Rest Area to Ladd Creek Interchange	2.0	0.3	0.0	2.3
Ladd Crk Intrchg to Ladd Canyon Intrchg	2.7	2.0	0.0	4.7
Ladd Canyon Intrchg to Clover Crk Intrchg	3.0	2.3	0.0	5.3
Clover Crk Intrchg to Wolf Creek Intrchg	1.0	1.7	0.0	2.7
Wolf Creek Intrchg to ORE203 Intrchg	1.3	0.7	0.0	2.0
ORE203 Intrchg to County Line	1.0	0.3	0.3	1.7
ORE82 (Wallowa Lake)				
26 th St (LaGrande) to “D” St (Island City)	0.3	0.3	0.0	0.7
Halley Lane to Pierce Lane	0.3	0.0	0.0	0.3
Pierce Lane to Booth Lane	0.0	0.3	0.0	0.3
Sandridge Road to Lower Cove Road	0.3	0.0	0.0	0.3
Lower Cove Road to Depot Street	0.3	0.0	0.0	0.3
Standley Lane to Hayes Road	0.3	0.7	0.0	1.0
Woodell Lane to Hull Lane	0.0	0.3	0.0	0.3
Dry Creek Road to Parks-Rinehart Road	0.3	0.3	0.0	0.7
Parks-Rinehart Road to Hallgarth Road	0.7	0.3	0.0	1.0
Hallgarth Road to Philberg Lane	1.0	0.3	0.0	1.3
Philberg Lane to Frontage Road	0.7	0.0	0.0	0.7
ORE204 to Parson-Hug Road	0.7	0.3	0.0	1.0
Parson-Hug Road to Golding Road	0.3	1.0	0.0	1.3
Golding Road to Witherspoon Road	0.0	0.7	0.0	0.7
Hindman Road to Merritt Road	0.0	0.3	0.0	0.3
Merritt Road to Minam River Road	0.3	0.3	0.0	0.7
Minam River Road to County Line	0.0	0.7	0.0	0.7
ORE203 (LaGrande–Baker)				
I-84 to City Limits	0.0	0.7	0.0	0.7

Table 4-7B Continued
Roadway Segment Accident Summary (January 1993 to December 1997)

	Average Accidents per Year by Severity	Total

[4] PDO=property damage only
[5] acc/yr=total accidents per year

State Highway Roadway Segment	PDO[6]	Injury	Fatal	(acc/yr)[7]
ORE203 (LaGrande–Baker)				
McAlister Lane to I-84	0.3	0.0	0.0	0.3
I-84 to Pierce Lane	0.0	0.7	0.0	0.7
Pierce Lane to Foothill Road	0.0	1.7	0.0	1.7
Foothill Road to Hot Lake Road	0.0	0.7	0.0	0.7
Hot Lake Road to Hawkins Road	0.3	0.7	0.0	1.0
Hawkins Road to Godley Road	0.3	0.0	0.0	0.3
Godley Road to Ramo Creek Road	0.3	0.0	0.0	0.3
Hog Valley Road to Ramo Flat Road	0.3	0.0	0.0	0.3
Ramo Flat Road to Telocaset Lane	0.7	0.3	0.0	1.0
Telocaset Lane to Gov't Gulch Road	0.7	0.3	0.0	1.0
Gov't Gulch Rd to Jimmy Creek Road	0.3	0.0	0.0	0.3
ORE204 (Weston-Elgin)				
County Line to Spout Springs Road	0.7	0.7	0.0	1.3
Spout Springs Road to Foothill Road	5.0	2.7	0.0	7.7
ORE203 (Medical Springs)	0.3	0.3	0.0	0.7
ORE244 (Ukiah-Hilgard)				
County Line to Tin Trough Road	0.3	0.3	0.0	0.7
Tin Trough Road to Marley Creek Road	0.3	0.3	0.0	0.7
Ronde River Road to Red Bridge State Park	0.7	0.7	0.0	1.3
Red Bridge State Park to Rock Creek Road	0.3	0.3	0.0	0.7
Rock Creek Road to I-84	0.0	0.3	0.0	0.3
ORE237 (Cove)				
ORE82 to Pierce Road	0.0	0.3	0.0	0.3
Pierce Road to Peach Road	0.0	0.7	0.0	0.7
Peach Road to Phys Point Road	0.0	0.0	0.3	0.3
Phys Point Road to Conley Road	0.3	0.0	0.0	0.3
Antles Road to Conley Road	0.0	0.3	0.0	0.3
Phys Point Road to ORE203	0.3	0.0	0.0	0.3

[6] PDO=property damage only
[7] acc/yr=total accidents per year

Table 4-8
Intersection Accident Summary (January 1993 to December 1997)

County Road Intersections	Average Accidents per Year by Severity			Total (acc/yr)[9]
	PDO[8]	Injury	Fatal	
Robb's Hill Rd/City Sanitary Landfill	0.0	0.0	0.3	0.3
Black Hawk Trail (8)/Mt. Glenn Rd (10)	0.3	0.0	0.3	0.7
Monroe Ln (10)/Standly Ln (103)	0.3	0.0	0.0	0.3
Mt. Glenn Rd (10)/Fruitdale Ln (125)	0.0	0.3	0.0	0.3
Mt. Glenn Rd (10)/May Ln (LaGrande)	0.3	0.0	0.0	0.3
Hunter Rd (14)/Booth Ln (126)	0.0	1.0	0.0	1.0
McAlister Rd (14)/Country Club Ln (Island City)	0.3	0.0	0.0	0.3
McAlister Rd (14)/Buchanan Ln (117)	0.0	0.3	0.0	0.3
McAlister Rd (14)/I-84 Overpass	0.3	0.3	0.0	0.7
Pierce Rd (23)/ORE82	0.3	0.0	0.0	0.3
Pierce Rd (23)/Airport Ln (29)	0.3	0.0	0.0	0.3
Summerville Rd (39)/ORE82	0.3	0.0	0.0	0.3
Summerville Rd (39)/Courtney Ln (135)	0.3	0.0	0.0	0.3
Mill Creek Ln (65)/McNeill Rd (142)	0.0	0.3	0.0	0.3
Case Rd (79)/Market Ln (128)	0.3	0.0	0.0	0.3
North Powder River Rd (101)/Rock Creek Rd (101A)	0.0	0.3	0.0	0.3
Buchanan Ln (117)/26 th St (LaGrande)	0.3	0.0	0.0	0.3
Catherine Creek Ln (141)/Thompson Rd	0.0	0.3	0.0	0.3
State Highway Intersections				
I-84 /Summit Rd Interchange	0.7	0.7	0.0	1.3
I-84/Spring Creek Rd	0.3	0.0	0.0	0.3
I-84/ORE244	0.0	0.3	0.0	0.3
I-84/Foothill Rd	0.3	0.0	0.0	0.3
I-84/Rest Area	0.3	0.3	0.0	0.7
ORE82/Hunter Lane	0.3	0.7	0.0	1.0
ORE82/Halley Lane	0.0	0.3	0.0	0.3
ORE82/Pierce Lane	0.0	0.3	0.0	0.3
ORE82/Booth Lane	0.0	0.3	0.0	0.3
ORE82/Standley Lane	0.0	0.3	0.0	0.3
ORE82/Janson Lane	0.0	0.3	0.0	0.3
ORE82/Woodell Lane	0.7	0.3	0.0	1.0
ORE82/Parks-Rinehart Rd	0.3	0.0	0.0	0.3
ORE82/Hallgarth Rd	0.0	0.3	0.0	0.3
ORE82/Philberg Lane	0.0	0.3	0.0	0.3
ORE82/Golding Road	0.0	0.7	0.0	0.7
ORE82/Merritt Rd	0.3	0.3	0.0	0.7
ORE203/Gekeler Lane	0.0	0.3	0.0	0.3
ORE203/McAlister Road	1.0	0.3	0.0	1.3
ORE203/I-84 Interchange	0.0	1.0	0.0	1.0
ORE203/Pierce Lane	0.0	0.3	0.0	0.3
ORE203/Hawkins Road	0.3	0.0	0.0	0.3
ORE203/Godley Road	0.3	0.0	0.0	0.3
ORE204/Spout Springs Road	0.7	0.0	0.0	0.7

Table 4-8A Continued

[8] PDO=property damage only
[9] acc/yr=total accidents per year

Intersection Accident Summary (January 1993 to December 1997)

State Highway Intersections	Average Accidents per Year by Severity			Total (acc/yr)[11]
	PDO[10]	Injury	Fatal	
ORE244/Grande Ronde River Road	0.3	0.0	0.0	0.3
ORE237/Pierce Road	0.3	0.3	0.0	0.7
ORE237/Peach Road	0.3	0.0	0.0	0.3
ORE237/Phys Point Road	0.0	0.3	0.0	0.3
ORE237/Conley Road	0.3	0.0	0.0	0.3
ORE237/Conley Road	0.3	0.0	0.0	0.3
ORE237/Phys Point Road	0.7	0.0	0.0	0.7

All of the state highway intersections had 1.3 accidents per year or less. Locations with 1.3 accidents or less are not considered to be high accident locations.

TRANSPORTATION DEMAND MANAGEMENT MEASURES

Transportation Demand Management (TDM) measures consist of efforts taken to reduce the demand on an area's transportation system. TDM measures include such things as alternative work schedules, carpooling, and telecommuting.

Alternative Work Schedules

One way to maximize the use of the existing transportation system is to spread peak traffic demand over several hours instead of a single hour. Statistics from the 1990 Census show the spread of departure to work times over a 24-hour period (see Table 4-9). Approximately 32% of total employees depart for work between 7:00 and 8:00 A.M. Another 32% depart either the hour before or the hour after the peak.

Assuming an average nine-hour workday, the corresponding afternoon peak can be determined for work trips. Using this methodology, the peak work travel hour would occur between 4:00 and 5:00 P.M., which corresponds with the peak hour of activity measured for traffic volumes. The actual P.M. peak hour begins between 3:30 and 4:30 P.M. and is slightly earlier than the P.M. peak indicated by the departure to work distribution.

TRAVEL MODE DISTRIBUTION

Although the automobile is the primary mode of travel for most residents in Union County, some other modes are used as well. Modal split data is not available for all types of trips, however, the 1990 census data does include statistics for journey-to-work trips as shown in Table 4-10. The census data reflects the predominant use of the automobile.

Most Union County residents travel to work via private vehicle. In 1990, 73.4% of all trips to work were in an auto, van, motorcycle, or truck. Carpooling accounted for 11.4% of work trips. Only one tenth of a percent used public transportation to commute. The remaining 15.1% of work trips were accounted by either bicycling, walking or telecommuting.

[10] PDO=property damage only
[11] acc/yr=total accidents per year

Table 4-9
Departure to Work Distribution

	1990 Census	
Departure Time	**Trips**	**Percent**
12:00 a.m. to 4:59 a.m.	303	3.3
5:00 a.m. to 5:59 a.m.	711	7.8
6:00 a.m. to 6:59 a.m.	1,373	15.0
7:00 a.m. to 7:59 a.m.	2,911	31.8
8:00 a.m. to 8:59 a.m.	1,508	16.5
9:00 a.m. to 9:59 a.m.	466	5.1
10:00 a.m. to 10:59 a.m.	227	2.5
11:00 a.m. to 11:59 a.m.	150	1.6
12:00 p.m. to 3:59 p.m.	867	9.5
4:00 p.m. to 11:59 p.m.	632	6.9
Total	**9,148**	**100**

Table 4-10
Journey to Work Trips

	1990 Census	
	Trips	**Percent**
Car, Truck, or Van:		
Drove alone	7,076	73.1
Carpooled	1,103	11.4
Public Transportation	6	0.1
Motorcycle	34	0.3
Bicycle	143	1.5
Walked	728	7.5
Other Means	58	0.6
Worked at Home	529	5.5
Total	**9,677**	**100**

EXISTING DEFICIENCIES

The existing deficiencies are described in the following sections: roadway system deficiencies, bridge deficiencies, and bicycle and pedestrian system facilities. There are no capacity deficiencies in unincorporated Union County based on the level of service analysis. All of the deficiencies are related to existing geometric problems and safety related issues.

Roadway System Deficiencies

Many Union County roads were constructed prior to the adoption of land use regulations stipulating road development standards; therefore many Union County roads can be identified as deficient. As development allows, and traffic volumes warrant, Union County is modifying its road system to conform to its land development regulations.

The following existing deficiencies exist within the local roadway system of Union County:

- Buchanan Lane, which is classified as a collector, has a surface width of only 22 feet. Based on Union County roadway standards, collectors should have a minimum surface width of 24 feet, with 4-foot paved shoulders where bicycle and pedestrian facilities are designated.

- Dry Creek Lane, which is classified as a collector, has a surface width of only 21 feet. Based on Union County roadway standards, collectors should have a minimum surface width of 24 feet, with 4-foot paved shoulders where bicycle and pedestrian facilities are designated.

- Mt. Glen Road, which is classified as a collector, has a surface width of only 21 feet. Based on Union County roadway standards, collectors should have a minimum surface width of 24 feet, with 4-foot paved shoulders where bicycle and pedestrian facilities are designated.

- Stackland Road, which is classified as a collector, has a surface width of only 18 feet. Based on Union County roadway standards, collectors should have a minimum surface width of 24 feet.

- Valley View Road, which is classified as a collector, has a surface width of only 20 feet. Based on Union County roadway standards, collectors should have a minimum surface width of 24 feet.

- Woodell Lane, which is classified as a collector, has a surface width of only 20 feet. Based on Union County roadway standards, collectors should have a minimum surface width of 24 feet.

- A significant number of county roads are either gravel or narrow, with surface widths less than 20 feet.

Bridge Deficiencies

Forty-three bridges in Union County's jurisdiction are included in the National Bridge Inventory and are eligible for federal funding for reconstruction and maintenance projects. According to data from ODOT's Bridge Section, 35 bridges are sufficient, 5 are structurally deficient, and 3 are functionally obsolete.

Structurally Deficient

- Bridge # 01495 on Market Lane over the State Ditch (MP 2.83) 2.8 miles east of Oregon Highway 82 (scheduled for improvement in 2000).
- Bridge # 61C15 on Striker Lane over the Grande Ronde River (MP 1.25) 1.3 miles east of Oregon Highway 82 (scheduled for improvement in 2000).
- Bridge # 61C16 on Yarrington Road over the Grande Ronde River (MP 10.00) at the intersection of Palmer Junction and Yarrington Roads.
- Bridge # 61C30 on High Valley Road over Little Creek (MP 3.34) 3.3 miles east of Oregon Highway 203 (scheduled for improvement in 2001).
- Bridge # 61C42 on Jones Road over Phillips Creek (MP .10) .1 miles south of Oregon Highway 204.

Functionally Obsolete

- Bridge # 10749A on Summerville Road over Willow Creek (MP 1.90) 1.9 miles northwest of Oregon Highway 82.
- Bridge # 61C05 on Palmer Junction Road over Gordon Creek (MP 2.00) 2 miles north of Oregon Highway 204 (scheduled for improvement in 1999).
- Bridge # 61C19 on McKennon Lane over the Grande Ronde River (MP 1.30) 1.3 miles east of Imbler Road (scheduled for improvement in 2001).

Bicycle and Pedestrian System Deficiencies

There are no sidewalk facilities along county roads. Pedestrian travel is limited to county roads with adequate shoulders. Most county roads do not have adequate shoulders for safe pedestrian travel.

There are no dedicated bicycle lanes within the unincorporated areas of Union County. Cyclists either have to share the roadway with motorists, or travel on shoulders where available. Existing county roadways currently have limited shoulders available for safe bicycle travel.

CHAPTER 5: 2018 TRAFFIC VOLUME FORECAST

This chapter identifies historical and projected population and employment trends, and how future traffic volumes could impact the current and planned transportation system in Union County.

2018 TRAFFIC FORECAST METHODOLOGY

The 2018 traffic projections developed as a part of this study are used as the basis for assessing future roadway conditions and likely improvement requirements. These projections were developed through a two step process. First, the historical relationship between traffic growth and population growth was developed. Second, this traffic-to-population relationship was applied to the 20-year projected population to obtain the 20-year traffic forecast.

The population growth in unincorporated Union County between 1980 and 1997 has been very modest. Based on historical population information, Union County's population has increased from 23,921 to 24,500 from 1980 to 1997. This equates to an annual population growth rate of 0.1%. Table 5-1 summarizes this information.

Table 5-1
Union County Historic Population Growth Trend

1980	1997	1980-1997 Percent Change	Annual Growth Rate
23,921	24,500	2.4%	0.1%

Table 5-2 shows the traffic growth rate for Highways 82, 203, 204, 244, 237 and US 30 (currently Oregon Highway 203) in Union County between 1980 and 1997. As shown in Table 5-2, the historic annual traffic growth rates range from 0.7% to 6.9% on the state highways in Union County.

The historic traffic-to-population growth rate ratios from 1980 to 1997 range from 7.00 to 69.00. These ratios are extremely high and indicate that there is not a direct correlation between the historic traffic and population growth. Since there is not a direct correlation between traffic growth and population growth, the traffic to population relationship was not applied to the expected future population growth to obtain the future traffic volumes. Instead, the historical traffic growth rates listed in Table 5-2 were used to forecast the 2018 traffic volumes.

Table 5-2
Union County Historic Traffic Growth Trend on State Highways

State Highway	Annual Growth Rate
Highway 82	2.0%
US 30	1.6%
Highway 203	6.9%
Highway 204	0.7%
Highway 237	1.7%
Highway 244	3.6%

The 2018 A.M. and P.M. peak hour and daily traffic volume forecasts based on the annual traffic growth rates are shown in Figure 5-1.

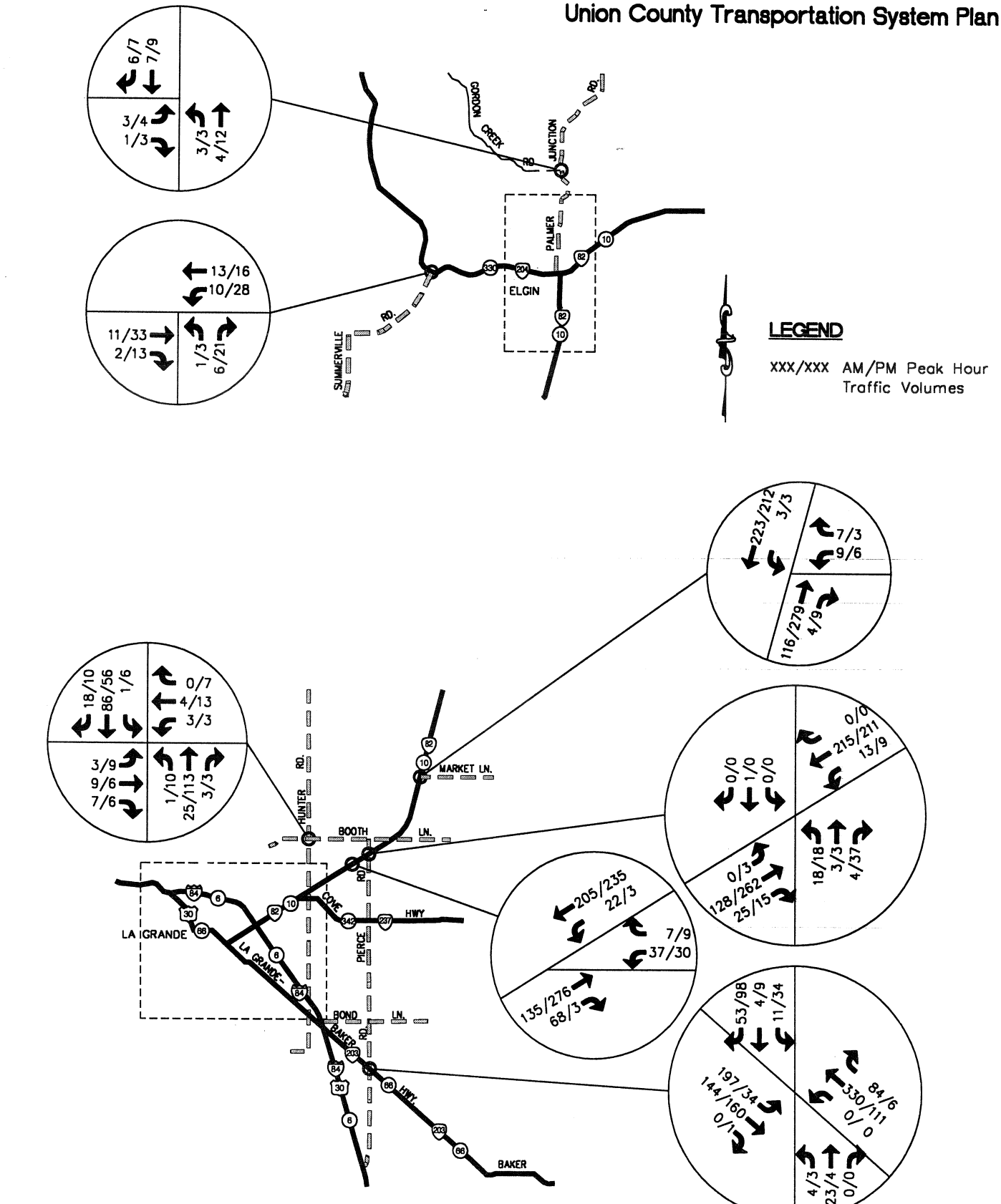


FIGURE 5-1
2018 A.M. and P.M. Peak Hour Traffic Volumes

2018 LEVELS OF SERVICE

Level of service analyses were conducted based on the 2018 traffic volumes shown in Figure 5-1. The results of the analysis are summarized in Tables 5-3 and 5-4, which show that all of the study area intersections and roadways are projected to continue to operate at LOS A, except the Highway 203/Pierce Road intersection. In the 2018 A.M. peak hour, the northbound and southbound approaches are projected to operate at LOS D and C, respectively. These level of service changes are primarily due to the high 6.9% per year traffic growth factor used to project the 2018 traffic volumes. Although, the traffic volumes have increased 6.9% per year since 1980, it is not likely that this growth trend will continue. Also, the growth is biased due to the extremely low traffic volumes. Even with the high growth assumption and worsening level of service, the Highway 203/Pierce Road intersection would still operate at LOS D or better, which is considered acceptable.

2018 DEFICIENCIES

No additional deficiencies to those previously defined in the Existing Deficiencies section have been identified since the 2018 levels of service analysis yielded the same results as the existing levels of service analysis.

Table 5-3
2018 Intersection Level of Service

	AM Peak		PM Peak	
Unsignalized Intersection	**LOS**	**Reserve Capacity**	**LOS**	**Reserve Capacity**
Highway 204/Market Lane				
Southbound Left	A	1471	A	1213
Westbound Approach	A	750	A	595
Highway 82/Pierce Road				
Northbound Approach	A	599	A	614
Southbound Approach	A	613	A	-
Eastbound Left	A	1282	A	1285
Westbound Left	A	1393	A	1182
Highway 203/Pierce Road				
Northbound Approach	D	105	A	503
Southbound Approach	C	298	A	550
Eastbound Left	A	646	A	1420
Westbound Left	A	1293	A	1390
Highway 82/Particle Board Plant				
Southbound Left	A	1237	A	1148
Westbound Approach	A	462	A	412
Booth Lane/Hunter Road				
Northbound Left	A	1477	A	1569
Southbound Left	A	1640	A	1449
Eastbound Approach	A	940	A	825
Westbound Approach	A	846	A	845
Gordon Creek Road/Palmer Junction Road				
Southbound Left	A	1663	A	1666
Westbound Approach	A	1072	A	1108
Highway 204/Summerville Road				
Northbound Approach	A	1284	A	1206
Westbound Left	A	1658	A	1569

Table 5-4
2018 Arterial Roadway Level of Service Summary

Roadway	Section	AADT	Capacity	V/C Ratio	LOS
Highway 82	0.01 mi east of Hunter Ln	8,300	14,000	0.59	A
	mi south of Stanley Ln	5,700	14,000	0.41	A
	On Grande Ronde River Bridge – MP 17.88	5,100	14,000	0.36	A
	mi west of Parson-Hug Rd	3,000	14,000	0.21	A
	Union-Wallowa County Line	2,400	14,000	0.17	A
Highway 203	mi west of Kofford Road	2,500	14,000	0.18	A
	0.05 mi west of Catherine Creek Park	1,600	14,000	0.11	A
	mi northwest of Mill Creek Road	1,300	14,000	0.09	A
	0.01 mi south of Collins Road	800	14,000	0.06	A
Highway 204	Umatilla-Union County Line	700	14,000	0.05	A
	mi east of Summerville Rd	1,000	14,000	0.07	A
	mi east of Foothill Rd	1,400	14,000	0.10	A
Highway 237	mi west of Pierce Ln	2,700	14,000	0.19	A
	mi west of Peach Ln	2,300	14,000	0.16	A
	At Grande Ronde River – MP 9.44	2,000	14,000	0.14	A
	mi west of Lower Cove Road	1,400	14,000	0.10	A
	0.01 mi west of Phys Point Rd	900	14,000	0.06	A
Highway 244	Umatilla-Union County Line	600	14,000	0.04	A
	0.10 mi west of Starkey Rd	800	14,000	0.06	A
	0.60 mi east of Jordon Creek Rd	1,300	14,000	0.09	A
	0.40 mi south of Old Oregon Trail (I-84)	2,100	14,000	0.15	A

CHAPTER 6: TRANSPORTATION IMPROVEMENT OPTIONS

The Transportation Planning Rule requires that Transportation System Plans evaluate alternatives to resolve system deficiencies. Various improvement alternatives were developed and analyzed with input from the TAC, Union County staff, ODOT, and the public. The transportation system alternatives attempt to satisfy TSP goals and objectives, and meet identified needs.

The proposed improvement projects include state and county road projects; bicycle and pedestrian improvements; bridge projects; rail, air, and public transportation plans; and transportation demand management strategies. The proposed improvement projects address identified needs for all modes of travel in Union County.

EVALUATION OF PROJECT ALTERNATIVES

Analysis of current and forecasted traffic volumes identified no capacity issues within unincorporated Union County over the next 20 years. Capacity issues aside, safety and connectivity emerged as the Union County TAC's primary considerations. Each county road improvement alternative was evaluated based on project cost; safety; connectivity between high impact land uses; preservation of state highway capacity; and environmental, socioeconomic, and land use impacts. Listing project alternatives, however, does not imply final approval of the projects. Environmental issues may result in changes, delays or cancellation of projects.

The previously listed factors were the basis for determining project priority. Aside from county road projects, many projects were also identified and prioritized in previous plans, such as the Oregon Highway 82 Corridor Plan, the Union County Bicycle and Pedestrian Plan, and the La Grande/Union County Airport Master Plan Update.

Safety, connectivity between high impact land uses, and preservation of state highway capacity are interrelated issues in Union County. The Union County TAC prioritized these issues into two roadway improvement project types during a series of monthly public meetings. Union County staff drafted the initial list with refinement from the Union County TAC.

The first project type is intersections with safety problems. Many of the intersections listed do not have an accident history, yet were identified as a safety concern based on local knowledge, whether they were design or enforcement issues. Improvements may include signage, the construction of turn refuges or re-alignment of the intersection, and are dependent on staff and financial resource availability.

The second project type is based on goals and objectives that would reserve state system capacity. ODOT has indicated that certain types of off-system improvements may qualify for state funding if the project creates alternative routes to the state system, thereby reserving state highway capacity. High traffic volumes and heavily loaded trucks traveling to and from the Baum Industrial Park and the La Grande/Union County Airport Industrial Park necessitate the construction of alternatives to the state highway system to reduce congestion and potential conflicts between automobiles and large trucks. The improvement projects involve improving state system connections and providing alternate routes to the state system. These recommendations may involve improving or reconstructing the roadways and intersections to accommodate high traffic volumes and/or heavily loaded trucks.

These projects are summarized in the County Roadway System Improvements Section at the end of this chapter. The TAC recommends all projects eventually be constructed.

STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM PROJECTS

The Oregon Department of Transportation has a comprehensive improvement and maintenance program for Oregon's highway system. The Statewide Transportation Improvement Program (STIP) is updated every two years and identifies projects that could improve the overall transportation system.

The 1999-2003 STIP summary list for Union County includes interstate maintenance, preservation projects, bridge projects (on both state and county roads), safety investment projects, hazard elimination program projects, and operations needs for state highways in Union County. The following summary list identifies current STIP projects for 1999, which are committed projects, and draft STIP projects for 2000 through 2003, which specify transportation needs. Draft STIP projects may shift in priority and/or funding level before final publication in the fall of 1999. Additionally, this list identifies highway needs to be prioritized/funded in future Statewide Transportation Improvement Programs.

Projects identified in the 1999 STIP for Union County are:

Gordon Creek (Palmer Junction Road) Bridge No. 61C05
This is a local bridge replacement project located on Palmer Junction Road near milepoint 2.00. Currently there is $254,000 programmed for this work (1999; Union County).

Bear Creek Bridge No. 04846
This is a state bridge replacement project located on the Ukiah-Hilgard Highway (OR-244) near milepoint 42.50. Currently there is $154,000 programmed for this work (1999; Union County).

Projects identified in the draft 2000-2003 STIP for Union County are:

Island City Strip Section
This is a preservation project located on the Wallowa Lake Highway (OR-82) between milepoint 0.00 and 1.20. Improvements to this section include pavement preservation; grind and inlay/overlay. Currently there is $641,000 programmed for this work (2000; Union County).

Grande Ronde River (Striker) Bridge No. 61C15
This is a local bridge replacement project located on Striker Lane near milepoint 1.25. Currently there is $659,000 programmed for this work (2000; Union County).

State Ditch (Market Lane) Bridge No. 01495
This is a local bridge replacement project located on Market Lane near milepoint 2.81. Currently there is $502,000 programmed for this work (2000; Union County).

La Grande Variable Message Sign (Westbound)
This is an operations project located on the Old Oregon Trail Highway (I-84) near milepoint 266.00. Improvements to this section include installation of variable message sign. Currently there is $200,000 programmed for this work (2000; Union County).

Hilgard - La Grande Section
This is an interstate maintenance project located on Old Oregon Trail Highway (I-84) between milepoint 252.83 and 259.19. Improvements to this section include pavement preservation; grind & inlay/overlay. Currently there is $9,900,000 programmed for this work (2001; Union County).

Old Oregon Trail Highway Bridges No.'s 8504 & 9630B
This is a state bridge project located on the Old Oregon Trail Highway (I-84) between milepoint 253.42 and 260.30. Improvements to this section include placement of scour protection. Currently there is $228,000 programmed for this work (2001; Union County).

Catherine Creek (5th Street) Bridge No. 61072
This is a local bridge replacement project located on 5th Street inside the City of Union's Urban Growth Boundary near milepoint 0.36. Currently there is $258,000 programmed for this work (2001; Union County).

Little Creek (High Valley No. 5) Bridge No. 61C30
This is a local bridge replacement project located in unincorporated Union County. Currently there is $188,000 programmed for this work (2001; Union County).

Old Oregon Trail Highway Signing
This is a safety investment project located on the Old Oregon Trail Highway (I-84) between milepoint 245.00 and 250.00. Improvements to this section include sign installation. Currently there is $60,000 programmed for this work (2001; Union County).

Whopper 2 Slide Correction
This is an operations project located on the Wallowa Lake Highway (OR-82) between milepoint 16.19 and 16.41. Improvements to this section include slide correction. Currently there is $500,000 programmed for this work (2001; Union County).

Island City - Imbler
This is a preservation project located on the Wallowa Lake Highway (OR-82) between milepoint 2.64 and 12.80. Improvements to this section include pavement preservation (chip seal). Currently there is $375,000 programmed for this work (2002; Union County).

McAlister Lane Bridge No. 9634
This is a state bridge project located on Old Oregon Trail Highway (I-84) near milepoint 264.21. Improvements to this section include placement of overpass screening. Currently there is $25,000 programmed for this work (2002; Union County).

Wolf Creek Road Bridge No. 9755
This is a state bridge project located on the Old Oregon Trail Highway (I-84) near milepoint 283.64. Currently there is $25,000 programmed for this work (2002; Union County).

Grande Ronde River (McKennon Lane) Bridge No. 61C19
This is a local bridge replacement project located on McKennon Lane near milepoint 1.30. Currently there is $771,000 programmed for this work (2002; Union County).

Island Avenue (La Grande) Traffic Signal Section
This is an operations project located on Island Avenue (OR-82) near milepoint 0.90. Improvements to this section include traffic signal installation. Currently there is $400,000 programmed for this work (2002; Union County).

Wolf Creek Bridges No.'s 7291C & 7291D
This is a state bridge project located on the Old Oregon Trail Highway (I-84) near milepoint 284.38. Improvements to this section include bridge rehabilitation; overlay and bridge rail improvements. Currently there is $330,000 programmed for this work (2003; Union County).

North Powder Interchange (EB & WB) Bridge No.'s 9499 & 9499A
This is a state bridge project located on the Old Oregon Trail Highway (I-84) near milepoint 285.68. Improvements to this section include bridge rehabilitation; overlay and bridge rail improvements. Currently there is $543,000 programmed for this work (2003; Union County).

Union County highway needs, including Region 5 priority and project costs, for future STIPs include:

La Grande Corridor Transportation Improvements
This project implements the Access Management/Circulation Plan for the Island City Strip (OR-82) between milepoints 1.60 and 2.00. Improvements to this section include signals, interchange reconstruction, median barrier, and frontage road connections. Project cost is estimated at $2,600,000 (High Priority; Union County).

Elgin Section
Project improvements include rebasing and paving Division Street (OR-204), and installing sidewalks, curbs, storm sewers, and utilities between milepoints 40.25 and 40.84. Project cost is estimated at $1,200,000 (High Priority; Union County).

Umatilla County Line – NW City Limits (Elgin)
Improvements to this section of Highway 204 include resurfacing and alignment improvements between milepoints 21.30 and 40.25. Project cost is estimated at $12,300,000 (High Priority; Union County).

Pyles Canyon Section
Improvements to this section of Highway 203 include resurfacing with shoulder and alignment improvements between milepoints 17.79 and 19.16. Project cost is estimated at $2,100,000 (High Priority; Union County).

Island City Section
This project includes resurfacing Highway 82 and improving road alignment between milepoints 2.00 and 2.80. Project cost is estimated at $2,000,000 (Medium Priority; Union County).

Truck Route & Rail Enhancements (I-84 to Baum Industrial Park)
This project will take place on Highway 84 between milepoints 3.26 and 4.43 and includes development of a frontage road to serve the Baum Industrial Park. Project cost is estimated at $2,400,000 (Medium Priority; Union County).

North Powder Section
Improvements to this section of Oregon Highway 237 and US Highway 30 between milepoints 31.19 and 32.37 include rebasing and paving the roadway, installing sidewalks, curbs, storm sewers, and utilities, and realigning the Oregon Highway 237/US Highway 30/Coughanour Lane intersection. Project cost is estimated at $1,400,000 (Medium Priority; Union County).

Pierce Lane Improvements
Project improvements include reconstructing Pierce Lane from the Foothill Interchange to Highway 82 (milepoint 4.43) to a Union County rural arterial standard. Specific improvements include widening, rebasing, and paving the roadway. Project cost is estimated at $3,000,000 (Low Priority; Union County).

Highway 82 Scenic Turnouts
Improvements to this section include scenic turnouts added to Highway 82 to highlight scenic cultural, historical, environmental, and recreational resources between milepoints 20.74 and 71.42. Project cost is estimated at $300,000 (Low Priority; Union and Wallowa Counties).

Minam Grade (Phase 2)
Project improvements include realigning curves and widening Highway 82 near milepoint 30.00. Project cost is estimated at $5,000,000 (Low Priority; Union and Wallowa Counties).

Imbler Section
Project improvements to Highway 82 include rebasing and paving the roadway, installing sidewalks, bulb-outs, curbs, gutters, and relocating utilities. Project cost is estimated at $1,500,000 (Union County).

OREGON HIGHWAY 82 CORRIDOR PLAN
Improvement projects identified in the Oregon Highway 82 Corridor Plan will be implemented through the Statewide Transportation Improvement Program (STIP) and the ODOT Region 5 work program. Each recommended improvement project is prioritized as a "near" (0-5 years), "mid" (5-10 years), or "long" (10-20 years) term project. Projects are associated with three categories of management decisions, which are "Management Decisions," "Capital Improvement Decisions," and "Service Improvement Decisions." Improvements projected to be implemented within the next 20 years include:

Management Decisions
1. *Public Transportation Plan* (near: 0-5 years) – In coordination with ODOT, AMTRACK, Greyhound, Wallowa Valley Stage and other appropriate transit organizations, the Union County Transportation Coalition will lead in the preparation of a refinement plan that integrates all appropriate public transit to make the most efficient use of scare public transit resources. The result will be a comprehensive pubic/private transit plan for the corridor.

Capital Improvement Decisions
1. *Right-of-Way Acquisition, Elgin to Joseph* (near: 0-5 years) – This project includes the acquisition and preservation of the Idaho and Northern Pacific (INP) railroad right-of-way between Elgin and Joseph for future rail or other transportation purposes.
2. *Shoulder Widening Program* (mid: 5-10 years) – This project is designed to increase the safety and access of Oregon Highway 82 to cyclists, motorists, and road maintenance crews while supporting related state and federal mandates. One area in Union County is determined to have substandard shoulders: MP 4.43 to MP 7, between Island City and Imbler.
3. *Island City/Imbler Passing Lane* (mid: 5-10 years) – This project would widen Highway 82 between approximately MP 8.4 and MP 9.6 to include an eastbound passing lane. The highway would be widened from 28 feet to 48 feet with three travel lanes.
4. *High Accident Location Signing/Marking Program* (mid: 5-10 years) – High accident locations could be enhanced by warning signs and/or striping. The Oregon Highway 82 Corridor Plan identifies "Hamburger Hill" (approximately MP 14.94) as a candidate for a refinement plan.

5. *Grade Crossing Protection Program* (long: 10-20 years) – The program is intended to improve the safety of highway and side road crossings of the Idaho Northern and Pacific (INP) by consolidating private and public crossings where practical between Island City and Elgin. The following are specific crossings that could be considered for future modification: Combine two crossings near both MP 8.2 and MP14.2; consolidate three crossings to two near Baum Industrial Park; close one of three public crossings near the center of Imbler; close Hayes and Janson Roads near the track; gate the six remaining public crossings between Island City and Elgin's east end.
6. *Railroad Track Improvement Program, La Grande to Elgin* (long: 10-20 years) – The program is designed to improve the average speed of the INP to 25 mph between the Union Pacific Railroad interchange in Island City and Elgin by implementing track and maintenance enhancements such as partial tie replacement, addition of ballast, and surface and track alignment.
7. *La Grande Intermodal Reload Facility Feasibility* (long: 10-20 years) – This project would study the development of an Intermodal Reload Facility near La Grande. The proposed facility would enhance the movement of goods into and out of the region by creating an efficient central site designed to optimize the service and connections between truck and rail freight lines.
8. *Truck Route and Rail Enhancements, I-84 to Baum Industrial Park* (long: 10-20 years) – This program is designed to enhance grade crossing safety at Baum Industrial Park. An additional goal is to support a proposed inland port district or interstate truck/railroad reload facility at the west end of the corridor. The program includes the consolidation of three railroad crossings at the Baum Industrial Park into two and providing a frontage road to serve the Industrial Park (a potential site for the reload facility).

Service Improvement Decisions

1. *Commuter Air/Freight Enhancements to La Grande/Union County Airport* (near: 0-5 years) – Work with airport officials, the Northeast Oregon Air Service Task Force and the aviation branch of ODOT to produce a plan that identifies and addresses the needs related to commuter air and freight enhancements to the La Grande/Union County Airport.
2. *Elgin to Joseph Freight Rail Preservation Plan* (near: 0-5 years) – Work with Oregon Parks and Recreation Department, Union and Wallowa Counties, local jurisdictions, interested groups and the INP, to develop a plan that addresses the ongoing preservation of the Elgin-Joseph rail line for freight transportation.

OREGON SCENIC BYWAY PROGRAM

The Oregon Scenic Byway Program designates portions of state and local roads as scenic byways or tour routes to promote tourism and appreciation for diverse cultural, historical, and environmental sites around Oregon. The La Grande/Union County Visitors and Conventions Bureau proposed 95 miles of Oregon State Highways 203 and 237, and Union County roads for state designation as a tour route. The Oregon Transportation Commission approved this request in the summer of 1999.

The Grande Tour starts in La Grande at 4th and Adams Avenue (Oregon Highway 30), extends to Union, and up Catherine Creek to Medical Springs, continues to Telocaset, loops back through Union to Cove, continues to Alicel and ends at Riverside Park in La Grande. According to the application, the Grande Tour showcases the broad diversity of landscape, history, and culture in Union County. Visitors drive through fertile farmlands, rugged sage-covered rangelands, and lush green forests. Rivers, creeks, and Thief Valley Reservoir add beauty to the route and reflect the importance of life-giving water to the livelihood of all area residents, both wild and domestic. It is proposed that this section of roadway will enhance local economies, facilitate an appreciation for rural living, preserve and maintain local history, and provide educational opportunities.

Most of the Grande Tour has a paved road surface, though some road segments are gravel. The entire byway is appropriate for recreational vehicles. Although there are no bike lanes along the route, all paved segments are appropriate for bicycle use. Because of narrow shoulders, caution is required on segments of Highway 237 through Pyles Canyon and Highway 203 along Catherine Creek. Brochures are in the process of being printed and will be available at the La Grande/Union County Visitors and Conventions Bureau. A draft version of the brochure, including a map, is located in Appendix E.

The scope of the project includes ten interpretive signs delineating the tour route and providing history and specific information about the landscape. The Visitors and Conventions Bureau received money through the Oregon State Tourism Commission and Union County for the tour route signs. State designation as a tour route makes the project eligible for T-21 funds and allows the Oregon Tourism Commission to market the tour route statewide.
The 1996 Union County Bicycle and Pedestrian Plan identifies a bikeway improvement project on Foothill Road that may become eligible for T-21 funds through state designation as the Grande Tour. The improvement project is detailed in Table 6-1 and includes roadway widening and the addition of shoulder bikeways.

COUNTY ROADWAY SYSTEM IMPROVEMENTS

If safety problems develop, or when significant traffic volume increases occur, the following road improvements are proposed to mitigate identified deficiencies:

- Widening to current collector standards: Buchanan Lane, Dry Creek Lane, Mt. Glen Road, Stackland Road, Valley View Road, and Woodell Lane. Union County's current collector standard is 24 feet with 4-foot paved shoulders where bicycle and pedestrian facilities are designated.

- A significant number of county roads are either gravel and/or narrow with surface widths of less than 20 feet. These roadways should be considered for paving and/or widening and are easily identified in Appendix B, the Existing Conditions Inventory.

The following is a summary of roadway system improvements drafted by the Union County TAC:

A) Pierce Road – Reconstruct Pierce Road between Foothill Exit and Oregon Highway 237 to a rural arterial standard (reconstruction is complete between Oregon Highways 237 and 82), including (2) 4-foot paved plus 2-foot gravel shoulder bikeways. After safety evaluation, remove stop signs on Pierce Road at the Pierce/Gekeler Road intersection to facilitate through traffic. Construct one left turn refuge (south bound) on Oregon Highway 82 for Pierce Road and construct two left turn refuges on Oregon Highway 237 for Pierce Road. This project is vital to Union County because it links the Baum Industrial Park and the Airport Industrial Park with the state highway and interstate systems. These high impact land uses produce large volumes of commuter and freight traffic. Reconstructing Pierce Road will provide alternative connections for the industrial parks to the interstate system and can increase safety by reducing conflicts between large trucks and automobiles.

B) McAlister Road – Reconstruct McAlister Road between White Birch Lane and Oregon Highway 203 to a rural arterial standard, including (2) four-foot plus 2-foot gravel shoulder bikeways for shared bicycle and pedestrian use. This is a heavily used connection between Oregon Highways 237, 203 and Interstate 84.

C) Buchanan Lane – Reconstruct Buchanan Lane between the east La Grande City Limit and McAlister Road to a rural collector standard, including (2) six-foot paved bike lanes for shared bicycle and pedestrian use. This is an important connection between the cities of La Grande and Island City, and is heavily used by cyclists.

D) Walton Road – Add (2) six-foot bike lanes and (2) five-foot sidewalks to Walton Road. This project provides pedestrian and cycling facilities that connect with Oregon Highway 82 and can provide alternate modes of travel for heavy commercial uses located along Highway 82.

E) Lower Cove Road – Reconstruct Lower Cove Road between Oregon Highway 237 and Market Lane to a rural arterial standard, including (2) four-foot paved plus two-foot gravel shoulder bikeways on the segment of Lower Cove Road between Oregon Highway 237 to Conley Road. Construct one left turn refuge (south bound) on Oregon Highway 82 for Market Lane. This project provides overall safety for traffic at the intersection of Market Lane and Oregon Highway 82. The project also improves the connection between Oregon Highways 82 and 237.

F) Hunter Road – Construct (2) four-foot paved plus two-foot gravel shoulder bikeways between the north Island City City Limit and Woodell Lane. Improve the segment of Hunter Road between Woodell Lane and Dry Creek Lane to a rural arterial standard. Increase the enforcement of traffic laws at the intersection of Booth Lane and Hunter Road (see Appendix D), and extend the 35 mph speed zone to the north approximately one mile (200 feet north of the Booth/Hunter intersection). Hunter Road is a heavily used rural arterial for local access in Union County. This project can improve connectivity between communities in north Union County and the La Grande/Island City area. It should be noted that speed zone modifications must be reviewed and approved by the Oregon Department of Transportation Speed Control Board.

G) Summerville Road – Reconstruct Summerville Road between Oregon Highways 82 and 204 to a rural arterial standard, including (2) four-foot paved plus two-foot gravel shoulder bikeways. This project would improve the connection between Oregon Highways 82 and 204, and improve local access and circulation in north Union County.

H) Godley Lane – Improve Godley Lane from Miller Lane to Becker's road improvements to a rural local standard. This project was a consideration in the City of Union Transportation System Plan.

I) Mt. Glen Road/Booth Lane Intersection – Realign Booth Lane to intersect perpendicularly with Mt. Glen Road to eliminate an unsafe intersection. Realigning this intersection would improve safety by providing a clear view for all legs of the intersection and removing Yield signs which people tend to ignore.

Additionally, the following project was identified during the compilation of the TSP to improve intersection safety and promote economic development – Remove the airport beacon (NDB) at the northeast portion of the intersection and realign Sandridge Road to intersect perpendicularly with Highway 82 at the crest of the hill (northeast of the intersection) to improve sight distance and increase intersection safety. Project priority is determined by the timing of construction of a straw storage facility at the northeast corner of the intersection. When the straw storage facility is constructed, then the road improvement project becomes a high priority.

BICYCLE AND PEDESTRIAN SYSTEM IMPROVEMENTS

The Union County Bicycle and Pedestrian Plan was adopted on October 2, 1996. This plan identifies improvements necessary to mitigate previously identified deficiencies, and improves pedestrian and bicycle facilities along county roads. Recommended bicycle and pedestrian improvements for Union County are shown in Table 6-1. Project costs are in 1996 dollars. Additional projects were considered during the bicycle and pedestrian planning process but not selected. These projects are listed in the Union County Bicycle and Pedestrian Plan (Appendix C).

Bicycle and pedestrian projects from the Island City Bicycle and Pedestrian Plan are also included where they coincide with a recommended Union County road project and where they are located on a Union County facility. These projects are shown in Table 7-2.

Table 6-1

Union County Recommended Bicycle and Pedestrian Projects

Road Segment	Project Description	Length (in miles)	Priority	Cost
OR Highway 203				
Union to Kofford Rd	(2) 14' travel lanes & (2) 4' paved shoulder bikeways	1.8	High	$152,064
Kofford Rd to Baker Co. Line	(2) 14' travel lanes + fog line	20	Low	$844,800
OR Highway 204				
Elgin to Umatilla Co. Line	(2) 14' travel lanes	19	Low	$802,560
OR Highway 237				
Island City to Cove	(2) 14' travel lanes + (2) 4' paved shoulder bikeways	4	Medium	$1,774,080
Cove to Union	(2) 14' travel lanes + (2) 4' paved shoulder bikeways		Low	
Union to Baker Co. Line	(2) 14' travel lanes + fog line	17	Low	$718,080
Mt. Glen Road				
Black Hawk Trail Ln to Booth Ln	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	1.56	High	$197,000
McKenzie Lane				
East Summerville to Hunter Ln	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	2.16	High	$131,789
Hunter Road				
McKenzie Ln to Woodell Ln	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	3	High	$348,480
Woodell Ln to Fruitdale Ln	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	6.59	High	$556,723
McKenzie Ln to Dry Creek Ln	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	1.49	Medium	$173,078
Dry Creek Lane				
Summerville Rd to Behrens Ln	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	3.44	Medium	$400,000
Pierce Road				
Hwy 82 to Hwy 237	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	2.06	High	$696,115
Hwy 237 to Hwy 203	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	3.75	High	$315,110
Hwy 203 to Foothill Rd	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	2.24	High	$756,940
Phys Road				
Hwy 237 to Hwy 237 (Cove Bypass)	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	1.16	Low	$146,995

Summerville Road				
Imbler to Summerville	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	2.71	High	$228,941
Summerville to Hwy 204	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	6.67	Medium	$845,222
Lower Cove Road				
Hwy 237 to Conley Rd	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	3.32	Low	$385,651
Mill Creek Lane				
Cove E.C.L. to Comstock Rd	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	1.25	Medium	$52,800
Buchanan Lane				
La Grande E.C.L. to Island City W.C.L.	(2) 12' travel lanes & (2) 6' paved bike lanes	.77	High	$130,000
Fruitdale Lane				
Mt. Glen Rd to Hunter Rd	(2) 14' travel lanes + fog line	2.24	High	$189,235
Booth Lane				
Mt. Glen Rd to Hunter Rd	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	1.1	High	$46,464
Market Lane				
Hwy 82 to Lower Cove Rd	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	10.4	Low	$1,209,225
Foothill Road				
Gekeler Ln to Hwy 203	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways (after Pierce Rd reconstruction)	8.88	High	$562,637
High Valley Road				
Union E.C.L. to Kofford Rd	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	2.03	High	$257,241
Kofford Road				
High Valley Rd to Hwy 203	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	.39	High	$158,400

TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

Transportation demand management strategies shift the reliance on one specific mode of travel to other modes, including walking and cycling. Demand management strategies also include ride-sharing, telecommuting, or staggering workdays per week or work hours per day in order to spread traffic demand over many hours instead of focusing it into a specific peak time period.

PUBLIC TRANSPORTATION PROJECTS

Public transportation is coordinated by the Union County Transportation Coalition. The Coalition includes Community Connection, New Day Enterprises, and the Center for Human Development (CHD). Clients of these various organizations make up the majority of transit trips, but the public is also served by Community Connection. Shelter from the Storm and Union/Wallowa Veteran's Services are not considered part of the Union County Transportation Coalition, yet if a centralized transit program were developed, with a fixed point system and full-time coordinator to manage the overall program, they would benefit tremendously.

The diverse needs of the transportation disadvantaged make it difficult for each organization to reach their financial goals. As a result, the Coalition strives to consolidate resources in order to accommodate the specific needs of the elderly, disabled, and general public. The Union County Transportation Coalition desires to form one corporate umbrella over all of the non-profit transit services in Union County with a full-

time coordinator to manage the entire program. Forming the Union County Transportation Coalition has allowed the three groups to combine their efforts to obtain grant money to purchase vehicles.

Demand for Dial-A-Ride service has increased steadily and is reaching capacity. The Coalition estimates that transit will have to shift from a Dial-A-Ride system to a fixed point system in order to be efficient. A fixed point system has all bus stops "fixed," but the route used by the driver varies depending upon the discretion of the dispatcher and driver. Though this is the Union County Transportation Coalition's primary goal, they estimate they are $13,000 short of instituting a fixed point system. This type of service requires a centralized scheduling system, and specific locations and travel times. A full-time coordinator would be necessary to manage scheduling and coordinate vehicle maintenance. The coordinator would also be responsible for grant writing and identifying other funding opportunities for project support. Currently, the major funding source for these services is ODOT's Special Transportation Fund, which comes from a 2-cent cigarette tax.

Another goal of the Union County Transportation Coalition is intercity bus service between all jurisdictions in Union County, which would provide total connectivity within Union County. This would expand the service area to include North Powder and Summerville, which do not currently have access to transit service. The Coalition would also like to expand service to include weekends. In order to reduce traffic congestion and reserve capacity on the state highway system, the Union County Transportation Coalition is considering utilizing park and ride lots in conjunction with a fixed point system that would primarily benefit commuters to the Baum Industrial Park.

AIRPORT PROJECTS

The La Grande/Union County Airport Master Plan Update was adopted by Union County in 1998 and identifies a 20-year capital improvement plan for airport expansion. Following is a description, priority ranking, and estimated cost for airport improvements[12]. Figure 6-1 shows the Airport Layout Plan and proposed improvement projects over the next 20 years.

Phase I Projects For 1998-2002

1. Runway Shift/Runway Safety Area Improvements

   Description: Shift Runway 30 and Taxiway C 660 feet to the south to meet ARC C-VI runway safety area (RSA) standards on the north end of the airport. This project will require acquisition of property off the south end of the runway to accommodate an adequate RPZ and the relocation of Airport Lane. In order to have a full and unimpaired RPZ, Airport Lane should be relocated approximately 600 feet to the south. This project would also include the reconstruction of the exit from Runway 12/30 to Runway 16/34. Included in this project are:

   Environmental Assessment - $65,000
   RPZ Property Acquisition – south end - $126,250
   Airport Lane Property Acquisition - $19,283
   North End RSA Grooming - $5,000
   660' Runway Taxiway Extension - $535,855
   Airport Lane Relocation - $420,000
   Reconstruct Runway 16/34 Exit, which is failing - $56,000

[12] La Grande/Union County Airport Master Plan Update, pages 91-95, W&H Pacific, Inc., July 1998.

2. Tanker Ramp Infill

   As of January 1998, there is a grassy infield between the existing tanker ramp and Taxiway D and C which restricts access to this ramp to two entrances, one on the north side and one on the east side. This limited access creates congestion during heavy traffic. By filling and paving this area, access and maneuvering room at this ramp area will be greatly improved.

   Estimated cost - $245,031

3. Tanker Ramp Expansion

   During the fire season when there is significant activity on the existing ramp area, the tanker operators do not have adequate space to pull a tanker off the line for maintenance or extended parking. Expansion of the tanker ramp on the northwest side of the intersection of Taxiway C and Taxiway D would allow for maintenance and parking of tanker aircraft without interfering with ongoing operations.

   Estimated cost - $830,800

4. Lead Plane Ramp

   During fire fighting operations, the "lead" aircraft is a small plane, which leads the tankers to their targets and otherwise directs the fire fighting efforts. Currently, these small planes must use the same parking area as the large tanker aircraft. This situation creates both safety and operational efficiency issues. Construction of a Lead Plane Ramp to the south of the tanker ramp and connecting to Taxiway C will provide a separate area for these small planes to park.

   Estimated cost - $148,874

5. Taxiway C Extension

   Taxiway C is a partial parallel taxiway for Runway 12/30, extending from the end of Runway 30 and ending at Taxiway B. In order to return to the tanker base, the tanker planes must use Taxiway A or B. Use of these taxiways by the large planes is not desirable because of lack of space and conflicting operations between large and small aircraft. Extending Taxiway C to connect with a new runway exit on Runway 12/30 will provide better separation between large and small aircraft operations and expedite fire fighting efforts.

   Estimated cost - $350,000

6. Connect Taxiway C to Taxiway A

   This project will construct a stub taxiway connecting the north end of Taxiway C with the north end of Taxiway A. This will provide improved access to the terminal area for aircraft arriving on Runway 30.

   Estimated cost - $55,833

7. Reconstruct Taxiway B between Runway 16/34 and Taxiway C

   Repair and resurface Taxiway B to accommodate the heavier aircraft.

   Estimated cost - $56,000

8. Fire Attack Helipads Expansion

   This project results in an expansion of the existing helipad area to accommodate six additional helicopters, including two of the larger, twin rotor helicopters. This expansion will provide adequate parking for helicopters used during fire fighting operations, consolidate their parking in one area and provide them an operations area that is away from the fixed wing aircraft.

   Estimated cost - $96,916

9. Expand Auto Parking Lot

Expand the paved parking lot adjacent to the terminal building to add an additional 15 to 20 parking spaces.

Estimated cost - $65,000

Phase II Projects For 2003-2007

1. Acquire Land for North End RPZs

   Currently the RPZs at the end of Runways 30 and 34 are not owned by the airport. The FAA encourages airports to have control of this area. This project will result in acquisition of those RPZs. It will be possible for the land to continue in agricultural use. Long term lease back to the current owner is an option.

   Estimated cost - $200,000

2. Extend Taxiway A 575 Feet to the South

   Taxiway A is a partial parallel taxiway ending at Taxiway D. Extend the taxiway the full length of Runway 16/34 in two phases to provide for a connection to the end of Runway 16/34 as well as to open opportunities to develop airside uses along Pierce Road. Phase I will extend the taxiway 575 feet to connect with the end of the runway.

   Estimated cost - $93,000

3. Reconstruct Taxiway D

   Repair and resurface Taxiway D.

   Estimated cost - $110,000

4. Overlay Runway 16/34

   Harsh weather conditions in eastern Oregon contribute to the deterioration of the runway pavement. In order to preserve the runway, an overlay is required on a periodic basis.

   Estimated cost - $454,000

5. Slurry Seal and Restripe Runways and Taxiways

   Applying a slurry seal to the runways and taxiways will make it possible to achieve the longest usable life from these surfaces. The application of a slurry seal obliterates all markings, so restriping of all areas is included as part of this project.

   Estimated cost - $294,000

6. Slurry Seal and Restripe all County Owned/Operated Ramps

   Applying a slurry seal to the county owned ramps will make it possible to achieve the longest usable life from these surfaces. The application of a slurry seal obliterates all markings, so restriping of all areas is included as part of this project.

   Estimated cost - $77,000

7. Runway Lighting for Runway 16/34

   Install runway lighting on Runway 16/34.

   Estimated cost - $235,000

8. Replace Rotating Beacon

   The useful life of a rotating beacon is approximately 20 to 30 years. Replacement of the beacon is recommended at the end of its useful life to maintain operating reliability.

   Estimated cost - $48,000

Phase III Projects For 2008-2017

1. Extend Taxiway A 500 Feet to the South

   Extending Taxiway A will allow hangar access for aircraft at the southwestern edge of the airport. This area is designated for development of GA flightline.

   Estimated cost - $42,000

2. Overlay Runway 12/30

   Harsh weather conditions in eastern Oregon contribute to the deterioration of the runway pavement. In order to preserve the runway, an overlay is required on a periodic basis.

   Estimated cost - $612,000

3. Overlay Taxiway A and Ramps

   Harsh weather conditions in eastern Oregon contribute to the deterioration of the taxiway and ramp pavement. In order to preserve the taxiway and ramp, an overlay is required on a periodic basis.

   Estimated cost - $548,000

4. Overlay Taxiway C

   Harsh weather conditions in eastern Oregon contribute to the deterioration of the taxiway pavement. In order to preserve the taxiway, an overlay is required on a periodic basis.

   Estimated cost - $641,000

5. Slurry Seal and Restripe Runway 16/34

   Applying a slurry seal to the paved areas of the airport will make it possible to achieve the longest usable life from these surfaces. The application of a slurry seal obliterates all markings, so restriping of all areas is included as a part of this project.

   Estimated cost - $122,000

6. Replace Lighting System on Runway 12/30

   Runway lighting has a useful life of approximately 20 to 30 years. Replacement of the lighting is recommended at the end of its useful life to maintain operating reliability.

   Estimated cost - $229,000

7. Construct Taxiway on the East Side of Runway 12/30

   Aviation development of the east side of the airport will necessitate the construction of an east side taxiway to provide access for aircraft to hangars and other businesses. This project will construct a full length taxiway east of the runway. It could be constructed in phases.

   Estimated cost for full taxiway is $758,000

8. Upgrade and Extend Access and Utilities to East Side of Airport

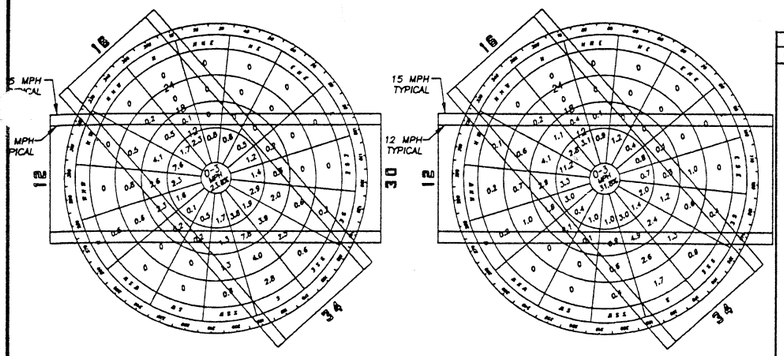
   In order to allow for development of the east side of the airport for aviation and related development, the basic infrastructure for this area must be developed. This includes upgrading Airport Lane to allow for access to this area and extending sewer, water, and power to this area. Cost estimates for the extension of utilities are being prepared outside the master plan.

Total Estimated Cost for Airport Improvements

The total estimated cost for all three phases is $6,069,842 with $4,214,899 contributed by the FAA and $1,854,943 provided through local or other non-FAA funding sources.

WIND ROSES

SOURCE: 1995 ALP



IFR WEATHER

CROSSWIND – 12 MPH

R/W 12:30	COMBINED	R/W 16:34
88.6%	96.5%	91.4%

CROSSWIND – 15 MPH

R/W 12:30	COMBINED	R/W 16:34
94.0%	99.4%	96.5%

ALL WEATHER WIND ROSE

CROSSWIND – 12 MPH

R/W 12:30	COMBINED	R/W 16:34
91.0%	89.6%	98.8%

CROSSWIND – 15 MPH

R/W 12:30	COMBINED	R/W 16:34
94.6%	93.5%	99.5%

DECLARED DISTANCES TABLE

	EXISTING				FUTURE			
	12	30	16	34	12	30	16	34
TAKEOFF RUN AVAILABLE (TORA)	5,600	5,600	3400	3400	6,260	6,260	SAME	SAME
TAKEOFF DISTANCE AVAILABLE (TODA)	5,600	5,600	3400	3400	6,260	6,260	SAME	SAME
ACCELERATE STOP DISTANCE AVAILABLE (ASDA)	5,600	4,840	3400	3400	6,260	5,500	SAME	SAME
LANDING DISTANCE AVAILABLE (LDA)	4,840	4,840	3400	3400	5,500	5,500	SAME	SAME

MODIFICATIONS TO STANDARDS

RUNWAY 12 WIDTH – THE WIDTH STANDARD FOR ARC C-IV IS 150 FEET. THE CURRENT CRITICAL AIRCRAFT IS THE C-130. THE C-130 HAS A NARROW UNDERCARRIAGE WIDTH (14'3") WHICH, ACCORDING TO THE MANUFACTURER, ALLOWS IT TO OPERATE ON RUNWAYS AS NARROW AS 60 FEET WIDE. IT IS RECOMMENDED THAT AS LONG AS THE C-130 IS THE CRITICAL AIRCRAFT, THE 100 FOOT RUNWAY WIDTH BE ALLOWED TO REMAIN UNDER A MODIFICATION TO STANDARDS.

TAXIWAY C WIDTH – THE WIDTH STANDARD FOR ARC C-IV IS 75 FEET. THE CURRENT CRITICAL AIRCRAFT IS THE C-130. THE C-130 HAS A NARROW UNDERCARRIAGE WIDTH (14'3"). IT IS RECOMMENDED THAT AS LONG AS THE C-130 IS THE CRITICAL AIRCRAFT, THE 50 FOOT TAXIWAY WIDTH BE ALLOWED TO REMAIN UNDER A MODIFICATION TO STANDARDS. AT SUCH TIME AS THE TAXIWAY NEEDS AN UPGRADE OR MAJOR MAINTENANCE, DISCUSSIONS SHOULD BE HELD WITH OPERATORS OF THE C-130 TO DETERMINE THE ADEQUACY OF THE PRESENT 50 FOOT WIDTH VS THE 75 FOOT WIDE C-IV STANDARD.

RUNWAY 12 OBJECT FREE AREA – THE RUNWAY 12 OBJECT FREE AREA OFF THE NORTH END OF RUNWAY 12/30 IS LIMITED TO 240 FEET BY THE FENCES ADJACENT TO BOND LANE AND PIERCE LANE. THE FENCES ARE NEEDED FOR WILDLIFE PROTECTION AND TO DELINEATE THE AIRPORT BOUNDARY AND CANNOT BE MOVED WITHOUT MOVING THE RESPECTIVE ROADS. AN INDEFINITE MODIFICATION TO STANDARDS IS RECOMMENDED.

AIRPORT DATA

		EXISTING	FUTURE
AIRPORT REFERENCE CODE		C-IV	C-IV
AIRPORT & TERMINAL CODE		LGD	SAME
AIRPORT TYPE		TRANSPORT	SAME
AIRPORT SERVICE LEVEL (NPIAS)		GENERAL AVIATION	SAME
AIRPORT REFERENCE POINT [A]	Latitude	N 45°17'24.754"	N 45°17'23.309"
	Longitude	W –118°00'25.599"	W–118°00'22.922"
MAGNETIC VARIATION – PER OC591 – AUGUST 1992		17.6° EAST	–
AIRPORT ELEVATION (Feet above MSL)		2,714	SAME
MEAN MAX. TEMP (Hottest month)		87°	SAME
TERMINAL NAVIGATIONAL AIDS		NDB/GPS	GPS
AIRPORT ACREAGE	Fee Title	588	650
	Easements	0	0
BASED AIRCRAFT SPACES	Aprons	11	11
	Hangar Spaces	29	32
TRANSIENT AIRCRAFT SPACES	(Total)	11	11

RUNWAY DATA

		RUNWAY 12–30		RUNWAY 16–34	
		EXISTING	FUTURE	EXISTING	FUTURE
AIRPORT REFERENCE CODE (CRITICAL AIRCRAFT ARC)		C–IV	SAME	B–II – SMALL	B–II – SMALL
CRITICAL AIRCRAFT		C–130 HERCULES	SAME	BEECH KING AIR	SAME
PHYSICAL LENGTH AND WIDTH		5,600'x100'	6,260'x100'	3,887'x60'	3,400'x60'
EFFECTIVE GRADIENT		0.19	0.19	0.14	0.14
PAVEMENT TYPE		ASPHAULT	SAME	ASPHALT	SAME
PAVEMENT STRENGTH (1000#) S/D/DT (SEE NOTE [M])		65/90/130	65/90/130	45/60/100	12.5
RUNWAY SAFETY AREA DIMENSIONS		7,600'x500'	8,260'x500'	4,000'x150'	4,000'x150'
RUNWAY OBJECT FREE AREA		7,600'x1,000'	8,260'x1,000'	4,000'x500'	4,000'x500'
APPROACH VISIBILITY MINIMUMS (SEE NOTE [P])		1 1/4 – 3	GREATER THAN 3/4	1 1/4 – 3	GREATER THAN 3/4
APPROACH TYPE	Runway Ends	(12)NPI–CIRCLING(VISUAL)	(12)GPS(NOTE [I])	(16) GPS	(16) GPS
		(30)NPI–CIRCLING(VISUAL)	(30)GPS(NOTE [I])	(34)NPI–CIRCLING(VISUAL)	(34) GPS
APPROACH SLOPE: REQUIRED/CLEAR	Runway Ends	(12)20:1/0:1	(12) 34:1/0:1	(16)20:1/20:1	(16)20:1/20:1
		(30)20:1/20:1	(30) 34:1/34:1	(34)20:1/20:1	(34)20:1/20:1
APPROACH AND LANDING AIDS	Runway Ends	(12) PAPI, REIL'S	(12) SAME	(16) PAPI'S	(16) PAPI'S
		(30) PAPI, REIL'S	(30) SAME	(34) PAPI'S	(34) PAPI'S
RUNWAY END COORDINATES [A]		(12) N 45°17'43.96"	(12) SAME	(16) N 45°17'44.43"	(16) SAME
		W 118°00'43.071"		W 118°00'40.31"	
		(30) N 45°17'04.85	(30) N 45°17'00.24"	(34) N 45°17'06.06"	(34) SAME
		W 117°59'47.71"	W 117°59'41.19"	W 118°00'40.31"	
RUNWAY LIGHTING		MIRL	MIRL	REFLECTORS	MIRL
TAXIWAY LIGHTING		YES	YES	REFLECTORS	LIGHT
RUNWAY MARKING		BASIC	NPI	BASIC	BASIC

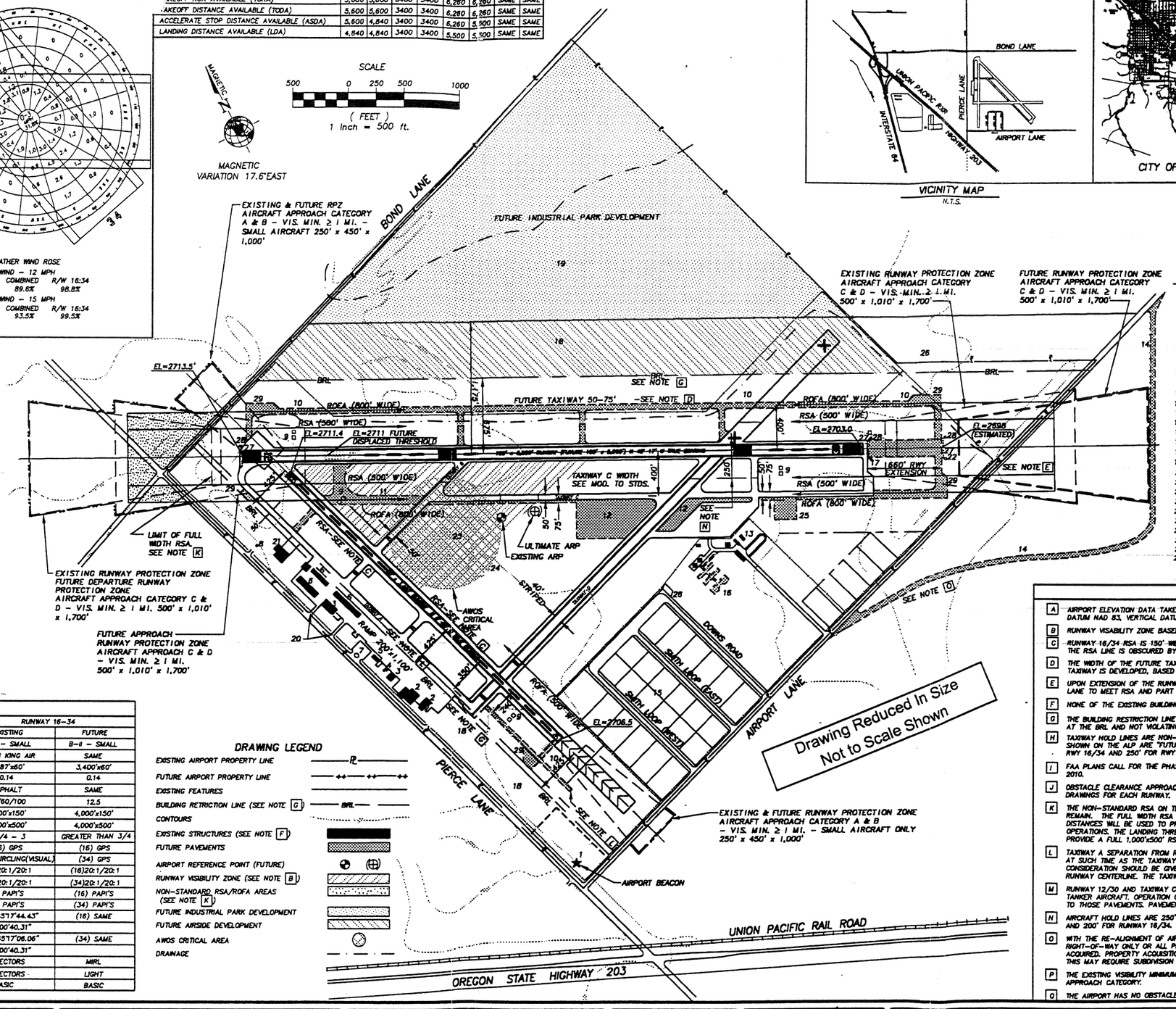
SCALE

500 0 250 500 1000

(FEET)

1 Inch = 500 ft.

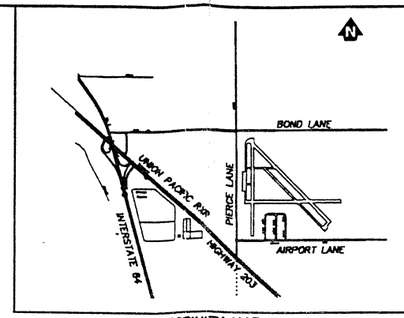
MAGNETIC VARIATION 17.6°EAST



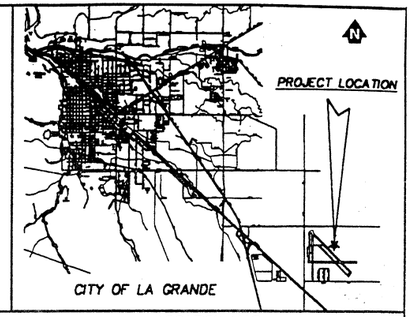
Drawing Reduced In Size
Not to Scale Shown

DRAWING LEGEND

- EXISTING AIRPORT PROPERTY LINE
- FUTURE AIRPORT PROPERTY LINE
- EXISTING FEATURES
- BUILDING RETRICTION LINE (SEE NOTE [G])
- CONTOURS
- EXISTING STRUCTURES (SEE NOTE [F])
- FUTURE PAVEMENTS
- AIRPORT REFERENCE POINT (FUTURE)
- RUNWAY VISIBILITY ZONE (SEE NOTE [B])
- NON–STANDARD RSA/ROFA AREAS (SEE NOTE [K])
- FUTURE INDUSTRIAL PARK DEVELOPMENT
- FUTURE AIRSIDE DEVELOPMENT
- AWOS CRITICAL AREA
- DRAINAGE



VICINITY MAP
N.T.S.



LOCATION MAP
N.T.S.

FACILITY IDENTIFICATION KEY

1 AIRPORT BEACON
2 U.S. FOREST SERVICE
3 FBO – MAINTENANCE
4 FUEL STORAGE
5 TERMINAL BUILDING
6 T–HANGAR
7 TERMINAL BUILDING AUTO PARKING
8 ELECTRICAL BUILDING
9 PAPI
10 FUTURE TAXIWAY
11 TAXIWAY EXTENSION
12 FUTURE TANKER BASE RAMP EXPANSION
13 TANKER BASE
14 FUTURE RELOCATED AIRPORT LANE
15 AIRPORT INDUSTRIAL PARK
16 TANKER BASE HELIPADS – PARKING PADS
17 REILS
18 FUTURE AIRSIDE DEVELOPMENT
19 FUTURE INDUSTRIAL PARK DEVELOPMENT
20 HANGAR ACCESS DRIVEWAY
21 FBO
22 FUTURE REILS
23 AWOS
24 SEGMENTED CIRCLE
25 LEAD PLANE RAMP
26 TANKER OPS VIEWING AREA
27 RUNWAY END LIGHTS
28 RUNWAY END INDENTIFIER LIGHTS (REILS)
29 FUTURE RUNUP APRON

NOTES

[A] AIRPORT ELEVATION DATA TAKEN FROM OC591 SURVEYED AUGUST 1992, HORIZONTAL DATUM NAD 83, VERTICAL DATUM NGVD 29 OR THE 1995 ALP.

[B] RUNWAY VISABILITY ZONE BASED UPON 6,260' RUNWAY LENGTH.

[C] RUNWAY 16/34 RSA IS 150' WIDE AND EXTENDS 300' OFF THE ENDS OF THE RUNWAY. THE RSA LINE IS OBSCURED BY THE PAVEMENT EDGE.

[D] THE WIDTH OF THE FUTURE TAXIWAY WILL BE DETERMINDED AT THE TIME THAT THE TAXIWAY IS DEVELOPED, BASED UPON THE AIRCRAFT USING IT.

[E] UPON EXTENSION OF THE RUNWAY, IT WILL BE NECESSARY TO RELOCATE AIRPORT LANE TO MEET RSA AND PART 77 STANDARDS.

[F] NONE OF THE EXISTING BUILDINGS PENETRATE FAR PART 77 SURFACES.

[G] THE BUILDING RESTRICTION LINE (BRL) IS BASED UPON ALLOWING A 25' TALL BUILDING AT THE BRL AND NOT VIOLATING FAR PART 77 SURFACES.

[H] TAXIWAY HOLD LINES ARE NON–STANDARD (AS OF NOV. 1997). HOLD LINES NOW SHOWN ON THE ALP ARE "FUTURE". HOLD LINES WILL BE SET AT 200' FOR RWY 16/34 AND 250' FOR RWY 12/30.

[I] FAA PLANS CALL FOR THE PHASE OUT OF GROUND BASED NAVAIDS BY THE YEAR 2010.

[J] OBSTACLE CLEARANCE APPROACH CRITERIA ARE ILLUSTRATED ON RPZ AND PART 77 DRAWINGS FOR EACH RUNWAY.

[K] THE NON–STANDARD RSA ON THE NORTH END OF RWY 12/30 WILL BE ALLOWED TO REMAIN. THE FULL WIDTH RSA IS LIMITED TO 240' BEYOND END OF RWY 30. DECLARED DISTANCES WILL BE USED TO PROVIDE ACCEPTABLE RSA STANDARDS FOR ALL OPERATIONS. THE LANDING THRESHOLD ON RUNWAY 12 WILL BE DISPLACED 760' TO PROVIDE A FULL 1,000'x500' RSA BEFORE THE LANDING THRESHOLD.

[L] TAXIWAY A SEPARATION FROM R/W 16/34 EXCEEDS THE ARC B–II STANDARD OF 240'. AT SUCH TIME AS THE TAXIWAY IS REBUILT OR ADDITIONAL RAMP IS NEEDED, CONSIDERATION SHOULD BE GIVEN TO MOVING THE TAXIWAY IN TO 240' FROM THE RUNWAY CENTERLINE. THE TAXIWAY WIDTH SHOULD BE 35'.

[M] RUNWAY 12/30 AND TAXIWAY C ARE DESIGNED TO ACCOMODATE C–130 FIRE FIGHTING TANKER AIRCRAFT. OPERATION OF THOSE HEAVY AIRCRAFT WILL GENERALLY BE LIMITED TO THOSE PAVEMENTS. PAVEMENT STRENGTHS TAKEN FROM FAA FORM 5010.

[N] AIRCRAFT HOLD LINES ARE 250' FROM RUNWAY CENTER LINE FOR RUNWAY 12/30 AND 200' FOR RUNWAY 16/34.

[O] WITH THE RE–ALIGNMENT OF AIRPORT LANE, PROPERTY ACQUISITION CAN BE FOR RIGHT–OF–WAY ONLY OR ALL PROPERTY INSIDE THE REALIGNED ROAD COULD BE ACQUIRED. PROPERTY ACQUISTION WITHIN THE RPZ'S CAN BE FOR THE RPZ AREA ONLY. THIS MAY REQUIRE SUBDIVISION OR LOT LINE ADJUSTMENTS.

[P] THE EXISTING VISIBILITY MINIMUMS REPRESENT A RANGE BASED UPON AIRCRAFT APPROACH CATEGORY.

[Q] THE AIRPORT HAS NO OBSTACLE FREE ZONE (OFZ) PENETRATIONS.

DATE	BY	REVISION	CK'D	APPR.

SECTION, TOWNSHIP, RANGE

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engineering • surveying • materials testing

LEE ANNE WALKER
Aviation Consultant

DESIGNED BY: CEC
DRAWN BY: CAB
CHECKED BY:
APPROVED BY:

LA GRANDE / UNION COUNTY AIRPORT

Figure 6-1 Airport Layout Plan

LA GRANDE/UNION COUNTY — OREGON

SCALE:	PROJECT NO.	DRAWING FILE NAME:	SHEET
1"=500'	4–1800–0101	ALAGAL01.DWG	1 1/7

CHAPTER 7: TRANSPORTATION SYSTEM PLAN AND RECOMMENDATIONS

Elements of the transportation plan include road development standards, access management standards, transportation demand management measures, and modal plans.

RURAL ROADWAY DEVELOPMENT STANDARDS

Road development standards are an important component of the TSP because they direct future road construction or re-construction design. Therefore, road standards must reflect the kind of road development Union County wants to see in the future. Table 7-1 shows the current road development standards. During the TSP process, the Union County TAC revisited these road standards and the recommended road development standards are shown in Table 7-2.

Table 7-1
Current Road Development Standards for Union County

	ARTERIAL	COLLECTOR	LOCAL	PRIVATE
R-O-W	60	60	60	30
Surface width	30	24	24	20
Base depth & material	9" deep 1.5-3" aggregate	8" deep 1.5-3" aggregate	8" deep 1.5-3" aggregate	8" deep 2.5-3" aggregate
Leveling course	4" deep 1.5- ¾ aggregate	4" deep 1.5- ¾ aggregate	4" deep 1.5- ¾ aggregate	3" deep 1.5- ¾ aggregate
Overlay material	3" asphalt or asphalt concrete	2" crushed gravel ¾ minus	2" crushed gravel	2" crushed gravel
Shoulder width	8'	6'	None	None
Shoulder depth & material	Same as base + leveling	Same as base + leveling	None	None
Sidewalk & bicycle shared shoulder	6'-2" asphalt or asphalt concrete	None	None	None

Rural Arterial Roadways

Arterial roadways form the backbone of the transportation system in Union County. Rural arterials distribute traffic between communities and state highways, and carry the highest traffic volumes.

Figure 7-1 shows the recommended cross section for rural arterial roads in Union County. Right-of-way width is 60 feet, with a 24-foot paved surface width. The right-of-way includes four-foot shoulders on each side, with the inside two feet of the shoulder paved and the outside two feet graveled. There is no parking allowed on rural arterials.

Outside of Urban Growth Boundaries, rural arterials do not include sidewalks. Where shared bicycle and pedestrian facilities are designated in the Union County Bicycle and Pedestrian Plan the shoulder will be six feet in width for each side. The shoulder will include four feet of pavement adjacent to the vehicle travel lane, plus another two feet of gravel for a total shoulder width of 6 feet.

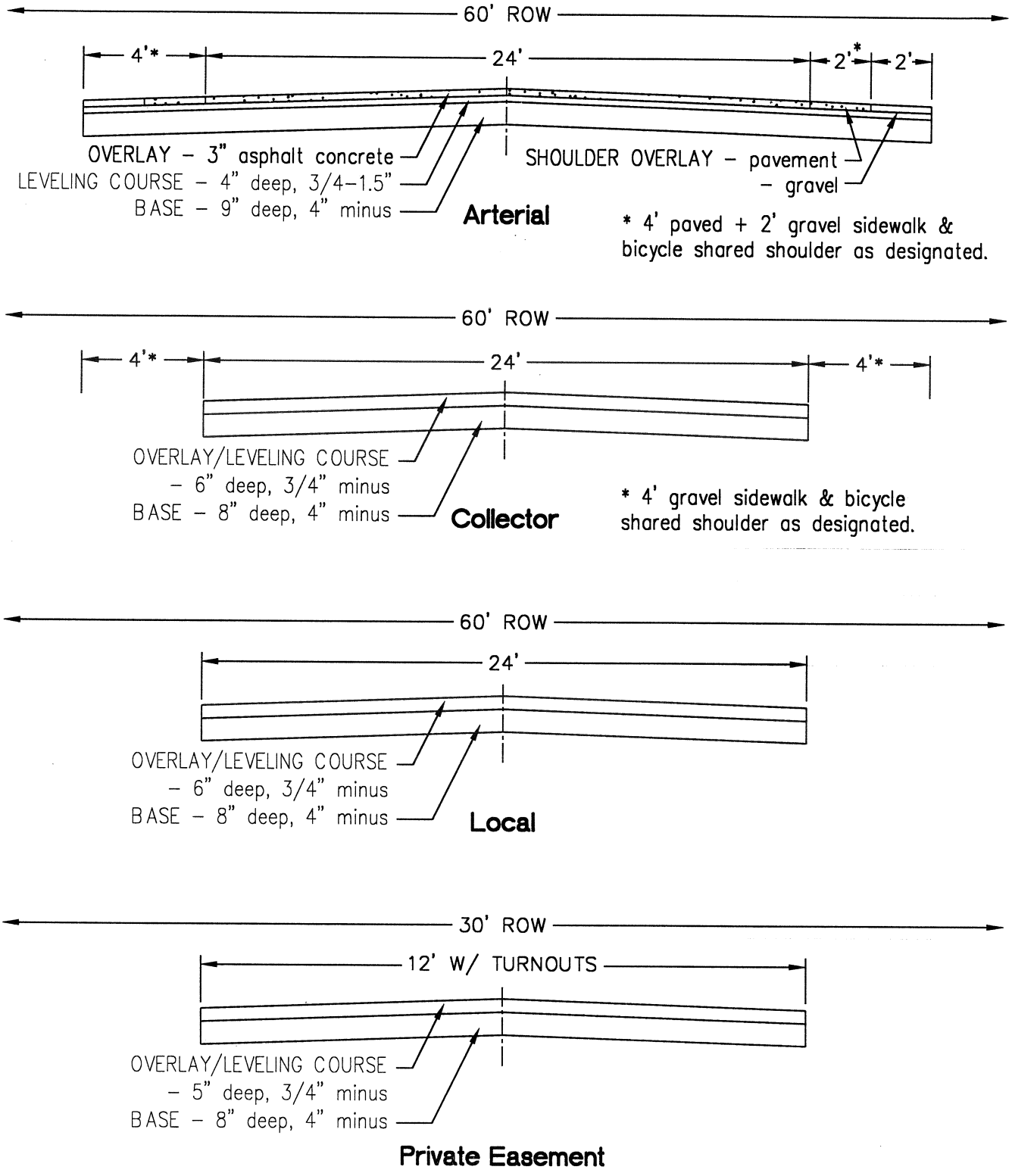


Figure 7-1
Recommended Typical Cross Sections

Rural Collector Roadways
Rural collectors distribute traffic between arterial roads and local roads, and can serve to access abutting property.

Figure 7-1 shows the recommended cross section for rural collector roads in Union County. The total right-of-way width is 60 feet, with a 24-foot gravel surface. Outside of Urban Growth Boundaries, sidewalks and parking are not designated along rural collectors.

Generally, shoulders are only required along rural collectors where the Union County Bicycle and Pedestrian Plan designated shared bicycle and pedestrian facilities. In these cases, a four-foot paved shoulder is required.

Rural Local Roadways
The primary purpose of rural local roads is to access property. Local roads do not require sidewalks or parking.

The recommended rural local road cross section in Figure 7-1 shows a 60-foot right-of-way, with a 24-foot gravel surface. Shoulders are not required on local roads. Foothill Road is the only local road, however, that has a designated bicycle facility by the Union County Bicycle and Pedestrian Plan. In this instance, a four-foot paved shoulder has been recommended.

Bicycle and Pedestrian Facilities
The Union County Bicycle and Pedestrian Plan designates shared shoulders for bicycle and pedestrian use along selected rural arterials, collectors, and one local road. Average daily traffic, and in some cases, travel speed determined what type of facility would be added. Separate bicycle facilities and sidewalks are not required along rural arterial, collector, or local roads.

Table 7-2
Recommended Road Development Standards for Union County

	ARTERIAL*	COLLECTOR*	LOCAL	PRIVATE EASEMENT
R-O-W	60	60	60	30
Surface width	24	24	24	12 with turnouts**
Base depth & material [shall be gridrolled]	9" deep 4" minus aggregate	8" deep 4" minus aggregate	8" deep 4" minus aggregate	8" deep 4"minus aggregate
Leveling course	4" deep 1.5- ¾ minus aggregate	6" deep ¾ minus aggregate***	6" deep ¾ minus aggregate***	5" deep ¾ minus aggregate***
Overlay material	3" asphalt concrete			
Shoulder width	2' pavement + 2' gravel	None	None	None
Shoulder depth & material	Same as base + leveling course	None	None	None
Where designated: sidewalk & bicycle shared shoulder	4'paved + 2' gravel	4' paved	None	None

*Geotech fabric shall be required between base and subgrade where paved for arterials and collectors.
**Private driveways in excess of 200 feet shall require 20 x 40 turnouts at a maximum spacing of ½ the driveway length or 400 feet, whichever is less.

***Crushed gravel for the combined leveling course and overlay material shall be non-alluvial in origin.

ACCESS MANAGEMENT

Access management is an important means of transportation system protection. By managing the location, design, and number of access points to a transportation system, the overall service level can be maintained. Too many connections to state highways in the form of new driveways and public roads can degrade the function of the road by increasing congestion and causing traffic delays. Too many access points can also create safety problems by increasing the potential for traffic conflicts at intersections or driveways.

The Oregon Department of Transportation has a state highway access management policy which directs protection of Oregon highway functional classification. State highways are divided into levels of importance to prioritize improvement needs and define operational objectives. The four levels of importance are: interstate, statewide, regional, and district. The degree of access management coincides with each level of importance. A primary and secondary function is designated for each level of importance, as well as management objectives to guide highway operations. Union County has one highway of interstate significance, Interstate 84; one highway of statewide significance, Oregon Highway 82; one highway of regional significance, Oregon Highway 204; and the remaining three highways are of district significance, Oregon Highways 244, 203, and 237.

Access Management Techniques

The frequency of access points to the state highway system can be managed in the following ways:

- Restrict the spacing between access points
- Share access points among adjacent properties
- Utilize access points on side streets, not the state system
- Construct frontage roads for the connection of new access points, instead of connecting to the state highway system
- Offset driveways to produce T-intersections so conflicts between driveway traffic and through traffic can be minimized
- Install raised median islands
- Add turn lane refuges

Recommended Access Management Standards

In order to preserve the function of state highways in Union County, the recommended access management standards for rural Union County were taken directly from the 1991 Oregon Highway Plan. Proposed access to the state highway system is permitted upon review by ODOT, and is authorized by ORS 374.305.

Table 7-3 shows the access management category and level of importance associated with each highway, and sets forth the spacing requirements between new public roads and new private driveways connecting to the state highway. Table 7-3 displays spacing standards for connections to the state highways both inside Urban Growth Boundaries (UGBs) and outside Urban Growth Boundaries, however the Union County TSP is only concerned with connections to the state highway outside of UGBs.

Legal access points in place as of TSP adoption are designated as conforming features. Applicants proposing new development of property adjoining a state highway must meet the spacing standards identified in Table 7-3 for new driveway or public road connections to the state highway system. Applicants shall coordinate with the Oregon Department of Transportation, Region 5 Office prior to

submitting any land use application. The purpose for this contact is to involve ODOT, Region 5 at the beginning of the application process so that the property owner/developer has the benefit of ODOT comments prior to submitting a site plan, conditional use, or tentative plat map.

Safety issues, changes in land use generating an additional 100 vehicle trips per day or more, or land use actions such as zone changes or plan amendments accessing the state highway system are triggers for ODOT review. There are several alternatives for access point consideration. Either the access onto the state highway is closed and moved to a side road, the access is combined with other access points, the access is moved according to the spacing standards identified in Table 7-3, the access conforms to previously listed "Access Management Techniques," or nothing is done and the access is left alone.

Table 7-3
Oregon State Highway Access Management Standards

Highway	Category	Level of Importance	Urban/ Rural	Intersection			
				Public Road		Private Drive	
				Type	Spacing	Type	Spacing
84	1	Interstate	Inside UGB	interchange	2-3 miles	None	N/A
			Outside UGB	interchange	3-8 miles	None	N/A
82	4	Statewide	Inside UGB	at-grade or interchange	1320'	L/R turns	500'
			Outside UGB	at-grade or interchange	5280'	L/R turns	1200'
204	5	Regional	Inside UGB	at-grade	1320'	L/R turns	300'
			Outside UGB	at-grade	2640'	L/R turns	500'
203	6	District	Inside UGB	at-grade	500'	L/R turns	150'
			Outside UGB	at-grade	1320'	L/R turns	300'
237	6	District	Inside UGB	at-grade	500'	L/R turns	150'
			Outside UGB	at-grade	1320'	L/R turns	300'
244	6	District	Inside UGB	at-grade	500'	L/R turns	150'
			Outside UGB	at-grade	1320'	L/R turns	300'

Source: Table 1 – Access Management Classification System, Appendix B, 1991 Oregon Highway Plan.

MODAL PLANS

Union County modal plans were drafted using data collected from a physical inventory of existing conditions, previous plans, Technical Advisory Committee, ODOT, and public input, forecasts, and community goals. The modal plans address transportation needs over the next 20 years, taking into account projected population and traffic volume growth. The specifics of recommended transportation improvement projects may change slightly depending on the timing and location of projected growth in Union County.

Roadway System Plan

Recommended improvements to the transportation system, including project priority and estimated cost, are listed in Tables 7-4 and 7-5. Table 7-4 lists state identified transportation system recommendations. Highway project needs for the future STIP do not yet have project cost estimates. Roadway system improvement projects identified by Union County were refined by the Union County TAC and are listed in Table 7-5. Figure 7-2 shows locally identified project locations and is numbered based on Table 7-5.

Table 7-4
State Identified Transportation System Recommendations

Project	Priority or Year	Estimated Cost
1999 STIP Project Recommendations (committed)		
Palmer Junction Road – Bridge Number 61C05 over Gordon Creek	High	$254,000
Oregon Highway 244 – Bridge Number 04846 over Bear Creek	High	$154,000
2000-2003 STIP Project Recommendations (preliminary)		
Island City Strip Section	2000	$641,000
Striker Lane – Bridge Number 61C15 over Grande Ronde River	2000	$659,000
Market Lane – Bridge Number 01495 over State Ditch	2000	$502,000
La Grande Variable Message Sign (westbound)	2000	$200,000
Hilgard – La Grande Section	2001	$9,900,000
Interstate 84 – Old Oregon Trail Highway Bridge Numbers 8504 & 9630B	2001	$228,000
5th Street (Union) – Bridge Number 61072 over Catherine Creek	2001	$258,000
High Valley #5 – Bridge Number 61C30 over Little Creek	2001	$188,000
Old Oregon Trail Highway Signing	2001	$60,000
Whopper 2 Slide Correction	2001	$500,000
Island City – Imbler Preservation Project	2002	$375,000
Interstate 84 – Bridge Number 9634 over McAlister Lane	2002	$25,000
Interstate 84 – Bridge Number 9755 over Wolf Creek	2002	$25,000
McKennon Lane – Bridge Number C1619 over Grande Ronde River	2002	$771,000
Island Avenue (La Grande) Traffic Signal Section	2002	$400,000
Interstate 84 – Bridge Numbers 7291C & 7291D over Wolf Creek	2003	$330,000
North Powder Interchange (EB & WB) – Bridge Numbers 9499 & 9499A	2003	$543,000
Future STIP Needs List		
La Grande Corridor Transportation Improvements	High	$2,600,000
Elgin Section	High	$1,200,000
Umatilla County Line – NW City Limits (Elgin)	High	$12,300,000
Pyles Canyon Section	High	$2,100,000
Island City Section	Medium	$2,000,000
Truck Route & Rail Enhancements (I-84 to Baum Industrial Park)	Medium	$2,400,000
North Powder Section	Medium	$1,400,000
Pierce Lane Improvements	Low	$3,000,000
Highway 82 Scenic Turnouts	Low	$300,000
Minam Grade (Phase 2)	Low	$5,000,000
Imbler Section		$1,500,000
Oregon Highway 82 Corridor Plan Project Recommendations		
Public Transportation Plan	High	$20,000
Right-of-way Acquisition, Elgin to Joseph	High	$2,500,000
Shoulder Widening Program	High	$8,800,000
Island City/Imbler Passing Lane	Medium	$1,400,000
High Accident Location Signing/Marking Program	Medium	$20,000
Grade Crossing Protection Program	Low	no estimate
Railroad Track Improvement Program, La Grande to Elgin	Low	$1,200,000
La Grande Intermodal Reload Facility Feasibility	Low	$2,400,000
Truck Route and Rail Enhancements	Low	$2,400,000

Commuter Air/Freight Enhancements to La Grande/Union County Airport	High	$25,000
Elgin to Joseph Freight Rail Preservation Plan	High	$50,000
Oregon Scenic Byway Program		
"The Grande Tour" State Tour Route Designation	Not prioritized	no estimate
Recommended Bridge Improvements on County Roads		
Yarrington Road – Bridge Number 61C16 over Grande Ronde River	High	no estimate
Indian Creek Road – Bridge Number 61C22 over Indian Creek	High	no estimate
Jones Road – Bridge Number 61C42 over Phillips Creek	High	no estimate
Summerville Road – Bridge Number 10749A over Willow Creek	High	no estimate

Table 7-5
Locally Identified Recommended Transportation Projects

Road Segment	Road Project Description*	Length (miles)	Priority	Cost	Bicycle & Pedestrian Project Description	Length (miles)	Priority**	Cost	Project Cost per Segment	Total Project Cost
Pierce Road										
(1) Foothill Exit to Hwy 237	Reconstruct to rural arterial standard	6	High	$2,100,000	(2) 4' paved + 2' gravel shoulders for bikeways	6	High	$1,072,050	$3,172,050	**$3,968,165**
(2) Hwy 237 to Hwy 82	Reconstruction complete for this section. See Bike & Ped project description	See Bike & Ped project description	High	See Bike & Ped project description	(2) 4' paved + 2' gravel shoulders for bikeways	2.06	High	$696,115	$696,115	
(3) Pierce/Gekeler intersection	Remove stop signs on Pierce to facilitate through traffic	N/A	High	No cost					0	
(4) Pierce/Hwy 82 intersection	Construct (1) left turn refuge on Hwy 82 for Pierce Road		Medium	$50,000					$50,000	
(5) Pierce/Hwy 237 intersection	Construct (2) left turn refuges on Hwy 237 for Pierce Road		Low	$50,000					$50,000	
McA · Road										
(6) White Birch Ln to Buchanan Ln	Reconstruct to a rural arterial standard	.73	High	$175,000	(2) 4' paved + 2' gravel shoulders for bikeways	.73	High	$81,480	$256,480	**$956,480**
(7) Buchanan Ln to Hwy 203	Reconstruct to a rural arterial standard	2	High	$700,000					$700,000	
Buchanan Lane										
(8) La Grande E.C.L. McAlister Rd	Reconstruct to a rural collector standard	.77	High	$262,500	(2) 4' paved + 2' gravel shoulders for bikways	.77	High	$130,000	$392,500	**$392,500**
Walton Road										
(9) Buchanan Ln to Hwy 82	See Bike & Ped project description	See Bike & Ped project description	Medium	See Bike & Ped project description	(2) 6' bike lanes + (2) 5' sidewalks	.79	High	$330,383	$330,383	**$330,383**
Lower Cove Road										
(10) Market Ln to Hwy 237	Improve to a rural arterial standard	7	Low	$2,450,000	(2) 4' paved + 2' gravel shoulders for bikeways (Hwy 237 to Conley Rd)	3.32	Low	$385,651	$2,835,651	**$2,885,651**
(11) Market Ln/Hwy 82 intersection	Construct (1) left turn refuge on Hwy 82 for Market Lane	N/A	Medium	$50,000					$50,000	
Hunter Road										
(12) Island City N.C.L. to Woodell Ln	See Bike & Ped project description	See Bike & Ped project description	Low	See Bike & Ped project description	(2) 4' paved + 2' gravel shoulders for bikeways	7	High-Medium	$1,078,281	$1,078,281	**$3,353,281**
(13) Woodell Ln to Dry Creek Ln	Improve to a rural arterial standard	6.5	Low	$2,275,000	(2) 4' paved + 2' gravel shoulders for bikeways	6.5	High-Medium		$2,275,000	
(14) Hunter/Booth intersection	Increase enforcement & extend 35 mph speed zone north 1 mile	1	High	no estimate						
Summerville Road										
(15) Hwy 82 to Hwy 204	Reconstruct to a rural arterial standard	9.38	Low	$3,283,000	(2) 4' paved + 2' gravel shoulders for bikeways	9.38	High-Medium	$1,074,163	$4,357,163	**$4,357,163**
Godley Lane										
(16) Miller Ln to Becker's Improvements	Improve to a rural local standard	.5	Low	$50,000					$50,000	**$50,000**
Mt. Glen Road/Booth Lane										
(17) Mt. Glen/Booth intersection	Realign Booth Lane to intersect perpendicularly with Mt. Glen Road	N/A	Low	$100,000					$100,000	**$100,000**
Sandridge Road/OR-82										
(18) Sandridge/OR-82 intersection	Realign Sandridge Road to intersect perpendicularly with OR-82	N/A	High	$50,000					$50,000	**$50,000**

*Some road projects include bicycle and pedestrian treatments, which are listed to the right. A complete list of bicycle and pedestrian projects is included in Table 6-2.
**If a previous identifies a different priority level than the TSP, then project priority is determined by the jurisdiction in which the road facility is located.

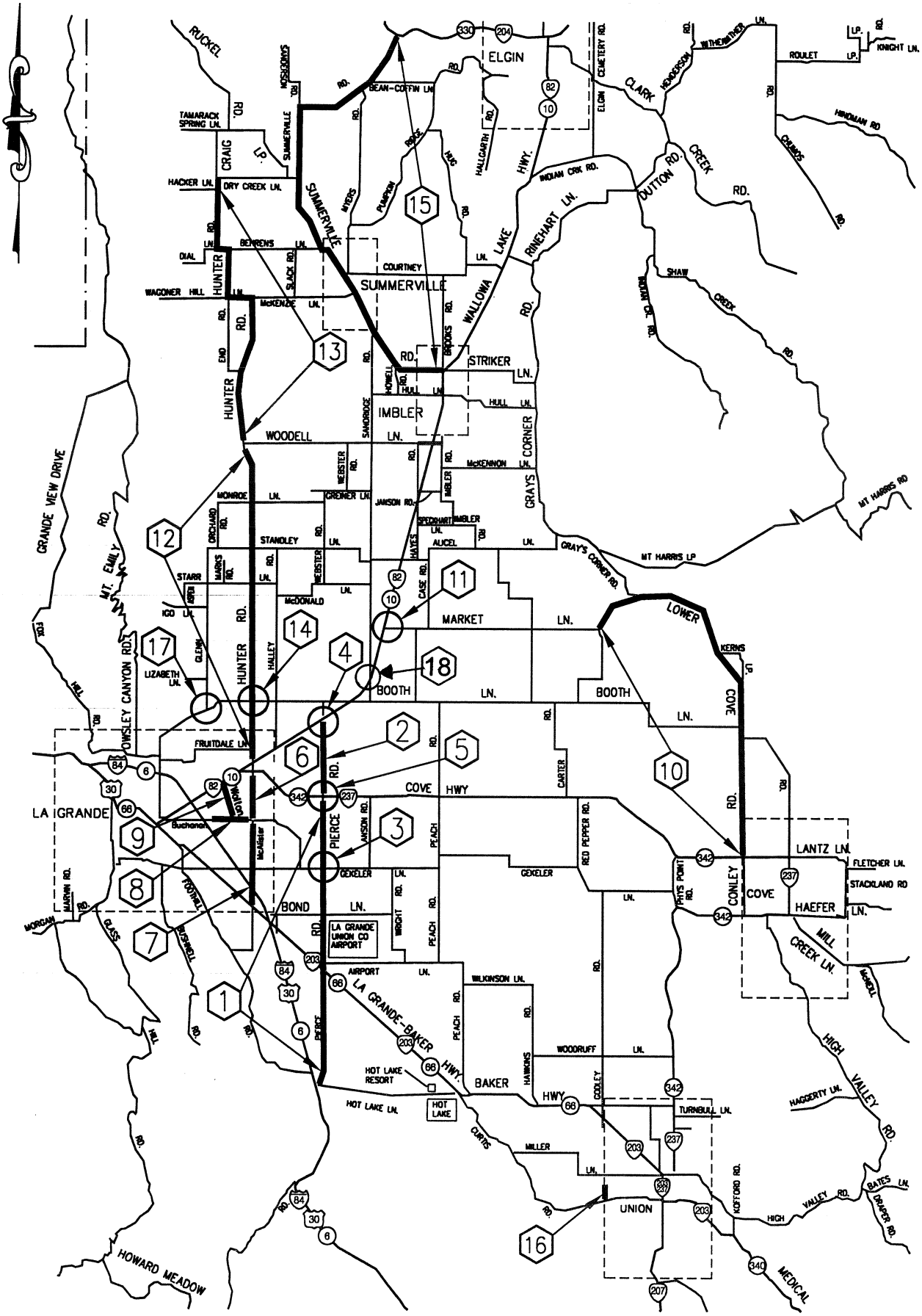


Figure 7-2
Roadway Improvement Projects

Bicycle and Pedestrian System Plan

Table 7-6 shows the recommended bicycle and pedestrian projects taken from the Union County Bicycle and Pedestrian Plan, which was adopted in 1996. Figures 7-3A and 7-3B show bicycle and pedestrian improvement locations.

Table 7-6
Union County Recommended Bicycle and Pedestrian Projects

Road Segment	Project Description	Length (in miles)	Priority	Cost
OR Highway 203				
Union to Kofford Rd	(2) 14' travel lanes & (2) 4' paved shoulder bikeways	1.8	High	$152,064
Kofford Rd to Baker Co. Line	(2) 14' travel lanes + fog line	20	Low	$844,800
OR Highway 204				
Elgin to Umatilla Co. Line	(2) 14' travel lanes	19	Low	$802,560
OR Highway 237				
Island City to Cove	(2) 14' travel lanes + (2) 4' paved shoulder bikeways	4	Medium	$1,774,080
Cove to Union	(2) 14' travel lanes + (2) 4' paved shoulder bikeways		Low	
Union to Baker Co. Line	(2) 14' travel lanes + fog line	17	Low	$718,080
Mt. Glen Road				
Black Hawk Trail Ln to Booth Ln	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	1.56	High	$197,000
McKenzie Lane				
East Summerville to Hunter Ln	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	2.16	High	$131,789
Hunter Road				
McKenzie Ln to Woodell Ln	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	3	High	$348,480
Woodell Ln to Fruitdale Ln	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	6.59	High	$556,723
McKenzie Ln to Dry Creek Ln	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	1.49	Medium	$173,078
Dry Creek Lane				
Summerville Rd to Behrens Ln	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	3.44	Medium	$400,000
Pierce Road				
Hwy 82 to Hwy 237	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	2.06	High	$696,115
Hwy 237 to Hwy 203	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	3.75	High	$315,110
Hwy 203 to Foothill Rd	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	2.24	High	$756,940
Phys Road				
Hwy 237 to Hwy 237 (Cove Bypass)	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	1.16	Low	$146,995

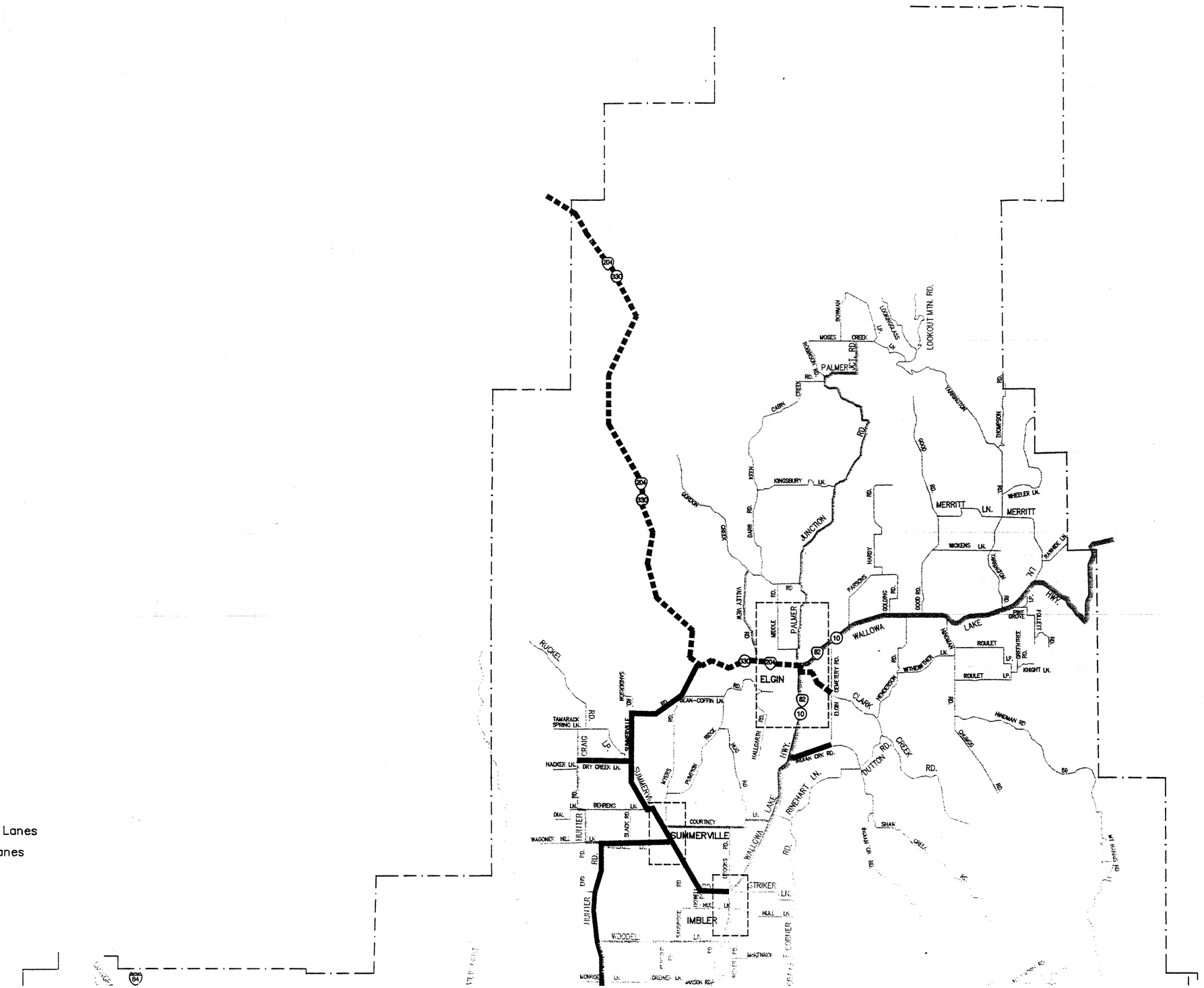
Summerville Road				
Imbler to Summerville	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	2.71	High	$228,941
Summerville to Hwy 204	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	6.67	Medium	$845,222
Lower Cove Road				
Hwy 237 to Conley Rd	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	3.32	Low	$385,651
Mill Creek Lane				
Cove E.C.L. to Comstock Rd	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	1.25	Medium	$52,800
Buchanan Lane				
La Grande E.C.L. to Island City W.C.L.	(2) 12' travel lanes & (2) 6' paved bike lanes	.77	High	$130,000
Fruitdale Lane				
Mt. Glen Rd to Hunter Rd	(2) 14' travel lanes + fog line	2.24	High	$189,235
Booth Lane				
Mt. Glen Rd to Hunter Rd	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	1.1	High	$46,464
Market Lane				
Hwy 82 to Lower Cove Rd	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	10.4	Low	$1,209,225
Foothill Road				
Gekeler Ln to Hwy 203	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways (after Pierce Rd reconstruction)	8.88	High	$562,637
High Valley Road				
Union E.C.L. to Kofford Rd	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	2.03	High	$257,241
Kofford Road				
High Valley Rd to Hwy 203	(2) 12' travel lanes & (2) 4' paved + 2' gravel shoulder bikeways	.39	High	$158,400

Transportation Demand Management Plan

Transportation demand management promotes efficient utilization of the existing transportation system rather than widening or constructing new roadways. Some successful techniques include ridesharing, telecommuting, encouraging the use of other modes, and staggering work schedules. Many of these strategies work best when focused on high density employment areas. The La Grande/Island City area accounts for the majority of Union County employment.

Union County's population is relatively low and dispersed so that most transportation demand management measures are not practical. In addition, many local residents travel across the county to work so automobile transportation remains necessary.

There are, however, potential opportunities for transportation demand management measures in Union County. Some of the larger Union County employers could initiate carpools/vanpools to reduce on-site parking demand and peak hour traffic. Encouraging other modes, such as bicycle and pedestrian facilities, could reduce some traffic congestion and such facilities are being recommended in all local



LEGEND

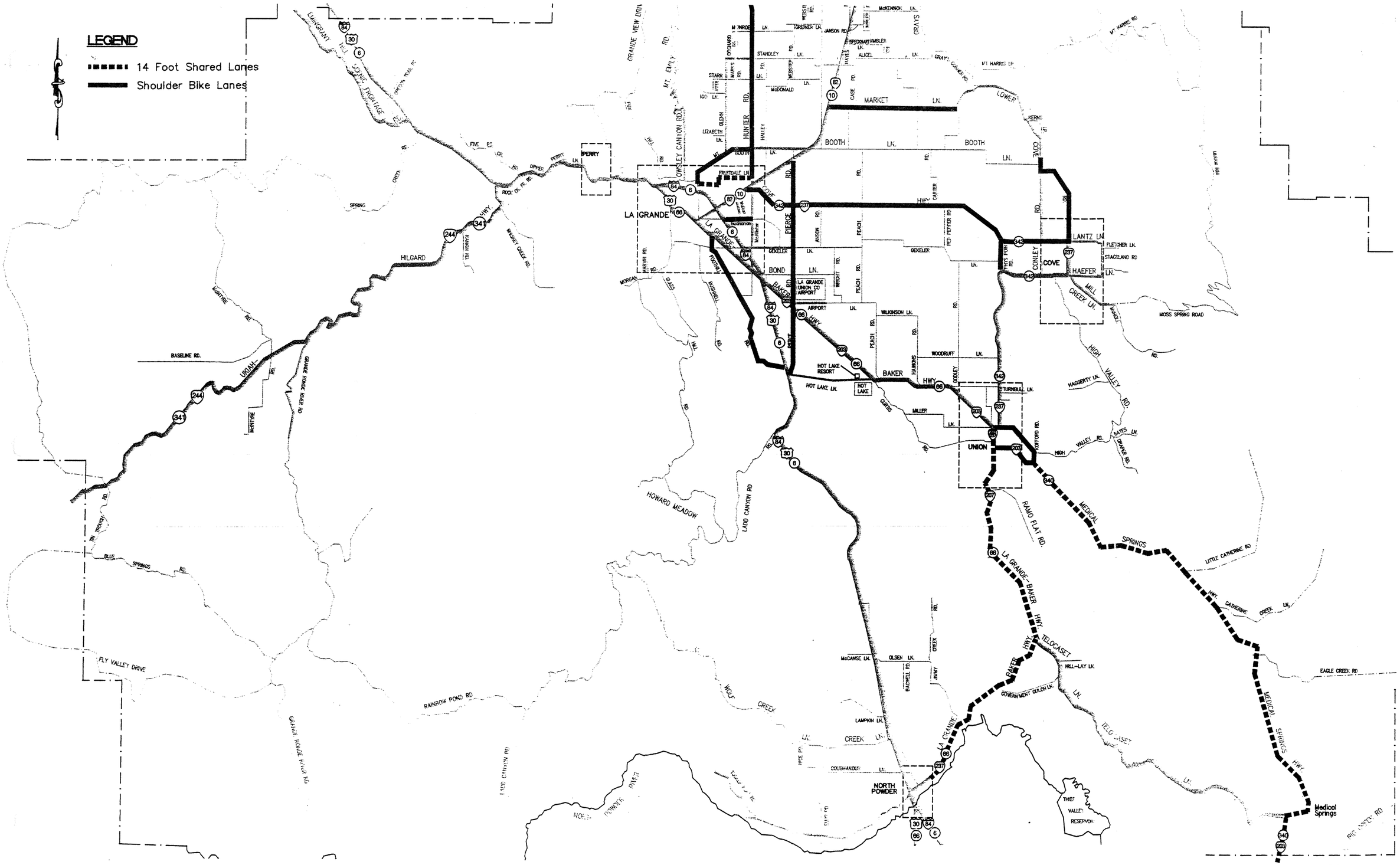
14 Foot Shared Lanes

Shoulder Bike Lanes

Union County Transportation System Plan

Figure 7-3A

Bicycle and Pedestrian Plan
North Section



Union County Transportation System Plan

Figure 7-3B

Bicycle and Pedestrian Plan
South Section

bicycle and pedestrian plans. Telecommuting and staggered work schedules provide for employee work schedule flexibility, less onsite parking demand, and reduced peak hour traffic flows. Union County could consider a rideshare program designed to encourage carpooling ridership.

Community Connection is pursuing intercity bus service, and is currently developing a 5-year plan for the identification of transit needs and funding sources. Intercity bus service would incorporate the area industrial parks and may reduce congestion.

No costs have been estimated for the transportation demand management plan.

Public Transportation Plan

Wallowa Valley Stage Line, Blue Mountain Cab Company, Greyhound Bus Lines, and Mid-Columbia Bus Company offer a variety of privately owned public transportation services for Union County. Public transportation is also provided through the Union County Transportation Coalition. The Coalition includes Community Connection, New Day Enterprises, and the Center for Human Development (CHD). Clients of these various organizations make up the majority of transit trips, but the general public is also served by Community Connection. Shelter from the Storm and Union/Wallowa Veteran's Services provide client transport as well.

Wallowa Valley Stage Line, Blue Mountain Cab Company, Greyhound Bus Lines, and Mid-Columbia Bus Company have no plans for service expansion.

The Union County Transportation Coalition is working toward the implementation of a fixed point system in the La Grande area, and eventually instituting intercity bus service connecting Union County communities and linking with Baker and Wallowa Counties. The Coalition is currently formulating a 5-year plan that identifies countywide transit needs and funding opportunities to meet those needs. Vehicle replacement and operating funds are also top priorities. Table 7-7 shows grant requests made on behalf of the Union County Transportation Coalition, and its constituents, for the Statewide Transportation Improvement Program (STIP).

Shelter from the Storm and Union/Wallowa Veteran's Services are not members of the Union County Transportation Coalition, however, instituting fixed point bus service and intercity bus service would tremendously benefit the clients of these organizations. Ideally, if a centralized public transportation program were implemented, Shelter from the Storm and Union/Wallowa Veteran's Services would be added to the program in order to pool resources and utilize public transit most efficiently. Fixed point bus service would include connecting the court system, Eastern Oregon University, and mental and public health services with Max Square, the downtown intermodal transportation hub, and with the senior center and businesses along Island Avenue (Oregon Highway 82) in La Grande. Ultimately, providing transit service within the La Grande area and intercity transit service would reserve capacity on the state highway system by providing alternatives to auto travel, as well as furnishing the transportation disadvantaged with increased mobility within the Union County community.

Table 7-7
Committed & Preliminary STIP Transit Grant Applications

Applicant	Project Description (Committed)	Applicant Request	Year (priority)
Union County Transportation Coalition (CHD, New Day Enterprises)	Replace vehicle fleet	$54,400	1999
Union County Transportation Coalition (Community Connection)	Replace vehicle fleet	$44,000	2000
Union County Transportation Coalition (Community Connection)	Replace vehicle fleet	$59,600	2001
Applicant	**Project Description (Preliminary)**	**Applicant Request**	**Year (priority)**
Community Connection	Preservation Operating Assistance	$42,581	2000
Community Connection	Preservation Operation Assistance	$38,978	2001
Community Connection	Preservation Operation Assistance	$35,595	2002
Community Connection	Preservation Operation Assistance	$28,702	2003

Rail Transportation Plan
There is local interest in restoring AMTRAK service to La Grande, and ODOT's Rail Section is currently pursuing restoration at this time. As passenger rail develops in other parts of Oregon, an extension of this service to the east may be considered within the 20-year planning period. According to the ODOT Rail Section, there is a tentative proposal to implement a fleet of small, efficient trains for express service in the Willamette Valley within the 20-year planning period. This would serve as a test case to gauge support and ridership, and if successful, may be extended to the eastern region of the state.

In 1994, the Idaho Northern and Pacific petitioned the Surface Transportation Board to abandon roughly 61 miles of track between Elgin and Joseph, which lies mostly in Wallowa County. This abandonment petition was approved March 12, 1997 by the Surface Transportation Board. The Oregon Highway 82 Corridor Plan identifies the acquisition of the INP railroad right-of-way to be used as a multi-use path between Elgin and Joseph as a potential improvement project.

Discussion between Union County and Wallowa County is ongoing. Additionally, the Oregon Parks and Recreation Department is pursuing a grant application for Statewide Transportation Enhancement (TEA-21) funds through the Oregon Department of Transportation for the purchase of the abandoned rail corridor between Elgin and Joseph. The Union County Board of Commissioners is in support of preserving the abandoned Idaho Northern and Pacific railroad right-of-way for a multi-use path between Elgin and Joseph.

Air Transportation Plan
Table 7-8 shows the La Grande/Union County Airport 20-year capital improvement plan for recommended airport improvements.

Insert Table 7-8 20 yr CIP

LaGrande/Union County Airport
Twenty Year Capital Improvement Program

Table 7-8

	Phase I - 1998 - 2002 - First Five Years	FAA Eligible	Total Cost	Local/Non-FAA Share	FAA Share	Phase I 1998	1999	2000	2001	2002	Phase II 2003	2004	2005	2006	2007	Phase III 2008 - 2017
1	RSA Improvements $1,232,388	Y														
2	Rwy Ext. Environmental Assessment	Y	$65,000	$6,500	$58,500	$65,000										
3	Prop. Acquisition - RWY Ex. & RPZ	Y	$126,250	$12,625	$113,625	$100,000	$26,250									
4	Prop. Acquisition - Airport Ln Relocatio	Y	$19,283	$1,928	$17,355	$10,000	$9,283									
5	North End RSA Grooming	Y	$10,000	$1,000	$9,000		$10,000									
6	660' Rwy and Txy Ext., Rwy 12/30	Y	$535,855	$53,586	$482,270		$200,000	$335,855								
7	Airport Lane Relocation	Y	$420,000	$42,000	$378,000		$200,000	$220,000								
8	Reconstruct Rwy 16/34 Exit	Y	$56,000	$5,600	$50,400			$56,000								
9	Taxiway C Extension/Rwy 12/30 Exit	Y	$350,000	$35,000	$315,000		$350,000									
10	Reconstruct Txy B Between 16/34 & Txy	Y	$45,000	$4,500	$40,500		$45,000									
11	Tanker Ramp Infill	N	$245,031	$245,031			$245,031									
12	Tanker Ramp Expansion	N	$830,800	$830,800			$830,800									
13	Lead Plane Ramp	N	$148,874	$148,874			$148,874									
14	Taxiway C Connection to Taxiway A	Y	$55,833	$5,583	$50,250			$55,833								
15	Fire Attack Helipads Expansion	N	$96,916	$96,916			$96,916									
16	Auto Parking Lot Expansion	N	$65,000	$65,000						$65,000						
17																
18	**Phase I Totals**		$3,069,842	$1,554,943	$1,514,899	$175,000	$2,162,154	$667,688	$0	$65,000						
19																
20																
21	**Phase II - 2003 - 2007 - Second Five Years**															
22																
23	Aquire Land for North End RPZ's	Y	$200,000	$20,000	$180,000						$200,000					
24	Extend Taxiway A 575' South	Y	$93,000	$9,300	$83,700							$93,000				
25	Reconstruct Taxiway D	Y	$110,000	$11,000	$99,000							$110,000				
26	Overlay Runway 16/34	Y	$454,000	$45,400	$408,600								$454,000			
27	Slurry Seal and Restripe Rwys & Taxiway	Y	$294,000	$29,400	$264,600									$294,000		
28	Slurry Seal and Restripe Ramps	Y	$77,000	$7,700	$69,300									$77,000		
29	Light Runway 16/34	Y	$235,000	$23,500	$211,500										$235,000	
30	Replace Rotating Beacon	Y	$48,000	$4,800	$43,200										$48,000	
31																
32																
33	**Phase II Totals**		$48,000	$4,800	$43,200						$200,000	$203,000	$454,000	$371,000	$283,000	
34																
35	**Phase III - 2008 - 2017 - Last Ten Years**															
36	Extend Taxiway A 500' South	Y	$42,000	$4,200	$37,800											$42,000
37	Overlay Runway 12/30	Y	$612,000	$61,200	$550,800											$612,000
38	Overlay Taxiway A and Ramps	Y	$548,000	$54,800	$493,200											$548,000
39	Overlay Taxiway C	Y	$641,000	$64,100	$576,900											$641,000
40	Slurry Seal Rwy 16/34	Y	$122,000	$12,200	$109,800											$122,000
41	Replace Lighting System Rwy 12/30	Y	$229,000	$22,900	$206,100											$229,000
42	Construct East Side Taxiway	Y	$758,000	$75,800	$682,200											$758,000
43	Upgrade Airport Lane for E.Side Access	N	$0	$0	$0	Estimates for these projects will be										$0
44	Extend Water to E. Side	N	$0	$0	$0	developed under a separate planning										$0
45	Extend Sewer to E. Side	N	$0	$0	$0	project outside of the airport master planning										$0
46	Extend Power to E. Side	N	$0	$0	$0	process.										
47																
48	**Phase III Totals**		$2,952,000	$295,200	$2,656,800											$2,952,000
49																
50																
51	**ALL Phase Totals**		$6,069,842	$1,854,943	$4,214,899	$175,000	$2,162,154	$667,688	$0	$65,000	$200,000	$203,000	$454,000	$371,000	$283,000	$2,952,000
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Pipeline Transportation Plan
The two major pipelines that traverse Union County are the Chevron and Northwest Natural Gas Pipelines. The pipelines are projected to provide adequate capacity over the next 20 years.

Water Transportation Plan
Union County has no navigable waterways, therefore Union County has no waterborne transportation services.

TRANSPORTATION SYSTEM PLAN IMPLEMENTATION PROGRAM
The implementation program includes a 20-year TSP Capital Improvement Program, which identifies project priorities for the next 20 years. High priority projects are those scheduled to be undertaken in the next 5 years, medium priority projects are those scheduled to be undertaken in the next 5 to 10 years, and low priority projects are those scheduled to be undertaken between the next 10 to 20 years. This Capital Improvement Program shall be updated yearly by resolution, if determined necessary by the Union County Transportation Advisory Committee (the standing committee designated by the Union County Board of Commissioners as the Technical Advisory Committee for the TSP process). Table 7-9 includes the Capital Improvement Program, project priority, and estimated project cost. These projects originate from several sources including, the 1999 STIP, the Oregon Highway 82 Corridor Plan, the Union County Bicycle and Pedestrian Plan, the La Grande/Union County Airport Master Plan Update, and locally identified TSP projects. Bicycle and pedestrian facilities are listed in 1996 dollars. The timing of these projects may change based on staff and financial resources.

Table 7-9
TSP Capital Improvement Program

Project	Total Cost
High Priority	
Palmer Junction Road – Bridge Number 61C05 over Gordon Creek	$254,000
Oregon Highway 244 – Bridge Number 04846 over Bear Creek	$154,000
Public Transportation Plan	$20,000
Right-of-way Acquisition, Elgin to Joseph	$2,500,000
Shoulder Widening Program	$8,800,000
Commuter Air/Freight Enhancements to La Grande/Union County Airport	$25,000
Elgin to Joseph Freight Rail Preservation Plan	$50,000
Island City Strip Section	$641,000
Striker Lane – Bridge Number 61C15 over Grande Ronde River	$659,000
Market Lane – Bridge Number 01495 over State Ditch	$502,000
La Grande Variable Message Sign (westbound)	$200,000
Hilgard – La Grande Section	$9,900,000
Interstate 84 – Old Oregon Trail Highway Bridge Numbers 8504 & 9630B	$228,000
5th Street (Union) – Bridge Number 61072 over Catherine Creek	$258,000
High Valley #5 – Bridge Number 61C30 over Little Creek	$188,000
Old Oregon Trail Highway Signing	$60,000
Whopper 2 Slide Correction	$500,000
Island City – Imbler Preservation Project	$375,000
Interstate 84 – Bridge Number 9634 over McAlister Lane	$25,000
Interstate 84 – Bridge Number 9755 over Wolf Creek	$25,000
McKennon Lane – Bridge Number C1619 over Grande Ronde River	$771,000
Island Avenue (La Grande) Traffic Signal Section	$400,000
Interstate 84 – Bridge Numbers 7291C & 7291D over Wolf Creek	$330,000
North Powder Interchange (EB & WB) – Bridge Numbers 9499 & 9499A	$543,000

Yarrington Road – Bridge Number 61C16 over Grande Ronde River	no estimate
Indian Creek Road – Bridge Number 61C22 over Indian Creek	no estimate
Jones Road – Bridge Number 61C42 over Phillips Creek	no estimate
Summerville Road – Bridge Number 10749A over Willow Creek	no estimate
Pierce Road – Reconstruct 6 miles	$2,100,000
Pierce/Gekeler Intersection Safety	no estimate
McAlister Road – Reconstruct 1 mile	$875,000
Buchanan Lane – Reconstruct .77 miles	$262,500
Hunter/Booth Intersection Safety – Enforcement and speed zone extension	no estimate
Runway Extension – Environmental assessment	$65,000
Property Acquisition – Runway expansion & RPZ	$126,250
Property Acquisition – Airport Lane Relocation	$19,283
North End RSA Grooming	$10,000
660’ Runway/Taxiway Expansion, 12/30	$535,855
Airport Lane Relocation	$420,000
Reconstruct Runway 16/34 Exit	$56,000
Taxiway C Extension/Runway 12/30 Exit	$350,000
Reconstruct Taxiway B	$45,000
Tanker Ramp Infill	$245,031
Tanker Ramp Expansion	$830,800
Lead Plane Ramp	$148,874
Taxiway C Connection to Taxiway A	$55,833
Fire Attack Helipads Expansion	$96,916
Auto Parking Lot Expansion	$65,000
OR Highway 203 – Union to Kofford Road*	$152,064
Mt. Glen Road – Black Hawk Trail Lane to Booth Lane*	$197,000
McKenzie Lane – east Summerville to Hunter Lane*	$131,789
Hunter Road – McKenzie Lane to Woodell Lane*	$348,480
Hunter Road – Woodell Lane to Fruitdale Lane*	$556,723
Pierce Road – Highway 82 to Highway 237*	$696,115
Pierce Road – Highway 237- Highway 203*	$315,110
Pierce Road – Highway 203 to Foothill Road*	$756,940
Summerville Road – Imbler to Summerville*	$228,941
Buchanan Lane – La Grande East City Limit to Island City West City Limit*	$130,000
Fruitdale Lane – Mt. Glen Road to Hunter Road*	$189,235
Booth Lane – Mt. Glen Road to Hunter Road*	$46,464
Foothill Road – Gekeler Lane to Highway 203*	$562,637
High Valley Road – Union East City Limit to Kofford Road*	$257,241
Kofford Road – High Valley Road to Highway 203*	$158,400
La Grande Corridor Transportation Improvements	$2,600,000
Elgin Section	$1,200,000
Umatilla County Line – NW City Limits (Elgin)	$12,300,000
Pyles Canyon Section	$2,100,000
Sandridge Road – Realign Sandridge Road/Highway 82 Intersection	$50,000
Medium Priority	
Island City/Imbler Passing Lane	$1,400,000
High Accident Location Signing/Marking Program	$20,000
Market Lane/Highway 82 – Construct (1) turn refuge for intersection safety	$50,000
Pierce/Highway 82 – Construct (1) turn refuge for intersection safety	$50,000
Acquire Land for North End RPZs	$200,000
Extend Taxiway A 575’ South	$93,000
Reconstruct Taxiway D	$110,000
Overlay Runway 16/34	$454,000
Slurry Seal and Restripe Runways & Taxiway	$294,000
Slurry Seal and Restripe Ramps	$77,000

Light Runway 16/34	$235,000
Replace Rotating Beacon	$48,000
Highway 237 – Island City to Cove*	$1,774,080
Hunter Road – McKenzie Lane to Dry Creek Lane*	$173,078
Dry Creek Lane – Summerville Road to Behrens Lane*	$400,000
Summerville Road – Summerville to Highway 204*	$845,222
Mill Creek Lane – Cove East City Limit to Comstock Road*	$52,800
Island City Section	$2,000,000
Truck Route & Rail Enhancements (I-84 to Baum Industrial Park)	$2,400,000
North Powder Section	$1,400,000
Low Priority	
Grade Crossing Protection Program	no estimate
Railroad Track Improvement Program, La Grande to Elgin	$1,200,000
La Grande Intermodal Reload Facility Feasibility	$2,400,000
Truck Route and Rail Enhancements	$2,400,000
Lower Cove Road – Improve 7 miles	$2,450,000
Pierce/Highway 237 – Construct (2) turn refuges for intersection safety	$50,000
Hunter Road – Improve 6.5 miles	$2,275,000
Summerville Road – Reconstruct 9.38 miles	$3,283,000
Godley Lane – Improve .5 miles	$50,000
Mt. Glen/Booth Intersection – Realign for intersection safety	$100,000
Extend Taxiway A 500’ South	$42,000
Overlay Runway 12/30	$612,000
Overlay Taxiway A and Ramps	$548,000
Overlay Taxiway C	$641,000
Slurry Seal Runway 16/34	$122,000
Replace Lighting System Runway 12/30	$229,000
Construct Eastside Taxiway	$758,000
Upgrade Airport Lane for East Side Access	no estimate
Extend Water to East Side	no estimate
Extend Sewer to East Side	no estimate
Extend Power to East Side	no estimate
Highway 203 – Kofford Road to Baker County Line*	$844,800
Highway 204 – Elgin to Umatilla County Line*	$802,560
Highway 237 – Cove to Union*	no estimate
Highway 237 – Union to Baker County Line*	$718,080
Phys Road – Highway 237 to Highway 237 (Cove bypass)*	$146,995
Lower Cove Road – Highway 237 to Conley Road*	$385,651
Market Lane – Highway 82 to Lower Cove Road*	$1,209,225
Pierce Lane Improvements	$3,000,000
Highway 82 Scenic Turnouts	$300,000
Minam Grade (Phase 2)	$5,000,000
Imbler Section	$1,500,000
“The Grande Tour” State Tour Route Designation (not prioritized)	no estimate

*Union County Bicycle and Pedestrian Plan

CHAPTER 8: FUNDING OPTIONS

The Transportation Planning Rule, OAR 660-012-0040 states under "Transportation Financing Program" that TSPs for jurisdictions within an Urban Growth Boundary containing a population greater than 2,500 people shall include a transportation financing program. Union County's TSP addresses transportation issues *outside* of Urban Growth Boundaries, therefore, will not provide a detailed transportation financing program. This TSP will, however, evaluate potential funding and financing sources available for identified transportation improvement projects.

HISTORICAL STREET IMPROVEMENT FUNDING SOURCES

In the State of Oregon, transportation improvements are coordinated among state, county, and city jurisdictions in order to benefit the overall transportation system. Because of this relationship, project costs are frequently shared.

Table 8-1 shows the distribution of road revenues by jurisdiction level in Oregon. This analysis was performed in 1991, and continues to reflect the current funding allocation revenue structure.

Table 8-1
Road Revenue Allocation by Jurisdiction Level

	Jurisdiction Level			
Revenue Source	**State**	**County**	**City**	**Statewide Total**
State Highway Fund	57%	38%	41%	49%
Local	0%	22%	55%	17%
Federal Road	34%	40%	4%	30%
Other	9%	0%	0%	4%

Source: ODOT 1993 Oregon Road Finance Study

Across Oregon, the State Highway Fund comprises 49% of road revenues and becomes a significant source of funding at all levels of government. Sources of revenue for the fund include gas taxes, vehicle registration fees, and weight/mile taxes. Federal road sources generate another 30% of road revenues, and are comprised of federal highway funds and federal timber revenues. The remainder of road revenues are generated at the local level and are comprised of property taxes, Local Improvement Districts (LIDs), bonds, impact fees, system user taxes, general funds, and other sources.

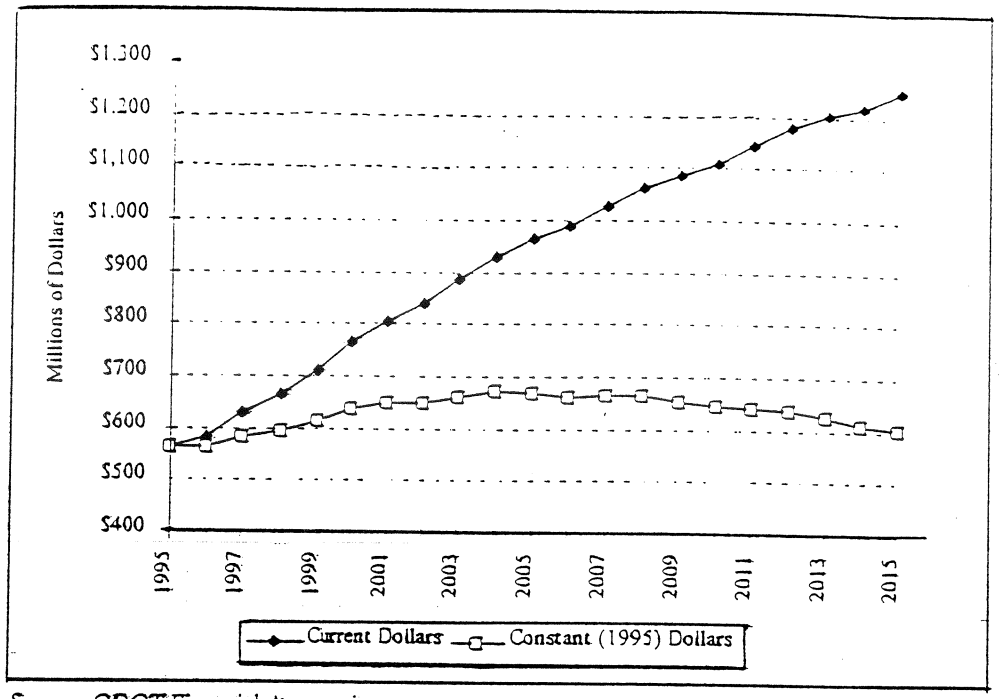
In Oregon, the state produces 94% of its highway revenues from user fees, which is a much higher percentage than the average 78% for all other states. These highway revenues are generated from vehicle registration fees, weight/mile taxes, and fuel taxes. Theoretically, this is an equitable fee system because it generates the highest revenues from those creating the highest system maintenance needs. Oregon has not tied this fee system to inflation, therefore, the fuel tax is a fixed 24 cents per gallon.

Transportation Revenue Outlook

In a Financial Assumptions document prepared by ODOT in March 1995, some assumptions are recommended for consideration in the preparation of Transportation System Plans. The document projects revenues from the State Highway Fund through the year 2018. These estimates assume (1) the fuel and weight/mile tax will increase one cent per gallon per year, with an additional one cent per gallon every fourth year; (2) TPR goals are met; and (3) that inflation occurs at an average annual rate of 3.7%. Figure 8-1 shows projected State Highway Fund revenues to the year 2018. Both current and adjusted dollar amounts are shown. Revenues are projected to increase faster than inflation in the first 10 years, but slow to a rate less than inflation, and decline slightly, in the last 10 years.

adjusted dollar amounts are shown. Revenues are projected to increase faster than inflation in the first 10 years, but slow to a rate less than inflation, and decline slightly, in the last 10 years.

Figure 8-1
State Highway Fund



Source: ODOT Financial Assumptions.

The State Highway Fund will remain a significant source of funding for Union County over the next 20 years, however due to a projected reduction in State Highway Fund revenues, it is recommended that Union County reduce reliance on this funding source.

REVENUE SOURCES

County road revenues have decreased, along with USFS timber receipts. Additionally, property tax limitations (Measures 5 and 50) have further reduced revenues for road maintenance and improvements. Over the next 20 years, Union County will need to pursue other transportation funding sources. The following overview provides several Union County funding options.

Property Taxes

Property taxes can be a local revenue source controlled by local decision makers because they can be relatively more stable than income or sales taxes.

Ballot Measure 5, passed in the early 1990s, limits the property tax rate for purposes other than payment of certain voter-approved general obligation debt. The tax rate for all local taxing authorities is limited to $15 per $1,000 of assessed valuation. 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.

Measures 47 and 50 were passed in November 1996, and 1997, respectively. They reduce and limit property taxes while also limiting local revenues. The measures limited 1997-98 property taxes to the lesser of either 1995-96 taxes minus 10%, or 1994-95 taxes. It also limits future annual property tax

System Development Charges
System development charges, or SDCs, are a method of generating revenue only if a community has specific infrastructure plans in place according to state guidelines. SDCs allocate infrastructure system development costs to the portion of property development that creates the increased system need.

Cities and counties have the legal authority to assess property owners/developers SDCs based on the projected demand from their development. SDCs usually target improvements to infrastructure systems, such as transportation, sewer, and water systems.

Union County could utilize SDCs to generate money for transportation system maintenance and improvement. The fee is collected upon building permit issuance. In the case of transportation, SDCs would be calculated based on new development trip generation. This may not prove to be a significant revenue source, because the development rate in Union County is slow, and not projected to increase to a level that make SDCs a pragmatic funding source.

State Gas Taxes
Fuel taxes are allocated by the state to all cities and counties for road system maintenance and construction. The fuel tax, along with vehicle registration fees and weight/mile taxes, are allocated back to cities and counties based on population and other factors determined at the state level. This is a significant source of revenue for Union County.

Local Gas Taxes
The Oregon Constitution permits incorporated jurisdictions and counties to levy an additional fuel tax beyond the state fuel tax. The locally levied fuel tax must be used only for road system construction or improvements within the jurisdiction. Currently, only a handful of cities and counties use this method, including Woodburn, The Dalles, Washington County, and Multnomah County.

Vehicle Registration Fees
Oregon vehicle registration fees are distributed for city and county road funding based on a state level formula. Oregon counties do have state authority to impose local vehicle registration fees. This fee would be assessed to passenger cars on a biannual basis. This method is not currently being used in Oregon and would require coordination among the incorporated jurisdictions and Union County.

Local Improvement Districts
Oregon Revised Statutes do allow local governments to form Local Improvement Districts (LIDs) to construct public improvements. LIDs are commonly used to construct projects in specific areas, such as a new bikeway, or a neighborhood street improvement project. State statutes allow for district formation by either the local government or property owners. Union County has an ordinance in place stipulating the procedure for district formation and participant payback. Costs can be allocated based on property frontage or other methods, such as trip generation. Participants' costs are considered an assessment against the property, which is similar to a tax lien. Participants can generally choose to pay the assessment in cash or apply for financing through their local jurisdiction. Since Ballot Measure 5, counties often fund LIDs by selling special assessment bonds.

Grants and Loans

Most grants and loans are aimed at furthering economic development. They are typically used in developing areas that lack specific infrastructure, such as sewer, water, and adequate transportation. Many grant and loan programs require a local match and should not be counted on as a stable revenue source because there is no guarantee of project selection. These programs include Immediate Opportunity Grants, Oregon Special Public Works Funds, Public Transportation Funds, and Bicycle and Pedestrian Programs, which are described below.

Immediate Opportunity Grant Program

The Oregon Economic Development Department (OEDD) and the Oregon Department of Transportation jointly administer the Immediate Opportunity Grant Program. The program purpose is to provide financial opportunity for local and regional economic development efforts. The program receives $5,000,000 from Oregon fuel tax revenues and individual maximum grants are $500,000. The most significant components in determining whether a grant request will be funded are the potential improvement of public roads, the inclusion of a regionally significant economic development project, the creation of primary employment, and the presence of a local match.

Oregon Special Public Works Fund

This fund is derived from the Oregon Lottery and was created in 1995 as a means of distributing lottery money for economic development projects. Grants and loans are available to fund infrastructure construction necessary to support developments creating permanent jobs or retaining jobs. Infrastructure in support of developments wishing to locate, expand, or remain in Oregon are eligible for this program. These funds can be used for new construction or the expansion and rehabilitation of public improvements, such as sewage treatment plants, water works, and public transportation facilities.

Even though both loans and grants are available, the program emphasizes loans in order to ensure that money returns to the program for local project reinvestment. The maximum loan amount per project is $11,000,000. The loan term cannot exceed the life of the project, or 25 years, whichever is less. The maximum grant per project is $500,000 and may not exceed 85% of total project cost.

Public Transportation Funds

There are many grants and loans available for public transportation funding, some include Special Transportation Funds (STF), Section 5311 funds, Community Transportation Program funds, and Special Transportation District funds. All of these programs require local matches from the participating agencies.

Bicycle and Pedestrian Program Funds

Oregon's Bicycle and Pedestrian Program have grants for bicycle and pedestrian system improvements. These funds cannot be used for the construction or improvement of purely recreational facilities, but must be spent on projects that provide alternatives to the automobile. Local matches are required.

ODOT Funding Options

The Statewide Transportation Improvement Program (STIP) is administered by ODOT and prioritizes transportation projects throughout the state that would enhance the statewide transportation system. Projects are identified over a 3-year period and updated yearly. ODOT coordinates projects with local jurisdictions and verifies that the STIP is consistent with other plans including, corridor plans, TSPs, ODOT modal plans, and ISTEA planning requirements. Likewise, the Union County TSP provides ODOT with a 20-year local transportation improvement projects estimation.

ODOT has stipulated that improvement projects not on the state highway system may be eligible for state funding if the project would reserve capacity on the state system by reducing congestion and preserving safety. ISTEA made this possible by allowing for the use of federal and state dollars outside of highway corridors. This is a viable option for Union County since many identified improvement projects in the TSP can improve the overall level of service on state highways in Union County.

FINANCING TOOLS

Financing tools are an opportunity for local governments to pay for projects over time. These are different than the previously mentioned funding opportunities because here financing means *accruing money through debt obligation*. The previously mentioned funding opportunities are *the actual generation of dollars* for projects.

There are many types of financing options available to the county. These should not be viewed as a source of income, however, only as a method of shifting funding over time. Using debt to finance improvements depends upon the local government's ability to pay for debt service, the impact of the debt load, and the local government's credit rating. Debt financing is a way to shift the improvement cost burden to the people using the transportation system, and spreading it over the life of the transportation system.

General Obligation Bonds

General obligation bonds (GO bonds) are voter-approved and are the least expensive borrowing mechanism on the part of the local government. These bonds are typically supported by property tax levies that are specifically approved to retire debt, and do not expire until the debt is paid. The property tax levy is spread throughout the taxing district based on assessed valuation. These types of bonds are appropriate for public improvements, such as the transportation system, that benefit the entire community.

GO bonds are not subject to the limitations set by Ballot Measures 5 and 50 since they are issued subsequent to voter approval.

Limited Tax Bonds

Limited tax bonds are similar to general obligation bonds because they are an obligation on the part of the local government. This obligation is limited by current revenue sources and does not require voter approval. Since these are not issued pursuant to the taxing power of a local government, there is a higher borrowing cost than general obligation bonds. Because these bonds are not voter approved, Ballot Measure 5 and 50 limitations apply.

Bancroft Bonds

State law allows for local governments to issue Bancroft bonds. These bonds would pledge Union County's faith and credit. They are essentially general obligation bonds that are paid with assessments. Historically, these bonds did not require voter approval, yet provided the county with the ability to pledge its faith and credit to obtain a lower borrowing cost. Since they are not voter approved, the Ballot Measure 5 and 50 limitations apply to the taxes levied to pay debt service. Bancroft bonds have generally not been used since 1991 and the passage of Ballot Measure 5.

CHAPTER 9: RECOMMENDED POLICY AND ORDINANCE AMENDMENTS

IMPLEMENTATION PLAN

Transportation System Plan implementation includes updating road development standards, utilizing access management guidelines, and amending the Union County Land Use Plan and Zoning, Partition and Subdivision Ordinance. This ensures implementation at the local level through coordinated and consistent development review, allows Union County to address emerging transportation issues, and satisfies the requirements of the Transportation Planning Rule (TPR).

Table 9-1 shows TPR requirements for land use regulations and whether they are currently addressed in Union County's Land Use Plan and Zoning, Partition & Subdivision Ordinance. Some elements are partially addressed and some are not addressed at all. Upon adoption of the Transportation System Plan, all the required elements will be addressed in Union County's code language.

Table 9-1
Required Code Elements of the Transportation Planning Rule

TPR Requirements	Addressed in Code Language	Partially Addressed in Code Language	Not Addressed in Code Language
Amend land use regulations to reflect and implement the TSP – including road development standards		X	
Identify which transportation services and facilities will be allowed outright and which will be conditionally allowed			X
Adopt land use or subdivision ordinance measures, consistent with applicable federal and state requirements to protect transportation facilities, corridors, and sites for their identified functions, to include the following topics:		X	
Access management and control			X
Protection of public use airport	X		
A process for coordinated review of land use actions with ODOT			X
A process to apply conditions to development approvals	X		
Regulations to provide notice to public agencies		X	
Land use applications that require public hearings	X		
Subdivision and partition applications	X		
Other applications that affect private access to roads	X		
Regulations ensuring that amendments to land use designations and densities are consistent with the function, capacity, and facility levels of service identified in the TSP.		X	

The Union County Bicycle and Pedestrian Plan was adopted on October 2, 1996 and was found to be in compliance with the TPR for bicycle and pedestrian facilities. Therefore, the proposed amendments in this chapter address other requirements of the TPR. Policy and ordinance amendments are recommended for the Union County Land Use Plan and the Union County Zoning, Partition and Subdivision Ordinance. Upon adoption of the Union County TSP, the 1979 County Transportation Plan will be repealed and replaced by the Union County Transportation System Plan.

To comply with ORS 197.015 Statewide Planning Goal 12: Transportation, and OAR Chapter 660, Division 12, The Transportation Planning Rule (as amended), adoption of the final Union County Transportation System Plan must take place following public review and comment on the draft TSP.

Proposed language is written in bold format while language proposed for deletion is stricken through.

Union County Land Use Plan

II. Planning Process

A. State Planning Goal
To establish a land use policy framework and planning process as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.

B. Plan Policies

8. **That land use decisions will consider impacts on existing or planned transportation facilities.**
9. **Development proposals, plan amendments, or ordinance language amendments shall conform with the adopted Transportation System Plan.**

VI. Air, Water, and Land Resource Quality

A. State Planning Goal
To maintain or improve the quality of air, water and land resources of the County.

B. Plan Policies
That planning decisions, **including transportation projects,** will recognize immediate and long range effects on the quality of natural resources, and those uses which may likely have an adverse effect on resource quality will be prohibited.

XII. Transportation

A. State Planning Goal
To encourage safe, convenient and economic transportation systems.

B. Plan Policies

1. **The Union County Transportation System Plan is an element of the Union County Land Use Plan and identifies and guides the general location of transportation improvements.**
2. ~~1.~~ That physical, social, ~~and~~ economic, **and environmental** considerations will become an integral part of all transportation planning.
3. ~~2.~~ That roads created by partitioning and subdividing will be designed to tie into existing or anticipated road systems, and that roads (and adjacent curbs and walks), proposed within an urban growth boundary will be constructed to the standards required by that city within the urban growth area.
4. ~~3.~~ That subdivision and major partitioning activity will be approved only in those areas where roads meet minimum recommended standards and road maintenance can be provided for all weather vehicular access.
5. ~~4.~~ That all existing railroad crossings will be maintained or improved to provide needed traffic connections, unless local planning determines that such crossings are not needed.
6. ~~5.~~ That transportation improvements will avoid dividing existing economic farm units, unless no feasible alternative exists.
7. ~~6.~~ That the transportation facilities will be centralized to the extent practical.

~~7. That road or street right-of-way and other public lands will generally not be vacated; but shall be considered for park, open space, utilities, and all other possible public uses should vacations be contemplated.~~

8. That airport and air transport facilities will be protected from encroaching, incompatible uses **per the Airport Overlay Zone.**
9. That the ~~County Transportation Plan~~ **Union County Transportation System Plan**, the ~~City of La Grande's Airport Plan~~ **La Grande/Union County Airport Master Plan Update**, and various respective city's ~~street plans~~ **Transportation System Plans** will be utilized as guidelines for transportation planning.
10. **That Union County will protect the function of existing and planned roadways or roadway corridors as identified in the Transportation System Plan through the application of appropriate access control measures and land use regulations.**
11. **That all development proposals, plan and ordinance amendments, and transportation facilities will conform with the adopted Transportation System Plan road development standards.**
12. **That Union County will coordinate with the Oregon Department of Transportation to implement the highway improvements listed in the Statewide Transportation Improvement Program (STIP) that are consistent with the Union County Transportation System Plan and Land Use Plan.**
13. **That Union County will cooperate and notify all appropriate local, state, and federal agencies and transportation interest groups when an application potentially impacts a transportation facility. Transportation interest groups must request notice in writing and may be subject to a fee. Notification will help to identify agency standards and provide an efficient and economical transportation system.**
14. **That the cities and Union County support programs to improve conditions for the transportation disadvantaged as set forth in the Transportation System Plan.**
15. **A priority list (Table 7-9 – TSP Capital Improvement Program), as a part of the TSP, will guide road maintenance and construction. This list may be updated yearly through resolution by the Transportation Advisory Committee and the Board of Commissioners.**

XIII. Energy Conservation

A. State Planning Goal
To conserve energy.

B. Plan Policies
3. That to conserve energy, high density residential, industrial, and commercial development will be located along major **utility and** transportation **corridors utilizing access management standards identified in the Transportation System Plan.** ~~and utility routes~~.

XII. Transportation ***It is recommended***:

~~That some means broader than City of La Grande be considered for ownership and operation of the airport, because of the regional importance of the facility.~~

~~That special airport zoning be incorporated into the County Zoning Ordinance.~~

A. ~~C.~~ That the cities and County provide ~~more~~ input into decisions regarding railroad improvements.

~~D. That unimproved or unneeded County road rights-of-way be vacated in order that limited funds available for construction and maintenance can be used more effectively.~~

B. ~~E.~~ That ~~only~~ arterial, ~~or~~ collector **and local** roads as provided in the ~~County Road Plan~~ **Transportation System Plan** be accepted into the County Road System.

C. ~~That the cities and County support conditions for the transportation disadvantaged.~~

C. That the County work ~~more~~ closely with the USFS, **and other associated agencies and affected parties** in determining road locations and level of improvements for roads within the USFS boundary.

Union County Zoning, Partition and Subdivision Ordinance

Article 1 Introductory Provisions and Definitions

1.04 Compliance with Ordinance Provisions

All persons shall locate, construct, repair, alter, replace, or use a building or other structure **or transportation facility**, or transfer land or establish a use only as this ordinance **and the Union County Land Use Plan and Transportation System Plan** permit.

1.05 ~~Classification of Zones and Boundaries Thereof~~ **Zone Classifications and Uses Permitted in all Zones**

ZONE CLASSIFICATION	ABBREVIATED DESIGNATION
Exclusive Farm use	A-1
Agriculture-Grazing	A-2
Agriculture Forest Use	A-3
Timber-Grazing Use	A-4
Rural Center	R-1
Rural Residential	R-2
Farm Residential	R-3
Forest Residential	R-4
Commercial	C-1
Commercial Interchange	C-2
Light Industrial	I-1
Heavy Industrial	I-2
La Grande/Union County Public Airport	PA
Surface Mining	SM
Airport Light Industrial Park	A I-1
Airport Overlay	AP
Flood Plain Overlay	FP
La Grande & Island City Urban Growth Area Overlay	UG-1
Elgin & North Powder Urban Growth Area Overlay	UG-2

Standards for Transportation Projects

All transportation facilities will conform with the Transportation System Plan road development standards. Changes in the specific alignment of proposed public roads and highways shall be permitted without plan amendment if the new alignment falls within a transportation corridor identified in the Transportation System Plan. Transportation projects involving the operation, maintenance, repair, and preservation of existing facilities that are consistent with the Transportation System Plan, the classification of that roadway and approved road standards shall be allowed, except where specifically regulated (i.e. within a floodplain). Dedication of right-of-way, authorization of construction and the construction of facilities and improvements shall be allowed, where the improvements are consistent with the Transportation System Plan, the classification of

the roadway and approved road standards. For state projects that require an Environmental Impact Statement (EIS) or Environmental Assessment (EA), the draft EIS or EA shall serve as the documentation for local land use review, if local review is required. More specifically, uses will be permitted as follows:

A. Uses Permitted Outright

- **Normal operation, maintenance, repair, and preservation activities associated with transportation facilities.**
- **Installation of culverts, pathways, fencing, guardrails, lighting, and similar types of improvements that take place within the existing right-of-way.**
- **Projects specifically identified in the Transportation System Plan as not requiring further land use regulation.**
- **Landscaping as part of a transportation facility.**
- **Emergency measures as necessary for the safety and protection of property.**
- **Acquisition of right-of-way for public roads, highways, and other transportation projects identified in the Transportation System Plan are permitted outright, except for those that are located in exclusive farm or forest zones.**

B. Conditional Uses Permitted

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

1.07 Land Use Compliance

Zoning decisions shall be in compliance with applicable local, state and federal laws, and the Union County Land Use Plan and various sections and elements thereof, including, but not limited to the following:

1. Land Use Plan Classifications
2. Land Use Plan Policies
3. Transportation **System** Plan and Updates
4. Urban Growth Area Joint Management Agreements

Article 14: Public Airport Zone

Location of all development at the La Grande/**Union County** ~~Municipal~~ Airport will be directed by the ~~"La Grande Municipal Airport Master Plan – February 1979"~~ **La Grande/ Union County Airport Master Plan Update – 1998** Airport Layout Plan.

Baum Industrial Park Development, Performance, and Maintenance Standards

Land Use & Design Review Requirements, Policies, and Procedures

1. Land use requirements, policies, and procedures are governed by the following documents:
   b. Union County Transportation System Plan
   Road construction standards and access management policies for transportation facilities are provided in this document.

3. Parking and Drives
   c. Parking Space Requirements
      1. Parking space requirements shall be according to Section 20.11 Off-Street Parking and Loading in the Union County Zoning, Partition & Subdivision Ordinance
      2. The above requirements may be reduced, if modes of transportation other than automobiles are used or carpooling **or public transit** is effectively implemented.

6. Access
   d. **Access connections to the state highway system shall observe the access management standards identified in the Transportation System Plan.**

Article 16: Airport Overlay Zone

16.02 Procedure

2. The Airport Overlay Zone is identified by ~~the Approach and Clear Zone Plan, Figures 6-4 and 6-5 from the December 1989 La Grande/Union County Municipal Airport Master Plan, which is attached as Appendix B~~ **Figures 1/7 through 7/7 from the La Grande/Union County Airport Master Plan Update** and performs three functions:
   A. Sets the boundary for the Airport Overlay Zone.
   B. Defines the Federal Aviation Regulations for height restriction.
   C. Limits structures within approach – clear zones.

Article 20 Supplementary Provisions

20.07 Clear Vision Areas

4. ~~All access for ingress and/or egress to property at the intersection of two or more streets or roads or highways shall be set back from the corner intersection of the street lot lines for a distance of 30 feet.~~

20.10 Site Plan Requirements

1. Before a new building may be constructed or an existing building may be enlarged or substantially altered, a site development plan shall be submitted to the Planning Commission for approval.
   (A) The applicant shall submit site plans to the Planning Department for ~~Planning Commission~~ consideration. These shall be drawn to scale and of sufficient detail to insure their review in compliance with this section. A site plan shall include the following:
   (4) Existing and proposed points of ingress and egress ~~both~~ **including** vehicular, **bicycle,** and pedestrian ways.
   (7) Adjacent road rights-of-way **and the location of existing and proposed road facilities, including the provision for the connection of proposed roads with existing roads.**

2. Plan review considerations:
   (C)The location, width, and improvements of vehicular, **bicycle and** pedestrian access **based on requirements of the Transportation System Plan.**

Article 21 Conditional Uses
21.07 Specific Standards Governing Conditional Uses

3. Mineral, Aggregate, or Geothermal Resource Extraction and/or Processing
   A. (3) Location of vehicular access points. **Access management standards for access points onto a state highway set forth in the Transportation System Plan shall be observed.**
4. Mobile Home Parks
   B. Access, Park Streets, & Walkways
      (1) Access – A mobile home park shall not be established on any site that does not have frontage on and access to a county or public **use** road which has a minimum right-of-way width of 60 feet. **Access management standards for access points onto a state highway set forth in the Transportation System Plan shall be observed.**
5. Planned Unit Development
   C. Planned Unit Development Procedure...
   (3) The Planning Commission shall consider the Preliminary Development Plan at a meeting at which time the comments of person reviewing the Plan for study shall be reviewed. In considering he Plan, the Planning Commission shall seek to determine that:
      f. The streets are adequate to support the anticipated traffic and the development will not overload the streets outside the planned area. **Access management standards for access points onto a state highway set forth in the Transportation System Plan shall be observed.**

Article 23 Land Use Regulation and Land Use Plan Amendments
23.01 Authorization to Initiate an Amendment

An amendment to the text or map of the Union County Land Use Plan or the text or map of this or other land use regulations, **including the Transportation System Plan**, or adoption of a new land use regulation may be initiated by the Planning Commission, by the County ~~Court~~ **Board of Commissioners**, or by the application from a property owner(s) or his authorized agent.

23.03 Procedures

(8) Notice of the County ~~Court's~~ **Board of Commissioners** final action shall be given in the following:
   A. The signed copy of each amendment to the Land Use Plan or a land use regulation shall be maintained on file in the office of the County Clerk. Additional copies and a record of such amendments shall be maintained by the Planning Department and made available to the public.
   B. ~~Four~~ **Three** copies of the ordinance amending the Land Use Plan or land use regulation, or new land use regulations and findings to support the adoption shall be mailed or otherwise submitted to the Director of the Oregon Department of Land Conservation and Development **and the Oregon Department of Transportation (ODOT), Region 5** within five working days after the final decision by the County ~~Court~~ **Board of Commissioners**.
   C. In addition, the final ~~court order~~ **ordinance** on the action shall be sent within five working days to persons who participated in the proceedings leading to the adoption and who requested notice in writing.

23.04 Notice of Planning Commission and County ~~Court~~ **Board of Commissioners** Hearings

All notices shall contain the time, place and a brief description of the application and shall be circulated in the following manner:

3. A proposal to amend the Land Use Plan or land use regulation or to adopt a new land use regulation shall be submitted to the Director of the Oregon DLCD **and to ODOT, Region 5** at least 45 days before the final County ~~Court~~ **Board of Commissioners** hearing on adoption. The proposal submitted shall contain ~~four~~ **three** copies of the text and any supplemental information that County believes is necessary to inform the Director of DLCD **and ODOT, Region 5** as to the effect of the proposal and shall indicate the date of the final hearing on adoption by the County ~~Court~~ **Board of Commissioners**.

23.05 Planning Commission and County ~~Court~~ **Board of Commissioners** Hearings

3. A decision on a Land Use Plan text or map amendment, or an amendment to a land use regulation by the Planning Commission and County ~~Court~~ **Board of Commissioners** shall be based on the applicant's ability to meet all of the following:
   D. Determine whether the amendment significantly affects a transportation facility. The amendment shall assure that land uses are consistent with the function, capacity, and level of service of the facility identified in the Transportation System Plan. This shall be accomplished by one of the following:
   - **Limiting allowed land uses to be consistent with the planned function of the transportation facility;**
   - **Amending the Transportation System Plan to ensure that existing, improved, or new transportation facilities are adequate to support the proposed land uses consistent with the requirement of the Transportation Planning Rule; or,**
   - **Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes.**

   A plan or land use regulation amendment significantly affects a transportation facility if it:
   - **Changes the functional classification of an existing or planned transportation facility;**
   - **Changes standards implementing a functional classification system;**
   - **Allows types or levels of land use that would result in levels of travel or access that are inconsistent with the functional classification of a transportation facility; or**
   - **Would reduce the level of service of the facility below the minimum acceptable level identified in the Transportation System Plan.**

Article 24 Application Review Procedures

24.05 Pre-application Conference

A pre-application conference between the applicant(s) and Planning Department staff shall be conducted to insure that:

(1) The application is consistent with the substantive and procedural provisions of the Land Use Plan, **the Transportation System Plan** and this Ordinance;

(2) Applicant is aware of all procedural matters relevant to the processing of the respective application; ~~and~~

(3) Applicant is aware of his responsibilities, and type and level of information which will be required to enable the reviewing body to act upon his request; **and**

(4) **If any parcel of land proposed for a land use action abuts a state highway then the applicant shall notify ODOT, Region 5 prior to submitting any land use application. The**

purpose for this contact is to involve ODOT, Region 5 at the beginning of the application process so that the property owner/developer has the benefit of ODOT comments prior to submitting a site plan, conditional use application, or tentative plat map.

Article 25 Land Division Regulations

25.02 Application Regulations

(1) No person shall partition or subdivide land in the unincorporated portion of Union County except as provided in this Ordinance **and the Transportation System Plan.** All partition and subdivision plats, all changes in property boundary lines and all streets and ways utilized for the purpose of creating lots or parcels are required to be approved in accordance with these regulations prior to the sale of any such lot or parcel.

25.03 Enforcement

(1) Recording a lot or parcel. No parcel or lot created by partition or subdivision shall be submitted for recording unless it has been approved as required by this ordinance **and the Transportation System Plan.**

25.05 Tentative Plan Requirements

(3) A tentative plan map shall be prepared at a scale acceptable to the County Surveyor Map of Survey Checklist and drawn on material 18 inches by 24 inches in size, unless otherwise approved by the Planning Department Staff. The tentative plan map shall include the following information:

(r) Explanatory Information

The following information shall be included as part of the tentative plan, but may be submitted in the form of statements in lieu of being drawn or included as part of the detailed map:

(J) Traffic analysis procedures. If it is determined that a proposed project may impose an undue burden on the public transportation system, then traffic analysis and mitigation must be undertaken. Proposals generating up to 100 vehicle trips per day will be reviewed locally by ODOT, Region 5. Proposals generating between 100 and 400 vehicle trips per day will be reviewed by an ODOT Traffic Engineer. Proposals generating over 400 vehicle trips per day will be required to submit a traffic impact study.

- **For developments that are likely to generate more than 400 average daily motor vehicle trips (ADTs), the applicant shall provide adequate information, such as a traffic impact study or traffic counts, to demonstrate the level of impact to the surrounding street system.**
- **Standards by which to gauge average daily vehicle trips include: 10 trips per day per single family household; 5 trips per day per apartment; and 30 trips per day per 1,000 square feet of gross floor area which would equal a new supermarket or other retail development. The developer shall be required to mitigate adverse impacts attributable to the project. The determination of impact or effect, and the scope of the impact study, should be coordinated with the provider of the affected transportation facility.**
- **Undue burden on the public transportation system includes any one of the following: 1) changes to the functional classification of an existing or planned transportation facility; 2) changes to standards implementing a functional classification system; 3) allowance of land uses that would result in levels of travel or access that are inconsistent with the functional classification of a transportation**

facility; or 4) reduction in facility level of service below the minimum acceptable level identified in the Transportation System Plan.

25.09 General Design and Improvement Standards

(1) Road Design Conformity. The arrangement, character, extent, width, grade and location of all roads shall be ~~considered in their relation to~~ **designed to coordinate with** existing and planned roads, topographical conditions, construction and maintenance costs, public convenience and safety, and in their appropriate relation to the proposed uses of the land to be served by such roads. Where not shown on an area plan, the arrangement and other design standards of roads shall conform to the provisions found **in the Transportation System Plan and** herein.

(2) Relation to Adjoining Road System. The arrangement of roads in partitions and subdivisions shall ~~make provision for the continuation of the~~ **be designed to coordinate with** existing or desired roads in adjoining areas.

(6) Frontage Roads. Where a partition or subdivision abuts or contains an existing arterial road, the Commission may require frontage roads or other such treatment as may be necessary for adequate protection of abutting properties and to afford separation of through and local traffic **in order to preserve mobility on the arterial.**

(8) Road Widths and Improvements

(a) Road standards shall not be less than those set forth ~~hereunder~~ **in Table 7-2 in the Transportation System Plan,** except where it can be shown that probable future traffic development **or physical characteristics** ~~is~~ **are** such as to unquestionably justify modification of the standards.

(c) Road and related improvements shall be completed or bonded for completion prior to final plat consideration and shall be constructed under the direction of the County Planning Department, according to the ~~following~~ minimum ~~standards~~ **Road Standard Table 7-2:**

Table 7-2
Road Development Standards for Union County

	ARTERIAL*	COLLECTOR*	LOCAL	PRIVATE EASEMENT
R-O-W	60	60	60	30
Surface width	24	24	24	12 with turnouts**
Base depth & material [shall be gridrolled]	9" deep 4" minus aggregate	8" deep 4" minus aggregate	8" deep 4" minus aggregate	8" deep 4"minus aggregate
Leveling course	4" deep 1.5- ¾ minus aggregate	6" deep ¾ minus aggregate***	6" deep ¾ minus aggregate***	5" deep ¾ minus aggregate***
Overlay material	3" asphalt concrete			
Shoulder width	2' pavement + 2' gravel	None	None	None
Shoulder depth & material	Same as base + leveling course	None	None	None
Where designated: sidewalk & bicycle shared shoulder	4'paved + 2' gravel	4' paved	None	None

*Geotech fabric shall be required between base and subgrade where paved for arterials and collectors.

**Private driveways in excess of 200 feet shall require 20 x 40 turnouts at a maximum spacing of ½ the driveway length or 400 feet, whichever is less.

***Crushed gravel for the combined leveling course and overlay material shall be non-alluvial in origin.

(9) Intersections – **Ingress and/or egress to property near the intersection of two or more streets or roads shall be set back from the corner intersection of the street lot lines for a distance of 100 feet. Access for ingress and/or egress to property at an intersection with a state highway shall observe the minimum spacing requirements for state highways identified in Table 7-3.** The intersections of more than two roads at one point shall be avoided except where it is impractical to secure a proper road system otherwise. Roads shall intersect one another at an angle as near to a right angle as possible, and no road shall intersect at an angle of less than 75 degrees. Road intersections shall be rounded **at the outside lane edge and engineered to meet the intersection angle.**

Table 7-3
Oregon State Highway Access Management Standards

Highway	Category	Level of Importance	Urban/ Rural	Intersection			
				Public Road		Private Drive	
				Type	Spacing	Type	Spacing
84	1	Interstate	Inside UGB	interchange	2-3 miles	None	N/A
			Outside UGB	interchange	3-8 miles	None	N/A
82	4	Statewide	Inside UGB	at-grade or interchange	1320'	L/R turns	500'
			Outside UGB	at-grade or interchange	5280'	L/R turns	1200'
204	5	Regional	Inside UGB	at-grade	1320'	L/R turns	300'
			Outside UGB	at-grade	2640'	L/R turns	500'
203	6	District	Inside UGB	at-grade	500'	L/R turns	150'
			Outside UGB	at-grade	1320'	L/R turns	300'
237	6	District	Inside UGB	at-grade	500'	L/R turns	150'
			Outside UGB	at-grade	1320'	L/R turns	300'
244	6	District	Inside UGB	at-grade	500'	L/R turns	150'
			Outside UGB	at-grade	1320'	L/R turns	300'

Source: Table 1 – Access Management Classification System, Appendix B, 1991 Oregon Highway Plan.

(18) Dedication - Streets and roads for public use are dedicated without any reservation or restriction other than reversionary rights upon vacation of any street or road and easements for public utilities. **Union County shall preserve right-of-way for planned transportation facilities through exactions, voluntary dedications, or setbacks.**

(19) Private Roads **Easements** – Proposed private road **easements** shall be designated on the tentative plan and may be approved by the Planning Commission if they meet the following conditions:

(a) Private roads **easements** shall provide access to no more than two proposed or potential parcels. No road **easement** providing access between public **roads** or **other** private roads **easements** shall be approved as a private road **easement.**

(b) No private ~~street~~ **road easement** shall be approved unless the Planning Commission is satisfied that such ~~road~~ **right-of-way** is not presently needed, nor will ever be needed to be extended through to adjacent property, or to be utilized for public road purposes in the normal growth of the area.

(c) No private road ~~right-of-way~~ **easement** shall be less than 30-feet wide, except that a modification may be approved to allow a driveway easement of 20-feet to one parcel or lot.

(d) Surface improvements on private roads **easements** shall be as prescribed in ~~Subsection (8) (c).~~ **Table 7-2, Road Development Standards.**

(e) Maintenance responsibility for private roads **easements** shall be predetermined before final plat approval according to ORS Chapter 660 through one of the following options...

(33) **Access. For joint and cross access, adjacent commercial and industrial developments classified as major traffic generators shall provide a cross access drive and pedestrian access to allow circulation between sites. Shared parking areas shall be permitted a reduction in required parking spaces if peak demands do not occur at the same time periods.**

(34) **Access Connection and Driveway Design. Driveway width shall meet the following guidelines: a) if the driveway is a one way in or one way out, then the driveway shall be a minimum width of 10 feet and shall have appropriate signage designating the driveway as a one way connection; b) for two-way access, each lane shall have a minimum width of 10 feet and a maximum of four lanes shall be allowed. Whenever more than two lanes are proposed, a median should be considered to divide the entrance and exit lanes. Driveway approaches must be designed and located to provide an exiting vehicle with an unobstructed view. Construction of driveways along acceleration or deceleration lanes and tapers shall be avoided due to the potential for vehicular weaving conflicts. The length of driveways shall be designed in accordance with the anticipated storage length for entering and exiting vehicles to prevent vehicles from backing into the flow of traffic on the public street or causing unsafe conflicts with onsite circulation.**

(35) **Existing Access Features. Legal driveway connections on the state highway system in place as of adoption of the TSP shall be designated as conforming features and will be reconsidered only if safety concerns develop, if changes in use occur producing an additional 100 vehicle trips per day or more, or if zone changes/plan amendments are proposed accessing the state highway system. There are several alternatives for access point consideration - the access onto the state highway is closed and moved to a side road, the access is combined with other access points, the access is moved according to the spacing standards set forth in Table 7-3 of the Transportation System Plan in order not to conflict with intersection traffic, the access conforms to "Access Management Techniques" listed in the TSP, or nothing is done and the access is left alone.**

(36) **New Access Features. For proposed development of properties abutting the state highway system, new public roads shall be based on the existing spacing standards set forth in Table 7-3 of the Transportation System Plan. For proposed new development of properties adjacent to the state highway system, the developer/owner shall, prior to making application, notify and coordinate with Union County and the ODOT District Manager (ODOT, Region 5) to ensure access safety and pursue access alternatives if safety is compromised. The highest priority shall be placed on providing access to property abutting the state highway system from local roads or combining driveways. Land development affecting the state highway system will address safety, capacity, functional classification, and level of service. Access management policies for Union County set forth in the Transportation System Plan will be observed.**

(37) **Shared Access. Proposed subdivisions with frontage on the state highway system shall be designed to share access points from the highway. If access from a local road is possible, then access shall not be allowed onto the state highway. If access from a local road becomes available, then conversion to that access is encouraged, along with closing the state highway access. A maximum of 2 accesses may be allowed regardless of the number of lots or businesses served.**

Appendix A

THE OBSERVER, LA GRANDE, OREGON, SATURDAY, DECEMBER 5, 1998

UNION COUNTY: Transportation plan meets on tap

A public hearing on a proposed transportation system plan will take place during the regular meeting of the Imbler City Council at 7 p.m. Monday at City Hall. Union County Planner Hanley Jenkins will present a report. Additional public hearings on the transportation system plan will take place at 1:30 p.m. Tuesday at the Joseph Annex and at 8 p.m. Tuesday at Elgin City Hall. Transportation plans are being developed for Union County and the cities of Elgin and Imbler. The plans will identify existing facilities and services and project future transportation needs. The plans will cover 20 years.

UNION COUNTY TRANSPORTATION SYSTEM PLAN

Tuesday, December 8, 1998
1:30 p.m.
Joseph Building Annex Main Conference Room
1108 K Avenue, La Grande

AGENDA

I. Introduction
- Brief background of TSP

II. Work to Date
- Existing Conditions
  - Transportation system inventory
  - Accident history
  - Traffic volumes
- Travel Forecasts
  - Future traffic volumes
  - Transportation system deficiencies

III. Proposed Alternatives
- Explanation of alternatives
- How alternatives shape the future transportation system

IV. Next Steps
- Where we're going from here

V. Discussion

PLEASE SIGN IN!

Union County TAC Meeting
Tuesday, December 8, 1998
1:30 p.m. - 3:30 p.m.
Joseph Building Annex Main Conference Room, La Grande

Name	Address/Agency	
Dana Decker	Union Co. Planning Dept.	
Larry G Monical	FS Forest Service - Hdq. Dist.	
Frank Thomas	COMMUNITY CONNECTION, LAGRANDE	
Hann Lee	H. Lee & Associates	
Steve Gumsey	Boise Cascade Corp.	La Grande
Howard Perry	Transportation committee	
Colleen MacLeod	Union County ODOT	963-1574
Cheryl Jarvis-Smith	City of LaGrande	962-1307
Michael Boquist	Union Co	963-1016
Tom Carman	ODOT	963-1360
Mike Buchanan	ODOT	963-3436
Mike Barry	ODOT	" "
Bob Wilkins		963-7127

The Observer, Monday, January 12 1999

Transportation panel to meet Wednesday

The Union County Transportation Advisory Committee will meet from 2 to 4 p.m. Wednesday in the Joseph Annex.

The committee will discuss the transportation plan for the county.

The meeting is open to the public.

UNION COUNTY TRANSPORTATION SYSTEM PLAN

Wednesday, January 13, 1999
2:00 to 4:00 P.M.
Joseph Building Annex Main Conference Room
1108 K Avenue, La Grande

AGENDA

I. **Work to Date**
- Identification of intersections with obvious safety problems
- Identification of road segments based on goals and capital improvements that would reserve capacity on the state system
- Discussion of functional classifications

II. **Road Project Prioritization** (see Discussion items for list)
- Add/drop from list
- Determine overall benefit
- Prioritize

III. **Road Classification System** ("Draft Functional Classifications" and map)
- Discuss and finalize classification list
- Discussion of the associated road development standards

IV. **Road Jurisdiction**
- Memorandums of Understanding (MOUs) to work together to find funding for specific projects

V. **Discussion**

UC TAC Sign In Please! 1-13-14

~~Dana Becker~~	UC Plan Dept.
Larry Monical	V-7 Forest Service
Norm Paullus	City of La Grande
Bob Kelly	Union County Public Works
Richard Comstock	
Colleen Mayfield	U.C. Commissioners
Cheryl Jarvis-Smith	ODOT Planning
Michael P Barry	ODOT
Mike Buchanan	ODOT
Hanley Jenkins, II	Hamm's Dept.
Ken Hanson	Island City Council
Howard Perry	Anderson Perry

Union Co.: Transportation Plan is focus of meet

The Union County Technical Advisory Committee will meet from 2 to 4 p.m. Thursday in the annex main conference room in the Joseph Building, 1106 K Ave.

The Union County Transportation System Plan will be discussed at the meeting.

The Observer, La Grande, Oregon, Wednesday, March 3, 1999

La Grande: Panel to review transportation

The Union County Technical Advisory Committee will discuss the Union County Transportation System Plan from 2 to 4 p.m. Thursday in the Joseph Annex at 1106 K Ave.

The meeting is open to the public.

The Observer, La Grande, Oregon, Monday, March 1, 1999

UNION COUNTY TRANSPORTATION SYSTEM PLAN

Thursday, March 4, 1999
2:00 to 4:00 P.M.
Joseph Building Annex Main Conference Room
1106 K Avenue, La Grande

AGENDA

1. **Access Management**
   - Techniques and purpose
   - Recommended standards
   - How do these standards relate to development?

2. **Local Street Plan**
   - Future street system – how does this relate to development?
   - Future bicycle and pedestrian system
   - Other future modal plans

3. **Other Discussion/Questions**
   - Next TAC meeting is April 8, 1999 from 2 to 4 p.m.
     Topics include implementing language for the TSP

PLEASE SIGN IN!

Union County TAC Meeting
Thursday, March 4, 1999
2:00 to 4:00 p.m.
Joseph Building Annex Main Conference Room, La Grande

Name	Address/Agency
Mike Buchanan	ODOT
Tom Carman	ODOT
Richard Comstock	Union Co.
Bob Kelly	Union Co.
Norm Pallus	City of La Grande
Colleen MacLeod	Union Co.

THE OBSERVER, LA GRANDE, OREGON, TUESDAY, APRIL 6, 1999

LG: Transportation tops agenda

The Union County Technical Advisory Committee will meet Thursday.

The meeting will run for 2 to 4 p.m. in the main conference room of the Joseph Building annex, 1106 K Ave. Policy and ordinance amendments needed to create Union County's Transportation System Plan will be discussed.

The meeting is open to the public.

UNION COUNTY TRANSPORTATION SYSTEM PLAN

Thursday, April 8, 1999
2:00 to 4:00 P.M.
Joseph Building Annex Main Conference Room
1106 K Avenue, La Grande

AGENDA

1. **Recommended Implementing Language**
   - Union County Land Use Plan
   - Union County Zoning, Partition & Subdivision Ordinance
   - Union County Transportation Plan will be replaced by the Union County TSP

2. **Other Discussion/Questions**
   - Draft final will be provided for your review before the first public hearing – *tentatively scheduled for May 24, 1999 before the Union County Planning Commission*

PLEASE SIGN IN!

Union County TAC Meeting
Thursday, April 8, 1999
2:00 to 4:00 p.m.
Joseph Building Annex Main Conference Room, La Grande

Name	Address/Agency
Dana Deeker	UC Planning Department
Steve Gurnsey	BCC Forestry.
John Preston	La Grande / ODOT
Cheryl Jarvis-Smith	ODOT
Howard Perry	Anderson. Perry
Ken Hanson	Island City
Steve McClure	UC Commissioner
Dick Comstock	LICPWD

Appendix B

RD #	Road Name	Miles	# Travel Lanes	On-pave parking?	Sidewalks?	Bike Facilities? (sh=shoulder bikeway)	Surface?	Surface Condition?	Street Classification	Jurisdiction	Able to Widen Shoulder?	ROW	Surface Width
29	AIRPORT LANE	2.48	2	N	N	N	P-G	P=P-G; G=G	Collector	County	Y	60	P=24; G=26
130A	ALICEL LANE	3.831	2	N	N	N	P-G	P=G; G=P	Local	County	Y	60	P=26; G=16
27A	ANSON ROAD	1.54	2	N	N	N	G	G	Local	County	Y	60	14
123	ANTLES LANE	0.94	2	N	N	N	P-G	P=F; G=P	Local	County	N	40	14-24
145	BADGER FLAT LANE	0.21	1	N	N	N	G	P	Local	County	Y	60	12
23C	BAGWELL ROAD	0.25	2	N	N	N	G	F	Local	County	Y	60	24
73	BAGWELL ROAD	1.00	1	N	N	N	G	P	Local	County	Y	60	12
127	BASELINE LANE	3.18	1	N	N	N	G	P	Local	County	Y	60	12
110	BATES LANE	1.95	2	N	N	N	G	F	Local	County	Y	60	14
136	BEAN COFFIN LANE	1.49	1-2	N	N	N	G	F	Local	County	Y	60	12-24
18	BEHRENS LANE	2.44	2	N	N	N	G	G	Local	County	Y	60	30
71	BIG CREEK ROAD	1.96	2	N	N	N	P-G	P=P; G=F	Local	County	Y	60	P=26; G=14-28
7B-8	BLACKHAWK TRAIL LN	1.55	2	N	N	N	P	F	Local	County	Y	60	24
124A	BOND LANE	2.74	2	N	N	N	P-G	P=F; G=P	Local	County	Y	60	P=28; G=20
124	BOND LN--TRUCK STOP	0.19	2	N	N	N	G	G	Local	County	Y	60	34
126	BOOTH LANE	12.18	2	N	N	N	P-G	P=F; G=F	Collector/Local	County	Y	60	28
83	BOWMAN LOOP	3.65	2	N	N	N	P-G	P=F; G=F	Local	County	Y	60	P=26; G=20
35	BROOKS ROAD	2.09	2	N	N	N	P	G	Collector	County	Y	60	24
117B	BUCHANAN LANE	1.77	2	N	N	SH	P	F	Collector/Local	County	Y	60	22
11	BUSHNELL ROAD (12TH ST)	5.75	2	N	N	N	G	P	Local	County	Y	60	14
33	CARTER ROAD	2.25	2	N	N	N	G	G	Local	County	Y	60	24
79	CASE ROAD	1.50	2	N	N	N	P	F	Local	County	N	40	16
141	CATHERINE CREEK LANE	1.54	2	N	N	N	G	F	Local	County	Y	60	14
13A	CHANDLER LOOP	0.42	2	N	N	N	G	G	Local	County	N	30-60	16
60	CHUMOS ROAD	2.21	2	N	N	N	G	F	Local	County	Y	60	30
56	CLARK CREEK ROAD	6.52	2	N	N	N	P-G	P=F; G=P	Local	County	Y	60	P=26; G=24
153	COMMERCE ROAD	0.19	2	N	N	N	G	G	Local	County	Y	60	28
84	COMSTOCK ROAD	0.71	1	N	N	N	G	G	Local	County	N	40	12
128B	CONLEY ROAD	3.82	2	N	N	N	G	G	Local	County	Y	60	16
203A	COTTONWOOD ROAD	0.23	2	N	N	N	G	G	Local	County	N	40	24
103B	COUGHANOUR LANE	6.40	2	N	N	N	G	F	Local	County	Y	60	24

103A	COUGHANOUR-FRONTAGE RD	0.75	2	N	N	N	P	F	Local	County	Y	60	20
135	COURTNEY LANE	3.64	2	N	N	N	P	G	Collector/Local	County	Y	60	24
21	CRAIG LOOP	3.29	2	N	N	N	G	F	Local	County	Y	60	30
150	CRESCENT ROAD	0.30	2	N	N	N	P	F	Local	County	Y	60	24
12B	CURTIS ROAD	2.65	2	N	N	N	G	G	Local	County	Y	60	26
78	DARR ROAD	2.85	2	N	N	N	G	F	Local	County	Y	60	30
119	DEAL CANYON LANE	2	1	N	N	N	G	P	Local	County	N	60	10
19	DIAL LANE	1.08	2	N	N	N	G	F	Local	County	Y	60	30
154	DOWNS ROAD	0.24	2	N	N	N	P	G	Local	County	Y	80	28
68	DRAPER ROAD	1.65	1	N	N	N	G	F	Local	County	Y	60	12
20	DRY CREEK LANE	1.73	2	N	N	N	P	F	Collector	County	Y	60	21
55	DUTTON ROAD	1.24	2	N	N	N	G	F	Local	County	Y	60	30
77	ELGIN CEMETERY ROAD	1.25	2	N	N	N	G	F	Local	County	Y	60	22
103	ELLIS ROAD	0.59	2	N	N	N	P	G	Local	County	Y	60	20-24
17	END ROAD	1.85	2	N	N	N	G	F	Local	County	Y	60	30
3A	FIVE POINT CR ROAD	1.60	2	N	N	N	G	G	Local	County	Y	60	14
122	FLETCHER LANE	0.19	1	N	N	N	G	G	Local	County	N	40	12
61A	FOLLETT ROAD	2.22	2	N	N	N	G	F	Local	County	Y	60	20
12	FOOTHILL ROAD	6.473	2	N	N	N	P	F	Local	County	Y	60	P=22; G=26
7	FOX HILL ROAD	3.35	2	N	N	N	G	G	Local	County	Y	60	20
125	FRUITDALE LANE	2.24	2	N	N	SH	P	F	Collector	County	N	40-50	20
PU	GAERTNER LANE		1	N	N	N	G	G	Local	?	N	36	12
116	GEKELER LANE	6.48	2	N	N	N	G	F	Collector/Local	County	Y	60	28
74	GILKISON ROAD	0.80	2	N	N	N	G	G	Local	County	Y	60	20
6	GLASS HILL ROAD	11.00	2	N	N	N	G	P	Local	County	Y	60	14
31	GODLEY ROAD	6.62	2	N	N	N	P-G	P=P; G=F	Local	County	Y	60	P=26; G=20
47	GOLDING ROAD	1.25	2	N	N	N	G	F	Local	County	Y	60	28
48	GOOD ROAD	6.89	2	N	N	N	P-G	P=P; G=F	Local	County	Y	60	P=24;G=30
41	GORDON CREEK ROAD	5.247	1-2	N	N	N	G	F	Local	County	Y	60	10-20
42C	GORDON CREEK ROAD	0.701	2	N	N	N	P	F	Local	County	Y	60	24
106	GOVERNMENT GULCH LANE	2.47	2	N	N	N	G	G	Local	County	Y	60	28
149	GRANDE RONDE RIVER RD	4.08	2	N	N	N	P	G	Collector	County	Y	60	28
23D	GRAVEL FRONTAGE-W.-I 84	2.39	2	N	N	N	G	F	Local	County	Y	60	20
52	GRAYS CORNER ROAD	8.60	2	N	N	N	G	G=F	Local	County	Y	60	16-30
16A	GREINER LANE	0.51	2	N	N	N	G	G	Local	County	Y	60	14
144	HACKER LANE	2.00	1	N	N	N	G	G	Local	County	N	40	12

121	HAEFER LANE	2.75	2	N	N	N	P-G	P=G; G=F	Collector/Local	County	Y	60	28
111A	HAGGERTY LANE	1.32	2	N	N	N	G	F	Local	County	Y	60	14
15	HALLEY ROAD	4.26	2	N	N	N	G	G	Local	County	Y	60	30
81	HALLGARTH ROAD	1.66	2	N	N	N	G	G	Local	County	Y	60	14
34	HAMILTON ROAD	2.09	2	N	N	N	G	F	Local	County	Y	60	14
46	HARDY ROAD	3.88	2	N	N	N	G	G	Local	County	Y	60	20
42A	HARTFORD LANE	0.681	2	N	N	N	P	P	Local	County	Y	60	20
30	HAWKINS ROAD	2.60	2	N	N	N	G	F	Local	County	Y	60	28
26	HAYS ROAD	2.52	2	N	N	N	G	G	Local	County	Y	60	28
23F	HEBER ROAD	0.87	2	N	N	N	G	G	Local	County	Y	60	16
57	HENDERSON ROAD	1.79	1	N	N	N	G	F	Local	County	Y	60	12
58A	HENDERSON ROAD	2.05	2	N	N	N	G	F	Local	County	Y	60	30
151	HIBBERD ROAD	0.34	1	N	N	N	G	G	Local	County	N	30	12
156	HIDDEN VALLEY LANE	0.473	2	N	N	N	G	G	Local	County	Y	60	20
66	HIGH VALLEY ROAD	12.53	2	N	N	N	P-G	P=F; G=F	Local	County	Y	60	20
	HIGHWAY 203		2	N	N	N	P	G	Principle Arterial	State	Y	80	28
	HIGHWAY 204		2	N	N	SH	P	G	Principle Arterial	State	Y	80	24
	HIGHWAY 237		2	N	N	SH	P	G	Principle Arterial	State	Y	80	28
	HIGHWAY 244		2	N	N	N	P	G	Principle Arterial	State	Y	80	
	HIGHWAY 82		2	N	N	N	P	G	Principle Arterial	State	Y		
3	HILGARD LANE	0.90	1	N	N	N	G	G	Local	County	Y	60	24
107	HILL LAY LANE	0.91	2	N	N	N	G	F	Local	County	Y	60	16
59	HINDMAN ROAD	8.69	1-2	N	N	N	G	G	Local	County	Y	60	12-24
12A	HOT LAKE LANE	2.97	2	N	N	N	G	F	Collector	County	Y	60	26
133A	HOWELL ROAD	0.66	2	N	N	N	G	F	Local	County	Y	60	14-20
36	HUG ROAD	3.29	2	N	N	N	G	G	Local	County	Y	60	30
PU	HULICK LANE		1	N	N	N	G	P	Local	?	N	40	12
133	HULL LANE	3.63	2	N	N	N	P-G	P=F-G; G=F	Local	County	Y	60	30
14	HUNTER ROAD	9.69	2	N	N	N	P	F-G	Arterial	County	Y	60	21-28
18A	HUNTER ROAD	1.49	2	N	N	McKenzie-Fruitdale = SH	P	P	Arterial	County	Y	60	21-28
20A	HUNTER ROAD	1.71	2	N	N	McKenzie-Fruitdale = SH	P	P	Arterial	County	Y	60	22
112	HUTCHINSON LANE	1.52	2	N	N	N	G	G	Local	County	Y	60	14
88	IGO LANE	0.98	2	N	N	N	G	G	Local	County	Y	60	10-30
35A	IMBLER ROAD	4.01	2	N	N	N	G	G	Local	County	Y	60	24

54	INDIAN CR RD–(KLINGHAMMER)	2.96	1-2	N	N	N	G	F	Local	County	Y	60	12-24
53	INDIAN CREEK ROAD	4.31	2	N	N	N	G	F	Local	County	Y	60	12-30
152	INDUSTRIAL LANE	0.19	2	N	N	N	G	G	Local	County	Y	60	28
	INTERSTATE 84		4	N	N	N	P	G	Principle Arterial	State	Y		
26A	JANSON LANE	0.46	2	N	N	N	G	G	Local	County	N	40	14
72	JIMMEY CREEK ROAD	9.50	1-2	N	N	N	G	G	Local	County	Y	60	14-20
81A	JONES ROAD	0.30	1	N	N	N	G	F	Local	County	Y	60	12
82	KEEN CABIN CREEK ROAD	5.47	1	N	N	N	G	F	Local	County	Y	60	12
114	KERNS LOOP	1.17	2	N	N	N	G	G	Local	County	Y	60	20
78A	KINGSBURY LANE	2.86	1	N	N	N	G	F	Local	County	Y	60	12
138	KNIGHT LANE	0.75	1	N	N	N	G	F	Local	County	Y	60	12
66A	KOFFORD ROAD	0.39	2	N	N	N	P	F	Local	County	Y	60	20
73B	LAMPKIN LANE	0.378	1	N	N	N	G	F	Local	County	Y	60	12
120	LANTZ LANE	1.19	2	N	N	N	P-G	P=G; G=P	Collector	County	N	40	P=24; G=18
13	LEFFEL ROAD	1.35	2	N	N	N	P	G	Local	County	Y	60	26
PU	LISABETH LANE		2	N	N	N	G	F	Local	?	Y	60	14
43	LOOKOUT MT ROAD	4.40	2	N	N	N	G	P	Local	County	Y	60	20
64	LOVE ROAD	1.27	2	N	N	N	P	G	Local	County	N	30-40	24
63	LOWER COVE ROAD	3.32	2	N	N	SH	P	F	Arterial	County	Y	60	21
128A	LOWER COVE ROAD	4.46	2	N	N	N	P	F	Arterial	County	Y	60	21
5	LOWER PERRY LOOP	0.36	2	N	N	N	G	F	Local	County	Y	60	14
128	MARKET LANE	5.95	2	N	N	82-Lower Cove Rd = SH	P	F	Arterial	County	Y	60	21
129B	MARKS ROAD	0.51	2	N	N	N	G	G	Local	County	Y	60	30
204	MAY LANE	1.23	2	N	N	N	P	F-P	Local	County	N	40	20-28
14A	Mc ALISTER ROAD	4.48	2	N	N	N	P	F	Arterial/Local	County	Y	60	22-40
1	Mc INTYRE ROAD	11.86	1-2	N	N	N	G	G	Local	County	Y	60	12-18
14B	Mc KENZIE LANE	2.27	2	N	N	SH	P	G	Collector	County	Y	60	26
105A	McCANSE LANE	1.07	2	N	N	N	P-G	P=P; G=F	Local	County	Y	60	P=24; G=20
16B	McDONALD LANE	1.01	2	N	N	N	G	F	Local	County	Y	60	30
129	McDONALD LANE	1.27	2	N	N	N	G	F	Local	County	Y	60	30
132	McKENNON LANE	2.02	2	N	N	N	G	G	Local	County	Y	60	30
142	McNEILL ROAD	3.91	2	N	N	N	G	F	Local	County	Y	60	12-18
139	MERRITT LANE	5.72	2	N	N	N	G	F	Local	County	Y	60	24
42AB	MIDDLE ROAD	2.022	2	N	N	N	P	F	Local	County	Y	60	26
65	MILL CREEK LANE	3.76	g=1- 2; p=2	N	N	N	P-G	P=F; G=F	Collector	County	Y	60	P=28; G=12-24
109	MILLER LANE	3.19	2	N	N	N	P	F	Local	County	Y	60	26-30

10B	MONROE LANE	2.28	2	N	N	N	G	F	Local	County	Y	60	30
118A	MORGAN LAKE ROAD	2.82	2	N	N	N	G	F	Local	County	Y	60	20
42FG	MOSES CREEK LANE	3.38	2	N	N	N	P-G	P=F-P; G=F	Local	County	Y	60	24-25
9A	MT EMILY ROAD	1.374	1	N	N	N	G	P	Local	County	Y	60	12
10	MT GLEN ROAD	5.40	2	N	N	N	P	F	Arterial/Collector/ Local	County	Y	60	21
62	MT HARRIS LOOP	2.85	1-2	N	N	N	G	F	Local	County	Y	60	10-20
38	MYERS ROAD	3.02	2	N	N	N	G	F	Local	County	Y	60	30
75	NICE ROAD	0.90	2	N	N	N	G	G	Local	County	Y	60	22
101	NORTH POWDER RIVER LANE	9.54	2	N	N	N	P-G	P=F-G; G=G	Arterial	County	Y	60	P=20-26; G=18
105	OLSEN LANE	1.98	2	N	N	N	P-G	P=F; G=F	Local	County	Y	60	P=24; G=20
101A	ONE-O ONE-A ROAD	0.15	2	N	N	N	G	F	Local	County	Y	60	P=16
10A	ORCHARD ROAD	0.99	2	N	N	N	G	F	Local	County	Y	60	30
23B	OREGON TRAIL ROAD	1.58	2	N	N	N	P	G	Local	County	Y	60	22-32
23E	OREGON TRAIL ROAD	2.27	2	N	N	N	P-G	P=F; G=F	Local	County	Y	60	P=24; G=20
73A	OREGON TRAIL ROAD	3.17	2	N	N	N	P	P	Local	County	Y	60	P=20
9	OWSLEY CANYON ROAD	2.51	2	N	N	N	P-G	P=P; G=P	Local	County	Y	60	P=20; G=30
42DE	PALMER JCT RD	8.14	2	N	N	N	P	F	Arterial	County	Y	60	24
44	PALMER JCT ROAD	2.36	2	N	N	NCL/Elgin-Gordon Creek = SH	P	F	Arterial	County	Y	60	23
140	PALMER JCT ROAD	2.09	2	N	N	N	P	F	Arterial	County	Y	60	26
45	PARSONS LANE	3.78	2	N	N	N	G	G	Local	County	Y	60	28
28	PEACH ROAD	5.54	2	N	N	N	G	P	Local	County	Y	60	26
29A	PEACH ROAD	3.43	2	N	N	N	G	P	Local	County	Y	60	26
148	PHILBERG ROAD	1.05	2	N	N	N	P	G	Local	County	Y	60	20
32	PHYS ROAD	1.16	2	N	N	N	P	P	Local	County	Y	60	24
23	PIERCE ROAD	8.01	2	N	N	N	P-G	P=P; G=G	Arterial/Local	County	Y	60	P=24; G=30
23A	PIERCE ROAD	1.00	2	N	N	N	P	G	Local	County	Y	60	P=24; G=30
61	PINE GROVE LOOP	0.91	2	N	N	N	G	G	Local	County	Y	60	20
37	PUMPKIN RIDGE ROAD	7.09	2	N	N	N	G	G	Local	County	Y	60	30
69	RAMO FLAT ROAD	4.27	1-2	N	N	N	G	P	Local	County	Y	60	12-22
2	RANKIN ROAD	1.68	2	N	N	N	G	F	Local	County	Y	60	16
51	RAWHIDE LANE	0.62	2	N	N	N	G	F	Local	County	Y	60	30
33B	RED PEPPER ROAD	1.52	2	N	N	N	G	G	Local	County	Y	60	28
210	RIDDLE ROAD	0.39	2	N	N	N	P	P	Local	County	N	40	20
52B	RINEHART LANE	2.99	2	N	N	N	G	G	Local	County	Y	60	30

135A	RINEHART LANE	0.57	2	N	N	N	G	G	Local	County	Y	60	30
PU	RIVERSIDE ROAD		2	N	N	N		G	Local	?	N	40	12
7A	ROBBS HILL ROAD	5.22	1	N	N	N	G	F	Local	County	Y	60	12
42H	ROBINSON ROAD	1.30	2	N	N	N	G	G	Local	County	Y	60	24
118	ROCK CREEK ROAD	4.28	1	N	N	N	G	F	Local	County	Y	60	10-12
137	ROULET LOOP	4.50	2	N	N	N	G	F	Local	County	Y	60	30
22	RUCKLE ROAD	4.26	2	N	N	N	G	F	Local	County	Y	60	24
35B	RUCKMAN ROAD	3.98	2	N	N	N	G	G	Local	County	Y	60	14
80	SANDERSON ROAD	1.50	1-2	N	N	N	G	G	Local	County	Y	60	12-30
25	SANDRIDGE ROAD	7.88	2	N	N	N	G	F	Local	County	Partially	40-80	18
53A	SHAW CREEK ROAD	0.71	2	N	N	N	G	F	Local	County	Y	60	30
76	SLACK ROAD	1.02	2	N	N	N	G	F	Local	County	Y	60	30
155	SMITH LOOP	0.24	2	N	N	N	P	G	Local	County	Y	80	28
131	SPECKHART LANE	0.75	2	N	N	N	G	G	Local	County	Y	60	16-28
120A	STACKLAND ROAD	1.07	2	N	N	N	G	F	Collector	County	N	40	18
130	STANDLEY LANE	4.72	2	N	N	N	P-G	P=P-G; G=P	Collector/Local	County	Y	60	P=20-26; G=16
129A	STARR LANE	2.57	2	N	N	N	G	G	Local	County	Y	60	30
39A	STRIKER LANE	2.17	2	N	N	N	G	G	Local	County	Y	60	30
39	SUMMERVILLE ROAD	9.97	2	N	N	SH	P	F-G	Arterial	County	Y	60	21-24
147	TAMARACK SPRINGS LANE	0.93	2	N	N	N	G	G	Local	County	N	50	24
70	TELOCASET LANE	14.01	2	N	N	N	G	F	Local	County	Y	60	28
50	THOMPSON ROAD	3.76	2	N	N	N	G	F	Local	County	Y	60	30
102	TUCKER FLAT ROAD	4.40	1-2	N	N	N	G	F	Local	County	Y	60	12-16
111	TURNBULL LANE	1.03	2	N	N	N	G	F	Local	County	Y	60	14
12C	UNION JCT LANE	1.52	2	N	N	N	G	F	Local	County	Y	60	26
40	VALLEY VIEW ROAD	2.94	2	N	N	N	P	F	Collector	County	Y	60	20
17A	WAGONER HILL LANE	1.08	2	N	N	N	G	G	Local	County	Y	60	14
79A	WALLSINGER ROAD	1.52	2	N	N	N	G	G	Local	County	N	40	28
232	WALTON ROAD	0.625	2	N	N	N	P	G	Collector	County	Y	60	30
212	WATSON STREET	0.35	1-2	N	N	N	G	G	Local	County	N	30-45	12-16
67	WEAVER ROAD	1.63	2	N	N	N	G	G	Local	County	N	40	14
16	WEBSTER ROAD	3.53	2	N	N	N	G	G	Local	County	Y	60	30
210A	WEST ROAD	0.37	2	N	N	N	P	P	Local	County	N	40	16
86	WHEELER LANE	1.38	1-2	N	N	N	G	F	Local	County	Y	60	12-30
143	WICKENS LANE	2.24	1-2	N	N	N	G	G	Local	County	Y	60	14
115	WILKINSON LANE	1.52	1-2	N	N	N	G	G	Local	County	Y	60	12-28
58	WITHERSPOON LANE	1.95	2	N	N	N	G	G	Local	County	Y	60	30
104	WOLF CREEK LANE	8.66	2	N	N	N	P-G	P=G; G=F	Local	County	Y	60	P=22-24; G=20
134	WOODELL LANE	4.24	2	N	N	N	P-G	P=G; G=F	Collector/Local	County	Y	60	P=20; G=14

113	WOODRUFF LANE	3.08	2	N	N	N	P-G	P=P; G=F	Local	County	Y	60	P=26; G=22
27	WRIGHT ROAD	2.24	2	N	N	N	G	G	Local	County	Y	60	18
49	YARRINGTON ROAD	9.96	1-2	N	N	N	G	G-P	Local	County	Y	60	12-30

Appendix C

UNION COUNTY, OREGON

BICYCLE-PEDESTRIAN PLAN

A Comprehensive Land Use Plan Supplement

Adopted:
October 2, 1996

Ordinance #1996-7

Prepared by Union County Planning Department

Tracy Allen
Jon Jinings
Hanley Jenkins, II

This project is partially funded by a grant from the Transportation Growth Management (TGM) Program, a Joint Program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. TGM grants rely on federal Intermodal Surface Transportation Efficiency Act and Oregon Lottery funds.

BICYCLE AND PEDESTRIAN PLAN FOR UNION COUNTY

Table of Contents

PLAN PURPOSE

I. INTRODUCTION

Bicycling and walking are ecological, energy efficient, and cost effective modes of transportation, which can help reduce traffic congestion, air and water pollution, road wear and the cost of road construction and repair. Urban bikeway and walkway networks address nicely the mobility and access needs of those who do not drive, including children too young to drive, people with income too low to own a car, many elderly people, and people with disabilities.

A. PURPOSE

This Plan addresses the Transportation Planning Rule bicycle and pedestrian requirements for Union County. The Plan identifies and directs opportunities for developing and improving bicycle and pedestrian facilities to assure that new streets and new development are designed in ways that provide safe, convenient, and direct bicycle and pedestrian access.

The Bicycle and Pedestrian Plan serves several purposes:

- Guide the development of bicycle and pedestrian facilities in the participating jurisdictions;
- Educate and inform about bicycle and pedestrian transportation; and
- Set standards for planning and construction bikeways and walkways.

The Plan is intended to be used by the people of the County as a tool to preserve and enhance the livable character of the communities and the quality of the road networks by increasing non-motorized transportation choices. Most existing land use and transportation patterns and land development codes are oriented toward automobiles as the dominant transportation mode, with little thought given to the needs of people who bicycle and walk as a means of transportation. Today, each household owns more cars, makes more trips, and travels more miles per year than ever before. This has undesirable consequences as urban areas grow. Traffic volumes increase. More traffic means increased congestion, noise, and air and water pollution. Livability of communities declines, and demand for expensive road improvements increases.

Walking for recreation is a popular activity, and 75% percent of us own bikes. Most of our trips are short trips, less than two miles from home. Yet most of us make even short trips by automobile because there aren't safe and easy ways to get from one place to another by walking or bike riding. If safe, convenient walkways and bikeways are provided people will choose

to walk and bicycle more and drive less for short trips around town.

B. POLICY FRAMEWORK AND RELATED DOCUMENTS

All levels of government recognize bicycling and walking as viable modes of transportation and encourage planning Transportation systemS to include safe and convenient bicycle and pedestrian facilities.

1. FEDERAL POLICY

The federal government signed the Intermodal Surface Transportation Efficiency Act (ISTEA) into law in December 1991. The ISTEA requires states to staff a bicycle and pedestrian coordinator and to plan for bicycles and pedestrians. It also makes funds available to states for a variety of bicycle and pedestrian projects.

2. STATE POLICY

Oregon is recognized as a leader in bicycle and pedestrian planning. The state provides specific policies and standards for developing bicycle and pedestrian facilities to help local governments reach goals and build the multi-modal transportation system.

a. Bicycle Bill

Oregon's statewide bicycle program began in 1971 when the "Oregon Bicycle Bill" passed into law (HB 1700, now ORS 366.514). The first of its kind in the country, it mandated a minimum one percent gas-tax be dedicated to construct, maintain and operate bicycle and pedestrian facilities.

b. Oregon Transportation Plan

The Oregon Transportation Plan (OTP) sets the general direction for transportation development statewide for the next 20 years. The OTP outlines a vision of a multi-modal transportation system, and sets project and program priorities for the allocation of resources. Specific plans for each transportation mode - aviation, highways, mass transit, bicycle and pedestrians, railroads, and transportation corridors - refine and extend the general provisions in the OTP. These specific plans also include two programs to reduce traffic deaths, and to promote connections.

c. The Oregon Bicycle and Pedestrian Plan, 1995 Draft

The Oregon Bicycle/Pedestrian Plan establishes statewide policies and standards for planning and developing safe, attractive transportation facilities that emphasize bicycling and walking.

d. Statewide Planning Goals

Statewide Planning Goals support bicycling and walking as sensible transportation choices, because they help reduce air

pollution, traffic congestion and consumption of petroleum resources; they reduce the consumption of land for roads and parking resulting in compact urban growth; and they have very low impact on land uses and natural systems.

e. Transportation Planning Rule 12

The Transportation Planning Rule (OAR Chapter 660, Division 12) adopted in April 1991, requires cities and counties to plan for non-automotive transportation choices including bicycling and walking. Rule provisions vary based on a jurisdiction's population. Small jurisdictions are defined as cities with population under 2,500; small counties are those with populations under 25,000. Except for the City of La Grande, eight of the nine jurisdictions in Union County are defined as small jurisdictions, and are eligible to apply for whole or partial exemption from the Rule.

The TPR 12 bicycle and pedestrian facility requirements are as follows:

- Safe and Convenient Bike and Pedestrian Access

  Facilities providing safe and convenient pedestrian and bicycle access shall be provided within and from new subdivisions, planned developments, shopping centers and industrial parks to nearby residential areas, transit stops, and neighborhood activity centers, such as schools, parks and shopping. This shall include:

  (A) Sidewalks along arterials and collectors in urban areas;

  (B) Bikeways along arterials and major collectors;

  (C) Where appropriate, separate bike or pedestrian ways to minimize travel distances within and between the areas and developments listed above.

  "Safe convenient and adequate" means bicycle and pedestrian routes facilities and improvements which; (A) are reasonably free from hazards particularly types or levels of automobile traffic which would interfere with or discourage pedestrian or cycle travel for short trips. (B) Provide a direct route of travel between destinations, such as between transit stop and a store; and, (C) meet the travel needs of cyclists and pedestrians considering the destination and length of trip. (045(3)(b)).

- Internal Pedestrian Circulation

  Internal pedestrian circulation shall be provided in new office parks, and commercial developments through clustering buildings, construction of pedestrian ways, skywalks, where appropriate, and similar techniques. (045(3)(d)).

- **Sidewalks and Bikeways**
  Sidewalks shall be provided along arterials and collectors in urban areas. (045)(3)(b)(A).

- **Bike Parking Facilities**
  Bicycle parking facilities shall be provided as part of new multifamily residential developments of four units or more, new retail, office institutional developments and all transit transfer stations and park and ride lots. (045(3)(a)).

II. EXISTING FACILITIES INVENTORY, NEEDS ANALYSIS, AND RECOMMENDED BICYCLE AND PEDESTRIAN FACILITY PROJECTS

A. COUNTY PROFILE

Union County is a small rural jurisdiction, population 23,598. The County, located in eastern Oregon, is composed 70.4% of timber land, 12.6% grazing land, and 14.78% farmland. The most productive forest lands are located at the north end of the County within the Lookingglass Creek drainage, north of Palmer Junction. Other prime forest land includes areas of the Minam River drainage and the headwaters of the Grande Ronde River. Less productive forest land occupies the surrounding foothills and mountain slopes, except in the dry southern portion of the County.

Rangelands, often associated with forest lands, are very important to the County. They are the upland areas upon which livestock operations depend for summer grazing, and which provide summer and winter wildlife habitat.

Farmland occupies the valley lowlands of Grande Ronde River and Powder River Valley. However, some the gently sloping foothills at the lower elevations of the Blue and Wallowa Mountains have also been converted to farm use.

Farm residential land uses which account for 1.5% of County land area, are for small agricultural uses and rural living opportunities. Most farm residential development has occurred adjacent to the incorporated urban areas. However, there is substantial rural residential development occupies Mt. Emily foothills north of La Grande, also land north of Elgin and east of Cove.

Urbanized land comprises less 1% of the County land area. It is concentrated in the La Grande-Island City urban areas, the hub of the County road network, located at the base of the Blue Mountains on the Grande Ronde River alluvial fan. There are eight incorporated cities in Union County, seven with less than 2,000 population, all within 25 miles of La Grande.

B. UNION COUNTY LAND USE PLAN AND TRANSPORTATION PLAN

The Transportation Plan (1978), a supplement to the Union County Land Use Plan, is intended to be used in conjunction with other Union County planning documents to develop a safe, convenient, and efficient system for transporting people and goods. The County identifies and prioritizes road improvement projects on an annual basis. County roads are classified according to their function, and road revenues are allocated for maintenance and improvements based on roadway functional classifications.

The Union County transportation plan supports the development and use of all modes of transportation intended to avoid over

reliance upon any one mode of transportation, and to meet the needs of the transportation disadvantaged. Transportation improvements should be designed to utilize existing rights-of-way, emphasize energy conservation, and bicycle and pedestrian safety.

C. BICYCLE AND PEDESTRIAN PLANNING IN UNION COUNTY

Almost 20 years ago, Union County recognized that bicycles were becoming an increasingly important mode of transportation for Union County residents. To accommodate this increase, the County Parks and Recreation Department (no longer in existence) initiated a Bikeway Planning effort. At the time it was expected that most proposed bikeways would be roads shared with automobiles and designated for bicycles by signing, striping, or other visual markings. Pedestrian would also share the designated roads. The Bikeway Planning effort was never completed. In the years following, a few bicycle and pedestrian facilities (now of obsolete design) were developed in the unincorporated Union County, around the La Grande-Island City urban area, without coordinated planning.

D. EXISTING COUNTY ROAD SYSTEM

The existing County road system, in combination with State Highways, and U.S. Forest Service roads, provides access to all regions of Union County.

The Union County Zoning Ordinance, Article 29.00, Subdivision Design and Improvement Standards, establishes the following standards for County major collector roads: a 60 foot right-of-way, a 24 foot road surface, and 6 foot shoulders. Minor collector or local roads are to have a 50 foot right-of-way width, a 24 foot surface width, and 6 foot shoulders. County roads are to meet the set standards except where the Planning Commission determines an increase or decrease is warranted.

The inventory of existing County roads included all major collector and minor collector roads, as well as selected local roads. The minor collector roads which are predominantly graveled were not found to be important to the bike and pedestrian network. Approximately 82 miles of County major collector roads were inventoried. The inventory included 5 miles of major collector road with a paved surface greater than 24 feet wide, typically 26 feet or 28 feet wide. In addition, there are 27 miles (33%) of County major collector roads with a 24 foot paved surface width, and over 50 miles (61%) with a substandard 20 or 22 foot road surface width, of which 46 miles are paved. The inventory included 14 miles of local County roads which have a 20 foot road surface. About one-half of these are paved. No County roads have 6 foot shoulders. A few have 2 foot graveled shoulders, but most have no shoulders. Many county road rights-of-way have borrow ditches for drainage and snow removal.

E. NEEDS ANALYSTS

During the preparation of this plan, July 1, 1994 to June 30, 1995, the Union County Bicycle and Pedestrian Advisory Committee served as the Citizen Involvement Committee for Union County. The guidelines the committee used in recommending bicycle and pedestrian improvements are based on the requirements of the Transportation Planning Rule as discussed in the POLICY section of this Plan, and guidelines provided in the Oregon Bicycle and Pedestrian Plan and discussed in the STANDARDS section of this Plan.

The Transportation Planning Rule (TPR) requires that cities and counties provide safe, direct, continuous, well connected networks for bicycles and pedestrian travel. It also directs local governments to adhere to the standards and guidelines established in ODOT's Bicycle and Pedestrian Plan.

On rural county roads paved shoulders provide a suitable area for bicycles, safe from conflicts with faster moving traffic. Rural bike travel in unincorporated Union County will be accommodated primarily on paved shoulder bike lanes. The standard width for shoulder bikeways is 6 feet; the minimum shoulder bike lane is 4 feet wide. With few exceptions, the following proposals recommend providing two 4 foot paved shoulders on approximately 60 miles of County major collector roads, and about 14 miles of County local roads. Where shoulder bike lanes are warranted but physical constraints preclude them, two 14 foot shared travel lanes with fog lines are recommended.

F. INVENTORY AND PROJECT RECOMMENDATIONS

1. State Highway 203
La Grande-Baker Highway
From La Grande to Union

Highway 203 is a minor arterial between the City of La Grande and the City of Union, the two largest cities in the County. It has an 80 foot right-of-way and a 28 foot paved surface including two 14 foot travel lanes.

Recommendation: No change.

From City of Union to Kofford Road

Highway 203 is a major collector in Union County between the City of Union and the Baker County line. The road has an 80 foot right-of-way and a 24 foot paved surface including two 12 foot travel lanes. The portion from the City of Union east to Kofford Road is used extensively by Union residents for bicycling and walking.

Recommendation: Widen pavement to 36 feet to include two 14 foot travel lanes and two paved shoulder bikeways.

Project	From-To	Miles	Cost	Priority
Widen pavement +8 feet	Union-Kofford Rd	1.8	$152,064	high

From Kofford Road to Baker County line
Highway 203 functions as a major collector from the City of Union to the Baker County line. It has an 80 foot right-of-way and a 24 foot paved surface. Experienced bicyclists use the road for touring.

Recommendation: Widen the pavement to 28 feet to provide two 14 foot shared lanes, with a fog line.

Project	From-To	Miles	Cost	Priority
Widen pavement +4 feet	Kofford-Baker Co.	20	$844,800	low

2. **State Highway 204**
Elgin-Tolgate Hwy
From City of Elgin to Umatilla County line
State Highway 204 functions as a minor arterial in Union County linking the northern portion of Union County with Umatilla County. It has an 80 foot right-of-way width, and a 24 foot paved surface including two 12 foot travel lanes. Experienced bicyclists share this road with interstate truck traffic.

Recommendation: Widen the pavement to 28 feet to provide two 14 foot travel lanes.

Project	From-To	Miles	Cost	Priority
Widen pavement +4 feet	Elgin-Umatilla Co.	19	$802,560	low

3. **State Highway 237**
Cove Hwy
From Island City to Cove
Highway 237 functions as a major collector connecting the City of Island City and City of Cove. It has an 80 foot right-of-way and a 28 foot paved surface. It is used by experience bicyclists for touring and by an occasional bicycle commuter.

Recommendation: Improving bicycle safety on this stretch of road is important to bicyclists who ride it. Widen the pavement to 36 feet to provide two 14 foot travel lanes and two 4 foot paved shoulder bikeways.

Project	From-To	Miles	Cost	Priority
Widen pavement +12 feet	Island C.-Cove	14	$1,774,080	medium

Cove to Union
Highway 237 functions as a major collector connecting the City of Cove and the City of Union. It has an 80 foot right-of-way and a 28 foot paved surface. It is used by experience bicyclists for touring and by an occasional bicycle commuter.

Recommendation: Improving bicycle safety on this strech of road is important to bicyclists who ride it. Widen the pavement to 36 feet to provide two 14 foot travel lanes and two 4 foot paved shoulder bikeways.

State Highway 237
La Grande-Baker Hwy
From City of Union to Baker County line
Highway 237 functions as a major collector in the southern portion of Union County connecting the City of Union and the City of North Powder. It has an 80 foot right-of-way, and a 24 foot paved surface including two 12 foot travel lanes. This road is used by experienced bicyclists every summer.

Recommendation: Widen the pavement to 28 feet to provide two 14 foot travel lanes with a fog line.

Project	From-To	Miles	Cost	Priority
Widen pavement +4 feet	Union-Baker Co.	17	$718,080	low

5. **County Road #10**
Mt. Glen Road
From Black Hawk Trail to Booth Lane
Mt. Glen Road is a major collector with a 60 foot right-of-way width and a 20 foot paved surface. It serves a rural residential area in the unincorporated Union County north of La Grande and Island City. It is frequently used by bicyclists from both cities.

Recommendation: Widen the pavement to 32 feet to provide two 12 foot travel lanes and two 4 foot paved shoulder bikeways. Also see recommendation # 24.

Project	From-To	Miles	Cost	Priority
Widen pavement +12 feet	B.H.Trail-Booth	1.56	$197,000	high

6. **County Road #14**
McKenzie Lane
From east Summerville City Limits to Hunter Lane
McKenzie Lane (called 4th Street in Summerville) is a major collector with a 60 foot right-of-way width a 24 foot paved road surface, and 2 foot graveled shoulders. It is an important link in the Union County bike network because it connects Hunter Lane with Summerville Road.

Recommendation: Widen the pavement to 32 feet to provide two 12 foot travel lanes and two 4 foot paved shoulder bikeways. Also see recommendation #8, #9, and #13.

Project	From-To	Miles	Cost	Priority
Widen pavement +8 feet	Sum. ECL-Hunter	2.16	$131,789	high

7. **County Road #14**
Hunter Road
Hunter Road from McKenzie Lane to Fruitdale Lane is an north-south major collector with a 60 foot right-of-way including borrow ditches on both sides. The road links commercial resource land and a rural residential area at the base of Mt. Emily to urban employment and market centers. This section of road is frequently used by bicyclists.

From McKenzie Lane to Woodell Lane
Hunter Road from McKenzie Lane south to Woodell Lane has a 21 foot paved surface.

Recommendation: Widen the pavement to 32 feet to provide two 12 foot travel lanes and two 4 foot paved shoulder bikeways.

Project	From-To	Miles	Cost	Priority
Widen pavement +11 feet	McKenzie-Woodell	3.0	$348,480	high

From Woodell Lane to Fruitdale Lane
Hunter Road from Woodell Lane south to Fruitdale Lane has a 24 foot paved surface with a fog line painted 10 feet from the center line.

Recommendation: Widen the pavement to 32 feet to provide two 12 foot travel lanes and two 4 foot paved shoulder bikeways.

Project	From-To	Miles	Cost	Priority
Widen pavement +8 feet	Woodell-Fruitdale	6.59	$556,723	high

8. **County Road #18**
Hunter Road
From McKenzie Lane to Dry Creek Lane.
Hunter Road from McKenzie Lane north to Dry Creek Lane is a major collector with a 60 foot right-of-way width and a 21 foot paved surface. It serves commercial resource and uses and rural residential development at the base of Mt Emily. It is frequently used by bicyclists from the region.

Recommendation: Widen the pavement to 32 feet to provide two 12 foot travel lanes and two 4 foot paved shoulder bikeways.

Project	From-To	Miles	Cost	Priority
Widen pavement +11 feet	McKenzie-Dry Creek	1.49	$173,078	medium

9. **County Road #20**
Dry Creek Lane
From Summerville Road to Berhens Lane
Dry Creek Lane from Summerville Road west and south to Berhens Lane is a major collector with a 60 foot right-of-way width and a 21 foot paved road surface. It is commonly used by bicyclists. from the region.

Recommendation: Widen the pavement to 32 feet to provide two 12 foot travel lanes and two 4 foot paved shoulder bikeways.

Project	From-To	Miles	Cost	Priority
Widen pavement +11 feet	Summervil-Berhens	3.44	$400,000	medium

10. **County Road #23**
Pierce Road
From Hwy 82 to Foothill Road
Pierce Road from Hwy 82 to Foothill Road is a major collector with a 60 foot right-of-way width. It intersects State Hwy 82, Hwy 237, and Hwy 203 providing direct access to the Airport Industrial Park located on Pierce Road.

From Hwy 82 to Hwy 237
From Hwy 82 to Hwy 237, Pierce Road has 30 foot graveled road surface.

Recommendation: Widen and provide a 32 foot wide paved road surface including two 12 foot travel lanes and two 4 foot paved shoulder bikeways.

Project	From-To	Miles	Cost	Priority
Pave +32 feet	Hwy 82-hwy 237	2.06	$696,115	high

From Hwy 237-Hwy 203
From Hwy 237 to Hwy 203, Pierce Road has a 24 foot paved road surface.

Recommendation: Widen the pavement to 32 feet to provide two 12 foot travel lanes and two 4 foot paved shoulder bikeways.

Project	From-To	Miles	Cost	Priority
Widen pavement +8 feet	Hwy 237-Hwy 203	3.75	$315,110	high

From Hwy 203 to Foothill Road
From Hwy 237 to Hwy Foothill Road, Pierce Road has 24 foot graveled road surface.

Recommendation: Widen and provide a 32 foot wide paved road surface including two 12 foot travel lanes and two 4 foot paved shoulder bikeways.

Project	From-To	Miles	Cost	Priority
Pave +32 feet	Hwy 203-Foothill	2.24	$756,940	high

11. **County Road #23B**
Oregon Trail Road
Wolf Creek Lane to North Powder north City Limits
The Oregon Trail Road is a major collector in south Union County, serving the Powder River valley. It has a 60 foot right-of-way. From Wolf Creek Lane to Bagwell Road the pavement is 24 feet wide, and from Bagwell Road to the North Powder north City Limits the pavement is 22 feet wide. The road is not recommended for inclusion in the Union County bicycle network because it's infrequently used by bicyclists.

Recommendation: No change.

12. **County Road #32**
Phys Point Road
From Hwy 237-Hwy 237 (Cove bypass)
This bypass is part of the major collector network. It has a 60 foot right-of-way and a 20 foot paved road surface. The short cut is important to the County bicycle network because it allows cyclists to bypass the City of Cove, shortening travel distances.

Recommendation: Widen the pavement to 32 feet to provide two 12 foot travel lanes and two 4 foot paved shoulder bikeways.

Project	From-To	Miles	Cost	Priority
Widen pavement +12 feet	Hwy 237-Hwy 237	1.16	$146,995	low

13. **County Road #39**
Summerville Road
From Hwy 82 to Hwy 204
Summerville Road is an important north-south major collector in Union County. It is used by commercial truck traffic to cut travel distances between Hwy 204 and Hwy 82. It is also important to the County bike network because it is commonly used by bicyclists.

From City of Imbler to City of Summerville
Between Imbler and Summerville the pavement is 24 feet wide with two 2 foot graveled shoulders. This section is used by people walking, jogging, and bike riding between Imbler and Summerville.

Recommendation: Widen the pavement to 32 feet to provide two 12 foot travel lanes and two 4 foot paved shoulder bikeways.

Project	From-To	Miles	Cost	Priority
Widen pavement +8 feet	Imbler-Summerv.	2.71	$228,941	high

From City of Summerville to Hwy 204
Between Summerville and Hwy 204 the pavement is 20 feet wide with two 2 foot shoulders.

Recommendation: Widen the pavement to 32 feet to provide two 12 foot travel lanes and two 4 foot paved shoulder bikeways.

Project	From-To	Miles	Cost	Priority
Widen pavement +12 feet	Summerv-Hwy 204	6.67	$845,222	medium

14. **County Road #42**
North Palmer JCT Road
From Palmer JCT Road to Robinson Road
North Palmer JCT Road is a major collector with a 60 foot right-of-way and 24 foot paved road surface. Fog lines are painted 10 feet from the center line. Deep borrow ditches parallel the road on both sides. This road provides access to the northern most portions of Union County and the Umatilla National Forest, used primarily as a logging access road.

Recommendation: No change.

15. **County Road #44**
Palmer JCT Road
From Elgin City Limits to Gordon Creek Road
Palmer JCT Road is a major collector with a 60 foot right-of-way and a 24 foot paved road surface. It takes log truck traffic from North Palmer JCT Road to Hwy 204 and the Boise Cascade Mill in Elgin.

Recommendation: No change.

16. **County Road #63**
Lower Cove Road
From Hwy 237 to Conley Road
Lower Cove Road is a major collector extending north from the City of Cove along the Wallowa Mountain foothills. It has a 60 foot right-of-way and a 21 foot paved road surface. The road is used by commercial farm and forest trucks and is also a popular place to bicycle.

Recommendation: Widen the pavement to 32 feet to provide two 12 foot travel lanes and two 4 foot paved shoulder bikeways. Also see recommendation 25.

Project	From-To	Miles	Cost	Priority
Widen pavement +11 feet	Hwy 237-Conley	3.32	$385,651	low

17. **County Road #65**
Mill Creek Lane
From east City Limits of Cove to Comstock
Mill Creek Lane is a farm-to-market major collector extending east from the City of Cove to Comstock Road where it becomes a U.S. Forest Service road. It has a 60 foot right-of-way and a 28 foot paved road surface. The road provides access to the Wallowa-Whitman National Forest and the Eagle Cap Wilderness Area. Pedestrian and trail bike riders share the road with commercial farm and forest trucks.

Recommendation: Widen the pavement to 32 feet to provide two 12 foot travel lanes and two 4 foot paved shoulder bikeways.

Project	From-To	Miles	Cost	Priority
Widen pavement +4 feet	Cove ECL-Comstock	1.25	$52,800	medium

18. **County Road #75**
Nice Road
From Wolf Creek Lane to Coughanour Lane
Nice Road is a major collector in the sparsely populated southern portion of Union County, seldom used by bicyclists. It has a 60 foot right-of-way and a 22 paved road surface.

Recommendation: No change.

19. **County Road #101**
North Powder River Lane
From I84 interchange to Ellis Road
North Powder River Lane is a major collector which parallels the Powder River in the southern portion of Union County. The road has a 60 foot right-of-way and a 20 foot paved road surface.

Recommendation: No change.

20. **County Road #103**
Ellis Road
From North Powder River Road to Coughanour Lane
Ellis Road is a major collector which connects Wolf Creek Lane to North Powder River Lane. The road has a 60 foot right-of-way and a 20 foot paved road surface.

Recommendation: No change.

21. **County Road #104**
Wolf Creek Lane
From Oregon Trail Road to Nice Road
Wolf Creek Lane is a major collector which extends west from I84 just north of the City of North Powder. The road has a 60 foot right-of-way and a 22 foot paved road surface.

Recommendation: No change.

22. **County Road #117**
Buchanan Lane
From La Grande ECL to Island City WCL
Buchanan Lane is an important major collector in the most populated region of Union County. It extends east from La Grande about three-quarter of one mile to Island City. The road has a 60 foot right-of-way and a 29 foot paved surface. In the past, a 9 foot wide, two-way, shoulder bike lane was constructed on the north side of Buchanan Lane. This wide shoulder is used frequently by pedestrians and bicyclists. However, by today's standards, it is an obsolete facility that will need to be replaced with shoulder bike lanes that meet current standards. Bicycles are considered vehicles which must obey traffic laws including traveling on the right-hand side of the road with the traffic flow. The 9 foot shoulder bike lane was not built to road standards. Thus, additional overlay material will be required prior to restriping the pavement for standard shoulder bike lanes.

Recommendation: Widen the pavement to 36 feet to provide two 12 foot travel lanes and two 6 foot paved shoulder bike lanes for bicycle and pedestrian use.

Project	From-To	Miles	Cost	Priority
Widen pavement +16 feet, paint bike lanes	La Gran-Isl City	0.77	$130,000	high

23. **County Road #125**
Fruitdale Lane
From Mt. Glen Road to Hunter Lane
Fruitdale Lane is a major collector linking Mt. Glen Road and Hunter Lane, serving a large rural residential area immediately north of La Grande and Island City. The road is a very popular place for residents of both cities for walking, jogging, and bike riding. It has a 40 foot, rather than a 60 foot, right-of-way width, and a 20 foot paved road surface with two 2 foot graveled shoulders.

Recommendation: Given the relatively high bicycle and pedestrian traffic volume, two 6 foot shoulder bike lanes are warranted. However, the narrow 40 foot right-of-way width presents a physical constraint which may preclude 6 foot (or 4 foot) shoulder bike lanes. As a second best alternative, the pavement should be widened to 28 feet to include two 14 foot shared travel lanes. Wider travel lanes tend to encourage unsafe higher traffic speeds. A fog line painted 12 feet from the center line will make the travel lane appear narrower and may slow traffic.

Project	From-To	Miles	Cost	Priority
Widen pavement +8 feet	Mt. Glen-Hunter	2.24	$189,235	high

24. **County Road #126**
Booth Lane
From Mt. Glen Road to Hunter Road
Booth Lane is a major collector which extends east from Mt. Glen Road across the valley floor to Lower Cove Road. It intersect Hunter Road. The road section between Mt. Glen Road and Hunter Road is an important link to complete the County bikeway network. Booth Lane has a 60 foot right-of-way and a 28 foot paved road surface.

Recommendation: Widen the pavement to 32 feet to provide two 12 foot travel lanes and two 4 foot paved shoulder bikeways.

Project	From-To	Miles	Cost	Priority
Widen pavement +4 feet	Mt. Glen-Hunter	1.1	$46,464	high

25. **County Road #128**
Market Lane
From Hwy 82 to Lower Cove Road
Market Lane is an east-west major collector with a 60 foot right-of-way, a 21 foot paved road surface, and 2 foot graveled shoulders. As its name implies, the road is used for transporting farm and forest products to market. It is located between Alicel and the City of Cove, and along the Wallowa Mountain foothills. This region of the County is not as frequently traveled by bicyclists as the region between La Grande and Elgin. However, Market Lane is included in the County bike facility plan because it connects existing shoulder bike lanes on Hwy 82 with proposed shoulder bike lanes on Lower Cove Road. Lower Cove Road terminates at Lantz Lane at a point where Hwy 237 extends south to connect with existing bike lanes on Jasper Street and Main Street in the City of Cove.

Recommendation: Widen the pavement to 32 feet to provide two 12 foot travel lanes and two 4 foot paved shoulder bikeways. Also see recommendation # 16.

Project	From-To	Miles	Cost	Priority
Widen pavement +11 feet	Hwy 82-L. Cove	10.4	$1,209,225	low

26. **County Road #140**
North Palmer JCT Road
From Robinson Road to Moses Creek Road
This section of road extends into the northern most region of Union County to provide access to the Umatilla National Forest for commercial logging operations. It has a 60 foot right-of-way and 26 foot paved road surface.

Recommendation: No change.

27. **County Road #12**
Foothill Road
From Gekeler Lane to Hwy 203
Foothill Road is County local road which runs south from La Grande along the foothills of the Blue Mountains, adjacent to Ladd Marsh Game Management Area. It has a 60 foot right-of-way and a 26 foot paved road surface. Foothill Road is very important to the County bike facility network for several reasons. It is located in the most populated area of the County and is used extensively for walking, jogging, and bicycling. It intersects Gekeler Lane in south La Grande. There are bike lanes on Gekeler Lane from 6th Street to 16th Street which will be extended to connect with shoulder bike lanes on Hwy 203. Foothill Road intersects Pierce Road near its intersection with US Hwy 30.

Recommendation: Widen the pavement to 32 feet to provide two 12 foot travel lanes and two 4 foot paved shoulder bikeways. Also see recommendation # 10 (construct above project only after #10).

Project	From-To	Miles	Cost	Priority
Widen pavement +6 feet	Gekeler-Hwy 30	8.88	$562,637	high

28.. **County Road #66**
High Valley Road
From Union east City Limits to Kofford Road
High Valley Road is a County minor collector road which crosses the foothills between the City of Cove and the City of Union. The road has a 60 foot right-of-way and a 20 foot paved road surface. A portion of High Valley Road east of Union City Limits combined with Kofford Road and a part of Hwy 203 forms a loop used extensively by Union residents for walking, jogging, and bicycling.

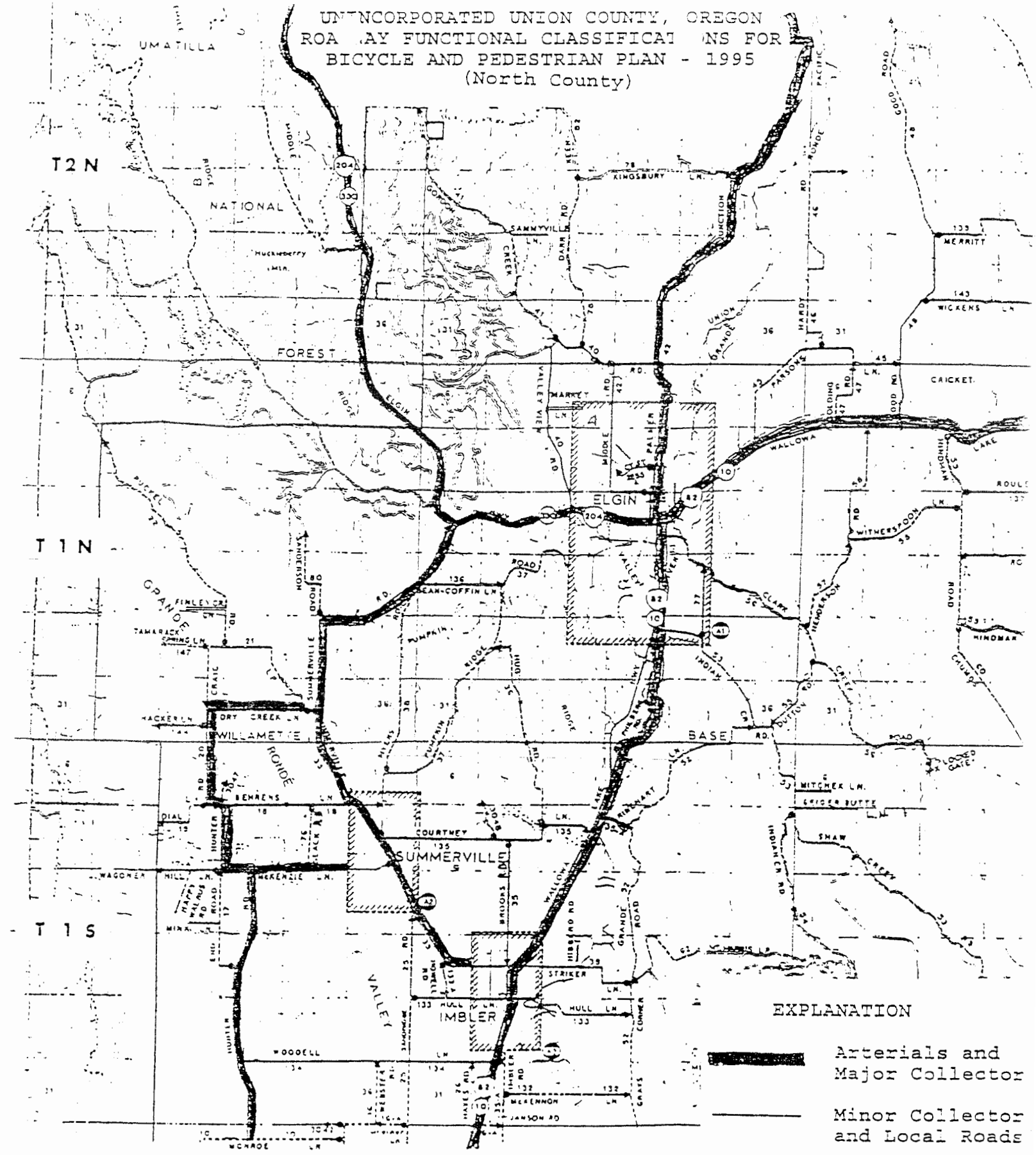
Recommendation: Widen the pavement to 32 feet to provide two 12 foot travel lanes and two 4 foot paved shoulder bikeways. Also see recommendation #1 and #29.

Project	From-To	Miles	Cost	Priority
Widen pavement +12 feet	Union ECL-Kofford	2.03	$257,241	high

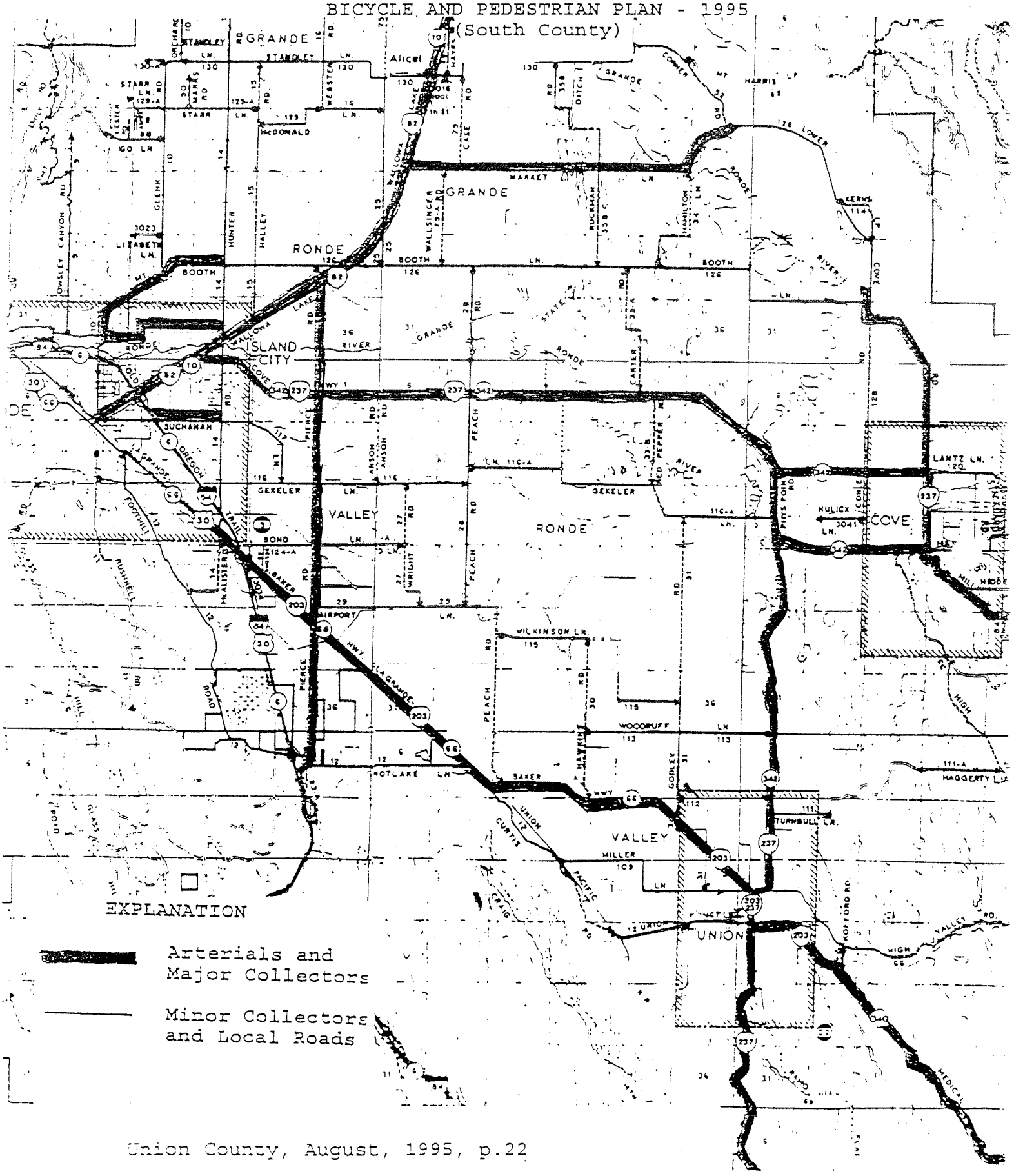
29. **County Road #66A**
Kofford Road
From High Valley Road to Hwy 203
Kofford Road is a short section of road included in the County minor collector network. It connects High Valley Road with Hwy 203 east of the City of Union. It has a 60 foot right-of-way and a 20 foot paved road surface. Together with a portion of High Valley Road and Hwy 203 it is part of loop used extensively by Union residents for walking, jogging, and bicycling.

Recommendation: Widen the pavement to 32 feet to provide two 12 foot travel lanes and two 4 foot paved shoulder bikeways.

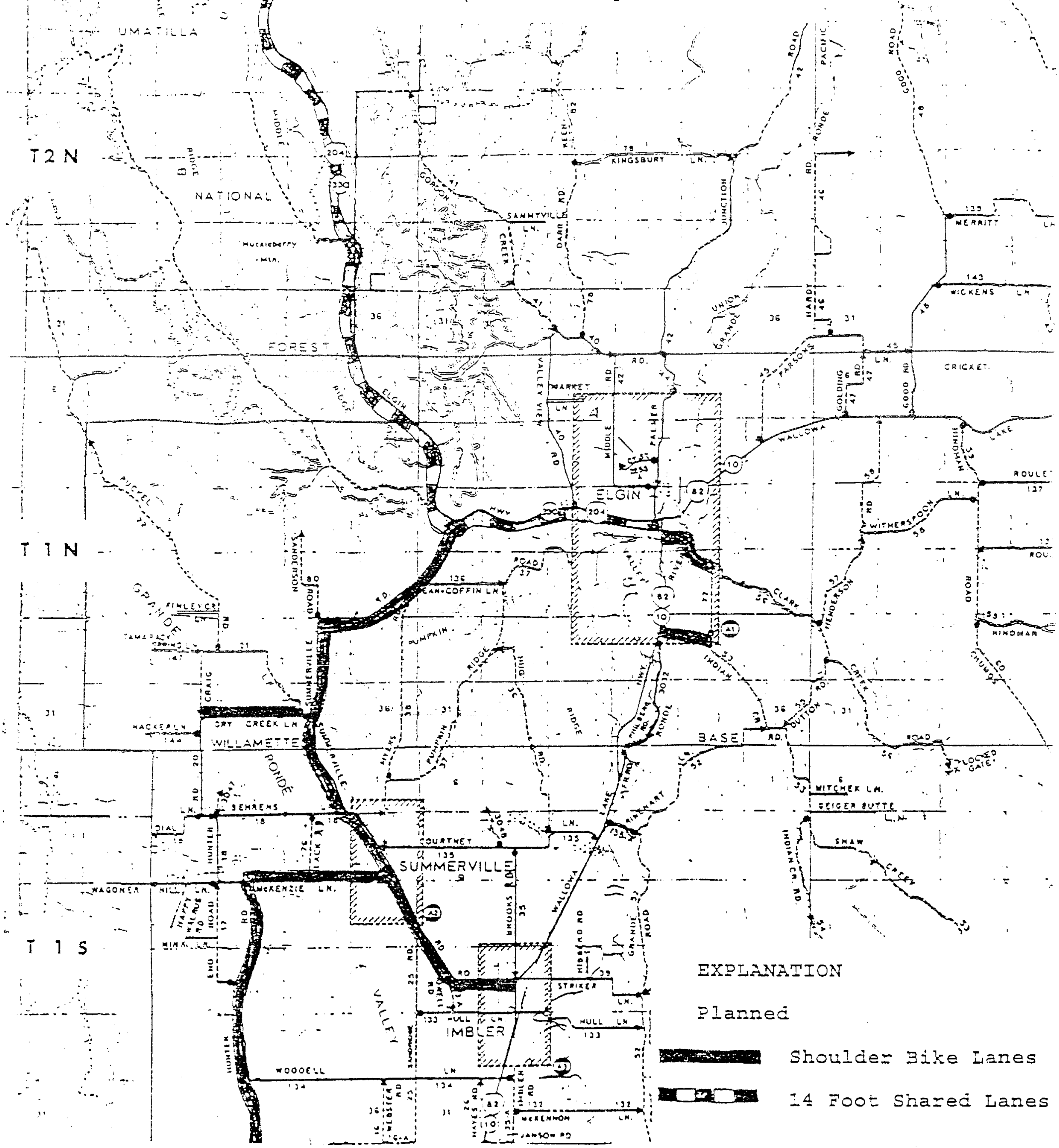
Project	From-To	Miles	Cost	Priority
Widen pavement +12 feet	High Val.-Hwy 203	.39	$158,400	high


UNINCORPORATED UNION COUNTY, OREGON
ROAD FUNCTIONAL CLASSIFICATIONS FOR
BICYCLE AND PEDESTRIAN PLAN - 1995
(North County)
T2N
T1N
T1S
ELGIN
SUMMERVILLE
IMBLER
NATIONAL
FOREST
EXPLANATION
Arterials and Major Collector
Minor Collector and Local Roads

UNINCORPORATED UNION COUNTY, OREGON
ROADWAY FUNCTIONAL CLASSIFICATIONS FOR BICYCLE AND PEDESTRIAN PLAN - 1995
(South County)



UNINCORPORATED UNION COUNTY, OREGON
BICYCLE AND PEDESTRIAN PLAN M - 1995
(North County)



Union County, August, 1995, p.23

UNINCORPORATED UNION COUNTY, OREGON
BICYCLE AND PEDESTRIAN PLAN MAP - 1995
(South County)

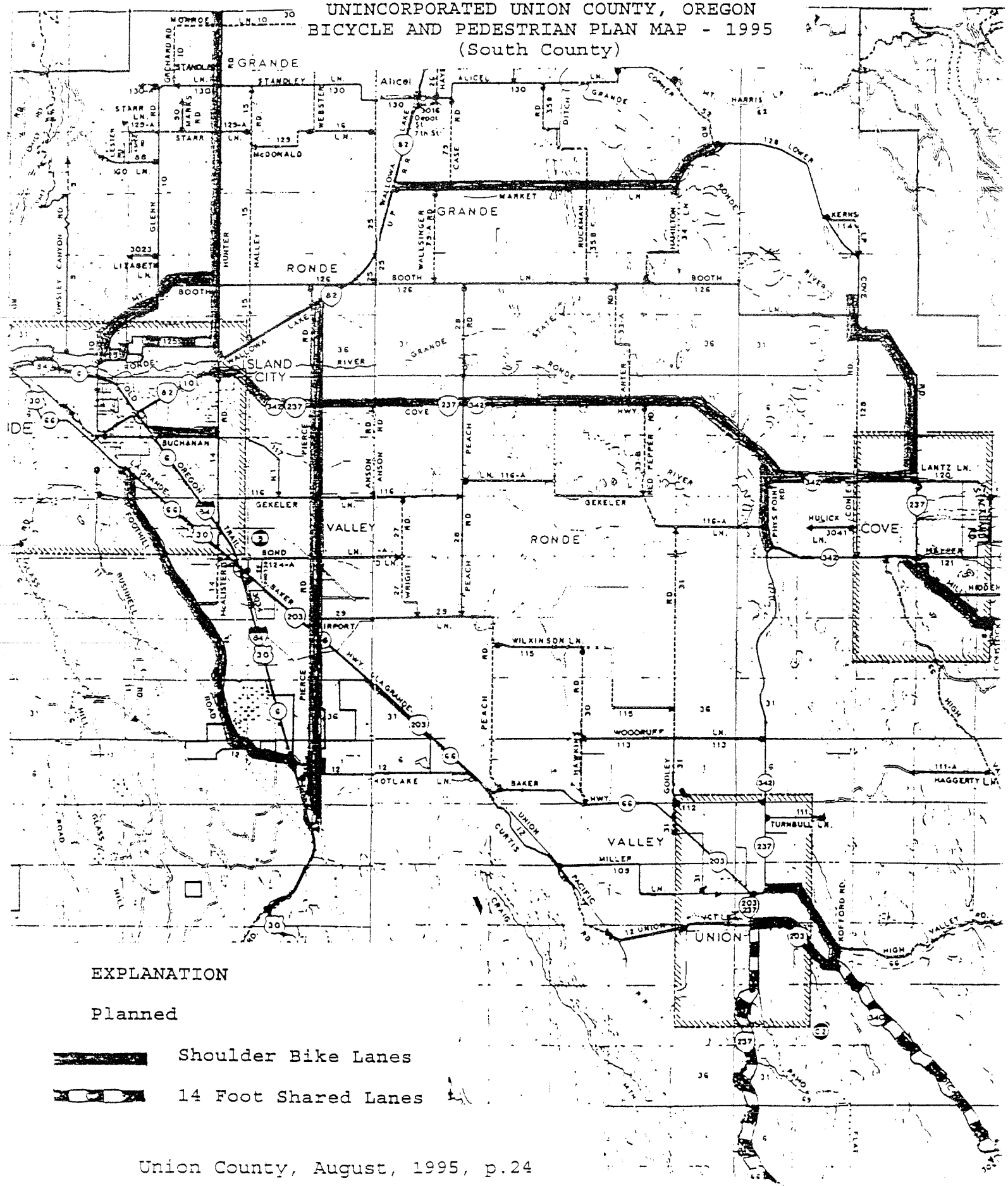


Table 1: Summary of Existing Facilities and Recommendations

Road Name/Segment	Existing Geometry	Recommendations
State Hwy 203 **La Grande-Baker Hwy**	Minor Arterial Right-of-way: 80	
La Grande-Union	Pave: 28 2(14t)	No change.
Medical Springs Hwy	Major Collector Right-of-way: 80	
Union ECL-Kofford Rd	Length: Pave: 28 2(14t)	Pave: 36 2(14t) 2(4sh) paved
Kofford Rd-Baker Co.	Length: Pave: 24 2(12t)	Pave: 28 2(14t) fog lines
State Hwy 204 **Elgin-Tolgate Hwy** **ECL Elgin-Umatilla Co**	Minor Arterial Right-of-way: 80 Length: Pave: 24 2(24t) 2(2sh)	Pave: 28 (214t) fog lines
State Hwy 237 **Cove Hwy** Island City-Union and Cove - Union	Major Collector Right-of-way: 80 Length: Pave: 28 2(14t) fog line 2(2sh) gravel	Pave: 36 2(14t) 2(4sh) paved 2(2sh) gravel
LaGrande-Baker Hwy SCL Union-Baker Co.	Length: Pave: 24 2(12t)	Pave: 28 2(14t) fog line
County Road #10 **Mt Glen Road** Booth-Black Hawk Tr Popular bike route in Union County.	Major Collector Right-of-way: 60 Length: 1.56 mi. Pave: 20 2(10t)	Pave: 32 2(12t) 2(4sh) paved
Key: **t** travel lane, **sh** shoulder bikeway, **bl** bike lane.		

Table 1: Summary of Existing Facilities and Recommendations

Road Name/Segment	Existing Geometry	Recommendations
County Road #14 **McKenzie Lane** ECL Summervil-Hunter Popular bike route in Union County.	Major Collector Right-of-way: 60 Length: 2.16 mi. Pave: 24 2(12t) 2(2sh) gravel	 Pave: 32 2(12t) 2(4sh) paved
County Road #14 **Hunter Road** McKenzie-Woodell Popular bike route In Union County. Woodell-Fruitdale Popular bike route in Union County.	Major Collector Right-of-way: 60 Length: 3 mi. Pave: 21 2(10.5t) 2(2sh) gravel Length: 6.59 mi. Pave: 24 2(12t) 2(2sh) gravel	 Pave: 32 2(12t) 2(4sh) paved Pave: 32 2(12t) 2(4sh) paved
County Road #18 **Hunter Rd** McKenzie-Dry Creek Popular bike route in Union County.	Major Collector Right-of-way: 60 Length: Pave: 21 2(10.5t)	 Pave: 32 2(12t) 2(4sh) paved
County Road #20 **Dry Creek Lane** Summervil Rd-Behrens Popular bike route in Union County.	Major Collector Right-of-way: 60 Length: 3.44 mi. Pave: 21 2(10.5t)	 Pave: 32 2(12t) 2(4sh) paved

Key: t travel lane, **sh** shoulder bikeway, **bl** bike lane.

Table 1: Summary of Existing Facilities and Recommendations

Road Name/Segment	Existing Geometry	Recommendations
County Road #23 **Pierce Road**	Major Collector Right-of-way: 60	
Hwy 82-Hwy 237	Length: 2.06 mi. Pave: NA 2(15t) gravel	Pave: 32 2(12t) 2(4sh) paved
Hwy 237-Hwy 203	Length: 3.73 mi. Pave: 24 2(12t)	Same as above.
Hwy 203-Foothill	Length: 2.24 mi. Pave: NA 2(12t) gravel	Same as above.
County Road #23B **Oregon Trail Road**	Major Collector Right-of-way: 60	
I84-Bagwell	Pave: 24 2(12t)	No change.
Bagwell-NCL North P.	Pave: 22 2(11t)	No change.
County Road #32 **Phys Point Road**	Major Collector Right-of-way: 60	
Hwy 237-Hwy 237 Popular bike route in Union County.	Length: 1.16 mi. Pave: 20 2(10t)	Pave: 32 2(12t) 2(4sh) paved
County Road #39 **Summerville Road**	Major Collector Right-of-way: 60	
Imbler-Summerville	Length: 2.71 mi. Pave: 24 2(12t) 2(sh) gravel	Pave: 32 2(12t) 2(4sh) paved
Summerville-Hwy 204 Popular bike route in Union County.	Length: 6.67 mi. Pave: 20 2(10t) 2(2sh) paved	Pave: 32 2(12t)
Key: **t** travel lane, **sh** shoulder bikeway, **bl** bike lane.		

Table 1: Summary of Existing Facilities and Recommendations

Road Name/Segment	Existing Geometry	Recommendations
County Road #42 **N Palmer JCT Road** Palmer JCT-Robinson	Major Collector Right-of-way: 60 Pave: 28 2(14t) fog lines	 No change.
County Road #44 **Palmer JCT Road** NCL Elgin-Gordon Cr	Major Collector Right-of-way; 60 Pave: 24 2(12t) 2(2sh) gravel	 No change.
County Road #63 **Lower Cove Road** Hwy 237-Conley Road Popular bike route in Union County.	Major Collector Right-of-way: 60 Length: 3.32 mi. Pave: 21 2(10.5t) 2(2sh) gravel	 Pave: 32 2(12t) 2(4sh) paved
County Road #65 **Mill Creek Lane** ECL Cove-Comstock Popular bike route in Union County.	Major Collector Right-of-way: 60 Length: 1.25 mi. Pave: 28 2(14t)	 Pave: 32 2(12t) 2(4sh) paved
County Road #75 **Nice Road** Wolf Cr-Coughanour	Major Collector Right-of-way: 60 Pave: 22 2(11t)	 No change.
County Road #101 **N Powder River Lane** I84-Ellis Road	Major Collector Right-of-way: 60 Pave: 20 2(10t)	 No change.
County Road #103 **Ellis Road** NPowderRv-Coughanour	Major Collector Right-of-way: 60 Pave: 20 2(10t)	 No change.
Key: **t** travel lane, **sh** shoulder bikeway, **bl** bike lane.		

Table 1: Summary of Existing Facilities and Recommendations

Road Name/Segment	Existing Geometry	Recommendations
County Road #104 **Wolf Creek Lane** Oregon Tr Rd-Nice Rd	Major Collector Right-of-way: 60 Pave: 22 2(11t)	 No change.
County Road #117 **Buchanan Lane** ECLLaGrande-McAlister Popular bike route between cities.	Major Collector Right-of-way: 60 Length: 0.77 mi. Pave: 29 2(10t) 1(9bl) north side 1(4sh) south/grvl Bike lane pavement is not built to road standards.	 Pave: 36 2(12t) 2(6sh) paved
County Road #125 **Fruitdale Lane** Mt Glen-Hunter Popular bike route for urban residents.	Major Collector Right-of-way: 60 Length: 2.24 mi. Pave: 20 2(10t) 2(2sh) gravel	 Pave: 28 2(14t) fog lines
County Road #126 **Booth Lane** Mt Glen-Hunter Popular bike route.	Major Collector Right-of-way: 60 Length: 1.10 mi. Pave: 28 2(14t)	 Pave: 32 2(12t) 2(4sh) paved
County Road #128 **Market Lane** Hwy 82-Lower Cove Rd Popular bike route in Union County.	Major Collector Right-of-way: 60 Length: 10.41 mi. Pave: 21 2(10.5t) 2(2-3sh) gravel	 Pave: 32 2(12t) 2(4sh) paved
County Road #140 **N.Palmer JCT Road** Robinson Rd-Moses Cr	Major Collector Right-of-way: 60 Pave: 26 2(13t)	 No change.
Key: t travel lane, **sh** shoulder bikeway, **bl** bike lane.		

Table 1: Summary of Existing Facilities and Recommendations

Road Name/Segment	Existing Geometry	Recommendations
County Road #12 **Foothill Road** Gekeler Ln-Hwy 30 Popular bike/ped route for La Grande.	Local Road Right-of-way: 60 Length: 8.88 mi. Pave: 26 2(13t)	 Pave: 32 2(12t) 2(4sh) paved
County Road #66 **High Valley Road** ECL Union-Kofford Rd Popular bike loop for Union.	Minor Collector Right-of-way: 60 Length: 2.03 mi. Pave: 20 2(10t)	 Pave: 32 2(12t) 2(4sh) paved
County Road #66A **Kofford Road** High Valley-Hwy 203 Popular bike loop for Union.	Minor Collector Right-of-way: 60 Length: 0.39 mi. Pave: 20 2(10t)	 Pave: 32 2(12t) 2(4sh) paved
Key: t travel lane, **sh** shoulder bikeway, **bl** bike l ane.		

III. BIKEWAY AND WALKWAY PLANNING PRINCIPLES, OBJECTIVES, PLAN POLICIES AND DESIGN STANDARDS

The bikeway and walkway planning principles and design standards discussed below were derived in whole or part from the Oregon Bicycle and Pedestrian Plan, 1995 draft, which has been an invaluable aid in preparation of this plan.

A. PLANNING PRINCIPLES

1. INTRODUCTION

New national and statewide emphasis on increasing walking and bicycling as important modes of transportation require that we design and provide appropriate bicycling and pedestrian facilities that are safe, direct, convenient and attractive to users.

It is physically, financially and politically impractical to provide a new and separate bicycle and pedestrian network in developed urban areas. It is therefore necessary to reconfigure existing roads to accommodate bicycles and pedestrians.

In Oregon, a basic principle for planning bikeway and walkway networks is to build and reconfigure roads to serve all users, both motorized and non-motorized. Bicycling and walking should occur on the existing roadway system that already serves all destinations.

2. ARTERIAL AND COLLECTOR STREETS

The arterial and collector street network is important to pedestrian and bicycle circulation in urban areas because it serves the mobility and access needs of the entire community. Arterial streets carry mostly through traffic. Collector streets carry traffic to and from local streets and arterials. Arterials and collectors provide direct, continuous and convenient access to most destinations. However, problems need to be overcome before they can be effectively used. Many arterial and collector streets have very high traffic volumes and speeds that discourage people who might want to walk or bike. Local streets are quieter, but are often not as direct or convenient.

Arterial and collector streets can be modified to accommodate bicycles and pedestrians when they are newly built or reconstructed, or by renovating them with bikeways and walkways.

In developed urban areas there is often little opportunity to add bicycle and pedestrian facilities by widening roadways because right-of-ways are utilized. Therefore, it will often be necessary to rededicate existing roadway space from automobile to bicycle and pedestrian use. This can help reduce traffic speeds and make the streets more attractive safe and pleasant for all users.

3. RURAL AND URBAN BICYCLE AND PEDESTRIAN FACILITIES

Union County's road network contains urban and rural areas with both paved and gravel semi-rural roads as well as city streets with and without curbs and sidewalks. The principles used to design bike and pedestrian facilities for urban and rural areas are summarized below.

a. Rural Areas

Rural areas include the unincorporated portion of the county. For small incorporated rural cities with low population densities rural standards may suffice for existing levels of urban development. However, as urban development increases, urban standards should be used.

Bikeways

On most rural county roads shoulder bikeways are appropriate. In general the standard shoulder widths recommended by ODOT for rural highways are adequate for bicycle travel. These standards take into account traffic volumes, traffic speeds, and other traffic operation considerations.

Walkways

In small rural cities with low population density 6 foot wide roadway shoulders may be used as interim pedestrian facilities. On rural county roads or state highways where residential and commercial uses abut the road, sidewalks may be needed. In a rural community, sidewalks or streets without curbs and gutters, on one or both sides of the street, will provide adequate pedestrian facilities and preserve the rural residential character of the street better than paving 6 foot shoulders.

b. Urban Areas

In urban areas the type of bicycle and pedestrian facilities is determined by the functional classification of the roadway.

Bikeways

<u>Arterials and Major Collectors</u>

On arterial and collector streets the appropriate facilities for bicycles are bike lanes. Bike lanes help define the road space, provide bicyclists a path free of obstructions, increase the comfort and confidence level of bicyclists riding in traffic, and signal to motorists that bicyclists have a right to the road.

Where it is not physically possible to provide bike lanes due to physical constraints such as existing buildings or environmentally sensitive areas, a 14 foot wide outside lane may be substituted. A 14 foot wide lane allows a motor vehicle to pass a bicycle without leaving the travel lane. The bike lane should resume where the constraint ends.

Where bike lanes cannot be provided, a safer bike and pedestrian environment can be achieved by reducing traffic speeds to 25 MPH or less using traffic calming techniques.

Minor Collectors and Local Streets
The appropriate facilities for bikes on minor collectors and local streets are shared roadways, because the low traffic speeds and volumes allow bicycles and automobiles to safely share the road.

Bike lanes are appropriate on minor collectors if traffic speed is above 25 MPH or traffic ADT is over 3000. Bike lanes on minor collectors are also appropriate to connect existing bike lanes or to extend bike lanes to destination points that generate high bicycle use, such as schools, parks and multi-family residential uses.

Walkways
Sidewalks are the appropriate pedestrian facilities in urban areas and should be provided on all urban streets. They provide a hard all-weather surface, physically separated from motor vehicle traffic as required by ADA regulations. Planting strips separate pedestrians from traffic and increase user comfort and safety.

Arterials and Major Collectors
Sidewalks should be provided on both sides of arterial and major collector streets in urban areas. In developing areas at the urban fringe or in small rural cities a paved 6 foot shoulder for shared pedestrian and bicycle use may be used as an interim pedestrian facility. This notion is based on rural standards. As urban development proceeds sidewalks should be provided.

Minor Collectors and Local Streets
Sidewalks should be provided continuous on one or both sides of all new minor collector and local streets. Often it isn't possible to install sidewalks in neighborhoods which were developed without them. On minor collector and local streets which do not have sidewalks, and have very low traffic volumes and speeds, it may be appropriate for pedestrians to share the road with vehicles. When pedestrians must share the road, a safer pedestrian environment can be achieved by reducing traffic speeds to 25 MPH or less using traffic calming techniques.

4. AASHTO GUIDELINES

To establish design practices and standards for bicycle facilities the Oregon Department of Transportation adopted the American Association of State Highway and Transportation Official's (AASHTO) manual "Guide for the Development of Bicycle Facilities 1991," with minor changes and supplements. The guide

is available from the American Association of State Highway and Transportation Officials, 444 N. Capitol Street, N.W., Suite 225, Washington, D.C. 20001.

Local bikeway projects funded by ODOT grants must conform to the ASSHTO guidelines as supplemented in the Oregon Bicycle and Pedestrian Plan. The Oregon Bicycle and Pedestrian Plan is available from ODOT's Bicycle and Pedestrian Program, 210 Transportation Building, Salem, OR 97310.

All traffic control devices must conform to the national "Manual on Uniform Traffic Control Devices" (MUTCD) as supplemented by the Oregon Traffic Control Devices Committee.

5. TRANSPORTATION PLANNING RULE, AND THE OREGON BICYCLE AND PEDESTRIAN PLAN

The Transportation Planning Rule (OAR 660 Chapter 12) requires local bicycle and pedestrian plans to comply with the Oregon Transportation Plan (OTP). The Oregon Bicycle and Pedestrian Plan is a refinement of the OTP that sets statewide standards for the design, construction, operation, and maintenance of safe and attractive bicycle and pedestrian facilities. The City of La Grande Bicycle and Pedestrian Plan is guided by the Oregon Bicycle and Pedestrian Plan and adheres to the statewide standards.

B. OBJECTIVES AND LOCAL PLAN POLICIES

The goal of this Plan is to integrate a county-wide network of safe, convenient and attractive bicycle and pedestrian facilities that will link state, county and city systems and enable people in urban and rural residential areas to access any destination within 5 miles of their homes by bike or foot.

The plan policies identify general guidance for future bicycle and pedestrian facilities. They are developed to implement specific Oregon Transportation Planning Rule requirements.

Land use plan policies and planning standards are implemented by land use regulation code provisions, i.e. zoning, partition and subdivision ordinances; which are specific, usually establishing specific standards for future development.

The plan policies, planning standards and code provisions are an assimilation of local experience and other local references -- i.e. Transportation Rule Implementation Project - City of Eugene, October 1992 and Recommendations for Pedestrian, Bicycle and Transit Friendly Development Ordinances - APA, February 1993 Draft.

The following Objectives and Plan Policies will be incorporated into the land use plan during implementation. These

provisions are also intended to be used as a model for other jurisdictions when they are addressing federal and state bicycle and pedestrian transportation planning requirements.

Objective 1

Integrate bicycle and pedestrian planning into all transportation planning, design, construction and maintenance activities of ODOT, Union County and the eight incorporated cities.

Plan Policies

. Bicycle and pedestrian routes along road and street networks are preferred over separate pathways or accessways to provide safe, direct and convenient facilities.

. Separate bicycle and pedestrian pathways and accessways are reserved for situations where bicycle and pedestrian access would be enhanced and where street connections do not exist or are inappropriate.

. New residential streets will connect with existing street networks in order to provide more direct and convenient routes for automobiles, pedestrian and bicycle travel. Cul-de-sacs will be discouraged except where necessitated by environmental or existing development limitations.

Plan policies are adopted to satisfy the bicycle and pedestrian elements of the TPR 12.

Implementing ordinances, codes and standards are adopted to carry out the Plan Policies.

A Bicycle Coordinator and perpetual Bicycle Advisory Committee will coordinate the efforts of planning, public works, enforcement, and promotional activities as described in this Plan, and will be responsible for monitoring the continuing achievements of the Plan.

Develop dependable funding sources and actively seek additional sources.

Objective 2

Provide and maintain a network of safe and convenient pedestrian and bicycle access within and from new subdivisions, planned developments, shopping centers and industrial parks to nearby residential areas, and neighborhood activity centers, such as schools, parks and shopping.

Plan Policies

Provide bicycle facilities along all arterial and major collectors and sidewalks along all arterials and collector streets in urban areas.

Improve access and mobility for commuter and recreational bicyclists and foot travelers of all ages by removing hazards or barriers and minimizing travel distances.

Designate and develop bikeways and sidewalks connecting neighborhoods, schools, commercial, industrial and recreation centers.

Provide internal pedestrian circulation in new office parks, and commercial developments by clustering buildings, and constructing sidewalks.

Provide bicycle parking facilities as part of new multifamily residential developments of four units or more, new retail, office, and institutional developments.

Provide convenient and secure parking and commuter facilities at destinations.

Establish expenditure priorities for the minimum 1 percent State Highway Funds set aside by ORS 366.514 to construct, maintain and operate bicycle and pedestrian facilities.

Adopt design standards and policies that promote safe, convenient and pleasurable bicycle and pedestrian facilities to encourage bicycling and walking.

Provide uniform signing and marking of all bike and pedestrian facilities.

Identify and adopt management practices such as regular sweeping, patching and maintenance to preserve bikeways and sidewalks in a generally smooth, clean and safe condition.

Objective 3

Promote bicycling and walking as safe and convenient forms of transportation for all ages and all trip types by promoting bicycle and pedestrian safety education and enforcement programs.

<u>Plan Policies</u>

Build bicycle safety education programs to improve bicycle skills, observance of traffic laws, and promote overall safety for bicyclists and pedestrians of all ages.

Monitor and analyze bicycle accident data to formulate ways to improve bicycle safety.

Moderate hazards due to high traffic speeds and volumes to encourage bike and foot travel for short trips.

Objective 4
Increase bicycling and walking in urban areas to encourage 10% of trips by bike or foot.

Plan Policies
Collect and analyze data annually to increase bicycle usage and to improve the system's safety and efficiency.

Establish benchmarks to measure progress.

C. BIKEWAY DESIGN STANDARDS

1. INTRODUCTION
Bicycles are legally classified as vehicles. They can and will be ridden, and should be expected on most public roadways in Oregon. New roadways in La Grande therefore should be designed and constructed to accommodate both automobile and bicycle traffic. Road improvements for automobiles should be planned to enhance bicycle travel whenever possible, and should not create barriers and hazards for bike travel.

La Grande's urban and rural areas contain both paved and gravel semi-rural roads as well as city streets with and without curbs and sidewalks. The following standards recognize this variety and address both new construction and improvements on existing roadways. The design standards are meant to give bicyclists space on the roadway where they can travel with convenience and safety; to allow bicyclists to emulate automobile drivers and blend into the traffic flow. Attention is given to minimizing conflicts with motorists and pedestrians. In all cases, it is important that bikeways be incorporated into other road work to both minimize cost and to create an integrated system where all modes - motorized and non-motorized - are considered.

2. TYPES OF BICYCLE FACILITIES
There are four types of bicycle facilities: 1. shared roadways, 2. wide outside lane, 3. shoulder bikeway, and 4. bike lanes. Each facility design is discussed below.

a. Shared Roadway
On a shared roadway bicycles and automobiles share the same travel lanes. An automobile driver usually crosses over into the adjacent travel lane to pass a bicycle.

Design Criteria
There are no specific bicycle standards or treatments for shared roadways; they are simply the roads as constructed for automobiles. Shared roadways are appropriate on urban and rural minor collectors and local roads which have low traffic volumes and speeds.

Shared roadways are suitable in urban areas on streets with speed limits of 25 MPH or less, or traffic volumes of 3,000

ADT or less. In rural areas, the suitability of a shared roadway decreases as traffic speeds increase, especially on roads with poor sight distance.

Oregon state law establishes 25 MPH as the speed limit for residential streets and 20 MPH in business districts. However, typical residential and commercial streets allow 35-45 MPH speeds and volumes which are higher than their functional classification would normally allow. Traffic speeds and volumes may be reduced using relatively low cost "traffic calming" techniques such as curb extensions and diagonal diverters.

b. Wide Outside Lanes

A wide outside lane may be used where shoulder bikeways or bike lanes are warranted but cannot be provided due to physical constraints.

Design Criteria

A wide outside lane should be 14 feet wide but no more than 16 feet wide. A 14 foot wide outside lane allows an average size automobile to pass a bicycle without crossing over into the adjacent travel lane. Lane widths greater than 14 feet encourage the undesirable operation of two automobiles in one lane. In this situation, it is best to stripe a bike lane or shoulder bikeway. The pavement width is normally measured from curb face to lane stripe with adjustments made for drainage grates, parking, and longitudinal ridges between pavement and gutter sections.

c. Shoulder Bikeway

Smooth paved roadway shoulders on rural roadways provide a suitable area for bicycles, safe from conflicts with faster moving traffic. The majority of rural bicycle travel in unincorporated Union County will be accommodated on shared roadways or roadway shoulders.

Design Criteria

In rural areas the suitability of a shared roadway decreases as traffic speeds increase, especially on roads with poor sight distance. Where bicycle use or demand is expected to be high, roads should be widened to include shoulder bikeways or bike lanes. If traffic speeds are greater than 45 MPH and the ADT above 2000, bike lanes are recommended.

Paved shoulders are provided on rural roadways for a variety of safety, operational, and maintenance reasons, including emergency stopping, improved sight distance, structural support of the paved surface, and other maintenance and operation considerations. In general, the shoulder widths recommended for rural roadways and highways in the ODOT Highway Design Manual will serve bicycles well.

The standard width for shoulder bikeways is 6 feet. This provides ample width for bicycles, allows bicyclists to ride far enough from the edge of the pavement to avoid debris, and far enough from passing vehicles to avoid conflicts. Where there are physical width limitations, a minimum 4 foot shoulder may be adequate. Shoulders against a curb face must have a 5 foot minimum width, measured from lane stripe to curb face, the face of a guard rail, or other roadside barrier. On climbing lanes, a 6 foot shoulder (5 foot minimum) is needed to give uphill bicyclists the additional space needed to maneuver.

Whenever a highway or roadway is constructed, widened or overlain, all gravel driveways should be paved back a minimum 15 feet to prevent loose gravel from tracking onto the roadway shoulders.

ODOT's Standard Shoulder Widths for Rural Highways

Traffic Volume	Shoulder Widths		
	Rural Arterial	Collector	Rural Local
ADT under 250	4 ft	2 ft	2 ft
ADT 250-400	4 ft	2 ft	2 ft
ADT 400-DHV *100	6 ft	4 ft	4 ft
DHV 100-200	6 ft	6 ft	6 ft
DHV 200-400	8 ft	8 ft	6 ft
DHV over 400	8 ft	8 ft	8 ft

*DHV (Design Volume) is the expected traffic volume in the peak design hour (usually commuter times). DHV can vary from 13% to 25% of ADT. Source: Oregon Bicycle and Pedestrian Plan, 1995 draft.

Many paved county roads are 24 feet wide or less without a fog line. If present, fog lines are striped 10 or 11 feet from the center line. The remaining 2 feet of pavement should not be considered a shoulder bikeway (minimum width is 4 feet for a shoulder bikeway). These are considered shared roadways because most bicyclists will ride on or near the fog line.

Where existing gravel shoulders have sufficient width and base to support shoulder bikeways, minor excavation and the addition of 3 to 4 inch asphalt mat is often all that is required to provide shoulder bikeways. It is better to construct shoulder widening projects in conjunction with pavement overlays for the following reasons:

- The top lift of asphalt will add structural strength.
- The final lift will provide a smooth, seamless joint.

- The overall cost will generally be less per ton of material because labor and equipment can be used more efficiently.

- Traffic will be disrupted only once for both operations (widen the shoulder and overlay the pavement).

Pavement Design

When shoulder bikeways are constructed as part of a reconstruction project the pavement structural design should be the same as for the roadway. On shoulder widening projects that primarily benefit bicycles, consider building to a lesser thickness to reduce costs. Two to three inches of aggregate and two to four inches of asphalt over the existing roadway shoulders may be adequate if the following conditions are met:

- There are no planned widening projects for the road section in the foreseeable future.

- The existing shoulder area and roadbed are stable and there is adequate drainage or adequate drainage can be provided without major excavation and grading work.

- The existing travel lanes have adequate width and are in stable condition.

- The horizontal curvature is not excessive, so that the wheels of large vehicles do not track on the shoulder area. On roads that have generally good horizontal alignment, it may be feasible to build only the inside curves to full depth.

- The existing and projected ADT and heavy truck traffic is not considered excessive (e.g., under 10%).

The thickness of base material and pavement will depend upon local conditions. Engineering judgment should be used. On short sections where travel lanes must be reconstructed or widened, the road pavement should be constructed to normal full-depth base design standards.

When paved shoulder bikeways are added to an existing roadway to accommodate bicycles where no overlay project is scheduled, a saw-cut one foot inside the existing edge of the pavement allows a good tight joint, eliminates a ragged joint at the edge of the existing pavement.

d. Bike Lanes

A bike lane is a well marked travel lane on the roadway designated for preferential use by bicycles. Bike lanes are appropriate on urban arterials and major collectors. They may

also be established on rural roads where significant bicycle use is expected.

Design Criteria

Bike lanes are one-way facilities that carry bicycle traffic in the same direction as adjacent motor vehicle traffic.

The standard bike lane width is 6 feet, wide enough for a bicyclist to ride far enough from the curb to avoid debris and drainage grates and far enough from adjacent traffic to avoid conflicts. Bicyclists riding three or four feet from the curb are more visible to passing traffic than bicyclists who hug the curb.

The minimum width for a bike lane is 4 feet on open shoulders, or 5 feet from the face of a curb, guard rail or parked cars. Bike lanes wider than 6 feet may be mistaken for a motor vehicle travel or parking lane.

A bike lane must be marked with an 8-inch wide lane stripe and pavement stencils to mark it for preferential use by bicycles.

If parking is permitted the bike lane should always be placed between the parked cars and the travel lane and be a minimum 5 feet wide.

Bike lanes on one-way streets should be on the right side of the roadway except where a bike lane on the left will decrease the number of conflicts (e.g., conflicts with right-turn lanes, driveway entrances). Bike lanes should only be located on the left side of one-way street if it is possible to safely reenter the traffic flow at the ends of the section.

A contra-flow bike lane on a one-way street is permitted in the December 1994, draft Oregon Bike and Pedestrian Plan, page 112, in some situations including the following:

1. The contra-flow bike lane is short and provides direct access to a high use destination.

2. Bicyclists can safely and conveniently reenter the traffic stream at either end of the section.

3. Bicyclists already use the street.

4. There is sufficient street width to accommodate full-dimension bike lanes.

5. The contra-flow bike lane would be placed on the right hand side of the street (to drivers' left) and must be separated from the oncoming traffic by a double yellow

line. This indicates that the bicyclists are riding on the street legally, in a dedicated travel lane.

3. ADDITIONAL BIKEWAY DESIGN CONSIDERATIONS

a. Signalized Intersections

At controlled intersections along roadways designated for bicycles, the traffic signal timing and detection devices should be responsive to bicycles. Bicyclists can usually cross an intersection in the same time allowed for automobiles. On multi-lane streets it is important to use longer signal intervals.

b. Drainage Grates

Drainage grate inlets and utility covers pose potential problems for bicycles. When new roadways are designed and constructed all grates and covers should be kept out of the bikeway. It is important that grates and utility covers be installed flush with the roadway surface, even after the road is resurfaced.

Existing parallel bar drainage grates with bar spacing wide enough to catch bicycle wheels can cause serious damage to a bicycle wheel or frame and/or injure the rider. The grates should be replaced with bicycle-safe and hydraulically efficient ones. As a short-term safety measure steel cross bars should be welded perpendicular to the parallel bars. Simply flagging parallel grates with pavement markings doesn't make them safe for bikes.

c. Railroad Crossings

Railroad highway grade crossings should be at right angles to the rails. The greater the crossing deviates from 90 degrees, the greater the chances of a bicycle front wheel being caught in the flangeway causing the rider to fall. It is also important for the roadway approach to be the same elevation as the rails. The angles, elevations, materials, and signs used for railroad crossings should conform to AASHTO standards.

d. Community Path System

A system of community trails and paths can contribute to the bikeway and walkway network if carefully designed and developed. Refer to the The Oregon Bicycle and Pedestrian Plan for standards and guidelines.

e. Touring Routes

Bicycle touring may be an important regional recreation activity. The cities, county and chambers of commerce are encouraged to work together to develop guides, maps, and brochures to promote recreational bicycling opportunities.

D. WALKWAY DESIGN STANDARDS

1. TYPES OF WALKWAY FACILITIES

Walkways, usually sidewalks, are designed and constructed to provide safe, convenient, and attractive places for people to walk separated from traffic. Walkways include sidewalks, paths, and roadway shoulders.

a. Sidewalks

In urban areas sidewalks are recommend for pedestrians. Curbs and gutters help drain the road and separate pedestrians from traffic. However, curb and gutter can add substantially to the cost of providing sidewalks in areas without storm drain systems. There are many situations in Eastern Oregon where sidewalks are needed but the cost of curb, gutter, and drainage cannot be justified, or where curbs don't fit the rural character of the community.

Design Criteria

Ideally a sidewalk should be 6 feet wide, but in most situations a 5 foot sidewalk is adequate. This width allows two people to walk side by side, or to pass a third person without leaving the sidewalk surface. Sidewalk width does not include the curb.

The useable 5 foot sidewalk space must be unobstructed from street furniture, trees, planters, mail boxes, light poles, signs, or other obstructions.

A sidewalk directly adjacent a travel lane should be 6 feet wide. In commercial areas and other areas with high foot traffic an 8 foot sidewalk is recommended. It is best to buffer pedestrians from traffic by placing a planting strip, bike lane, or parking lane adjacent the sidewalk.

Vertical clearance under signs, trees, and other vertical obstructions should be 8 feet, minimum 7 feet.

Sidewalks on bridges should match the width of the approach sidewalk, but should not be less than 5 feet. Raised sidewalks on bridges with design speeds greater than 40 MPH require a fence or other vertical barrier at curb line.

In small cities with open drainage systems, sidewalks without curb and gutter may be installed separated from traffic behind drainage swales or drainage ditches. These sidewalks should be built to the same standard as curbed sidewalks.

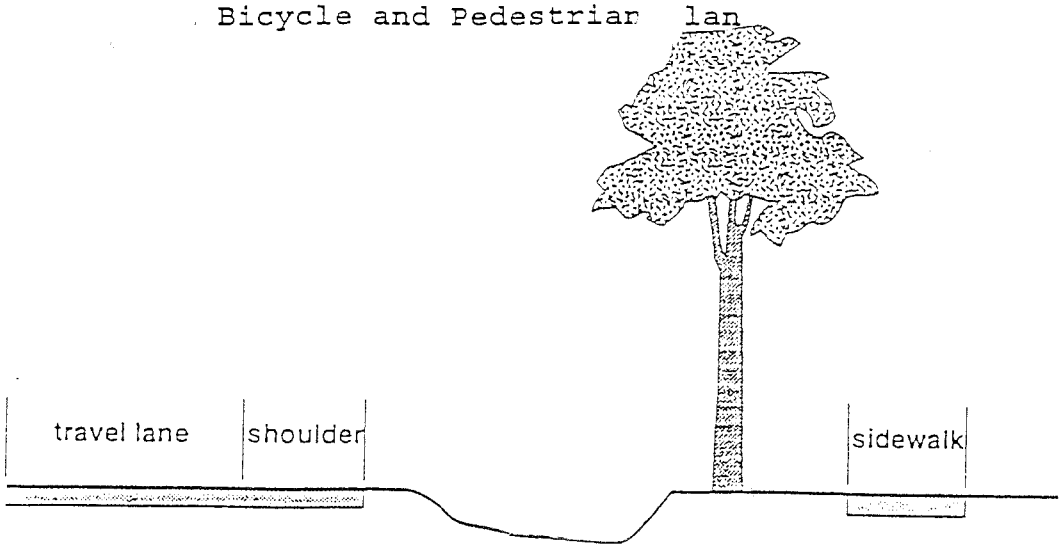


Figure 1: Sidewalk placed behind drainage ditch
Source: Oregon Bicycle and Pedestrian Plan, 1995 draft.

Portland Cement Concrete (PCC) is the best sidewalk material. It provides a smooth durable all weather surface that is easy to grade and repair. Asphaltic Concrete (AC) may be used, but it is susceptible to plant root damage, requires more maintenance, and is less durable than PCC.

b. Paths

In developing urban areas within an Urban Growth Boundary a path along rural roads may be adequate. For example, a path to a rural school may serve pedestrians where sidewalks, curbs, and gutters are not warranted.

Design Criteria

Paths can be either paved or unpaved. In general the standard width of an unpaved path is the same as for sidewalks. As a rule, an unpaved path should not be constructed where a sidewalk is more appropriate. The unpaved surface must be packed hard enough for wheelchair use. Recycled pavement grindings, if available, are usually inexpensive and easy to grade and pack. Paved paths are surfaced with the same materials used for sidewalks.

c. Roadway Shoulders

Along sections of rural roads where few residences or businesses abut the roadway, the roadway shoulder widths recommended by ODOT may be adequate to accommodate pedestrians.

Design Criteria

Paved shoulders are recommended as pedestrian facilities primarily on quiet sections of rural roads, not as urban pedestrian facilities. However, in low density rural communities a 6 foot paved shoulder may serve pedestrian needs in the interim. Note that roadway shoulders do not satisfy ADA requirement for pedestrian facilities which are physically separated from motor vehicle traffic. On rural county roads or state highways where residential and

commercial uses abut the road, sidewalks may be needed. Sidewalks without curb and gutter, provided on one or both sides of the road will provide adequate pedestrian facilities and preserve the rural residential character of the community better than paving 6 foot shoulders.

E. ADDTIONAL PLANNING CONSIDERATIONS

1. AMERICANS WITH DISABILITIES ACT (ADA)

The American with Disabilities Act (ADA) requires that transportation facilities accommodate disabled persons. For most practical purposes wheelchair users and vision-impaired people are the pedestrian facility user groups whose needs require special attention. ADA requires that pedestrian facilities be physically separated from motor vehicle traffic.

Sidewalk standards used by the jurisdictions in Union County are based on ODOT's standards and meet or exceed minimum ADA requirements.

a. Width

ADA requires a minimum 3 foot wide sidewalk; ODOT's standard 6 foot wide sidewalk exceeds this requirement.

b. Grade

ADA requires that facilities have 5% or less grade. A maximum grade of 12:1 (8.33%) is acceptable for a rise not more than 2.5 feet if a level landing at least five feet long is provided at each end. It would be better to extend the length of the rise to achieve a flatter grade of 5%.

Often when roads are built in hilly terrain, and the adjacent residential and commercial land uses warrant sidewalks, they will probably have to be built to the grade of the adjacent road.

c. Crossings

The allowable cross-slope for sidewalks and paths is 2%. At driveway approaches and curb cuts a minimum 3 foot wide area should be maintained at 2%.

d. Facilities for the Visually Impaired

Pedestrian facilities should be designed so visually impaired people can track through intersections. It is important to install crosswalks so they form a 90 degree angle with the curb, because visually impaired pedestrians are conditioned to depart the curb at 90 degrees and go straight to the opposite side. If angles other than 90 degrees are used, then the pavement marking material should be detectable to the visually impaired using the long cane method. Most recommended practices for sidewalk construction satisfy these requirements.

2. PLANTING STRIPS

Planting strips separate pedestrians on sidewalks from noisy fast moving traffic, adding to the safety, convenience and enjoyment of walking. A planting strip should be at least 4 feet wide. Wider planting strips allow room for landscaping, street furniture, utilities, and provide a place to store snow removal during winter. Planting strips help improve wheelchair access because sidewalks can be keep at a constant 2% slope (or less) if driveway slopes are built into the planting strip.

3. PEDESTRIAN STREET CROSSINGS

A system of sidewalks is not complete without safe and convenient places to cross the street. Streets can become barriers to pedestrians without safe, convenient crossings to reduce the risk of automobile-pedestrian accidents.

a. Illumination

Many walkway crossings are not well lit. At many locations, improved lighting can increase pedestrian crossing safety at night.

b. Signage

Pedestrian crossing signs, such as advance warning signs (W11-2) and pedestrian crossing signs (W11-A2), located at the crossing can benefit pedestrians. Regulatory signs at intersections reinforce the message that motorists must yield to pedestrians (ORS 17-5). These signs should only be placed at warranted locations because if too many signs are used they may be missed or ignored.

c. Crosswalks

Crosswalks are marked or unmarked areas on the street surface used by people to cross a road. Crosswalks are intended to channel pedestrian movement to designated areas and reduce pedestrian conflicts with motorists. Combined, illumination, signage, and marked crosswalks increase pedestrian safety.

d. Curb Extensions

Curb extensions can reduce the crossing distance for pedestrians on roads and should be considered at all intersections where on-street parking is allowed. On arterial and collector streets, space must be provided for existing or planned bike lanes. Mid-block curb extensions may be constructed where there are pedestrian generators on both sides of the road, i.e., schools, stores, or multiple-family dwellings where significant foot traffic translates into many street crossings. Curb extensions are illustrated in the subsection on Traffic Calming.

4. MULTI-USE PATH DESIGN STANDARDS

The Union County Bicycle and Pedestrian Plan adopts and incorporates the Oregon Bicycle and Pedestrian Plan design standards and practices for multi-use paths, including at-grade

and separated crossings, width and clearance, typical pavement structural sections, grades, structures, railings, fences and barriers.

Multi-use paths, known as "bike paths" in the past, are separated from automobile traffic. It is important to recognize these paths will be used by bicycles, pedestrians, joggers, and skaters, and sometimes even by equestrians, and to design them for a variety of uses.

In certain situations multi-use paths can help complete the bicycle and pedestrian network by providing a shorter, more direct path to destination points than the street network allows. This includes shortcuts through parks, connecting cul-de-sacs, and grade separated freeway, railroad, stream bridge crossings. They may also be components of a community trail system.

Multi-use paths have some disadvantages that are important to note. They create security problems if they are located in isolated places; personal security can become a problem is users cannot be seen. In case of emergency, it could take longer for medical or police help to arrive.

Multi-use paths are difficult and expensive to install and maintain. They must be built to higher standards and require special maintenance.

Multi-use paths should not be placed directly adjacent to roadways because some of the bicyclists will have to ride against traffic, a dangerous and illegal situation. Although not generally encouraged, multi-use paths can be constructed parallel to roadways under specific conditions. Refer to the Oregon Bicycle and Pedestrian Plan.

5. INTERSECTION DESIGN

At intersections the various roadway users must cross paths, giving rise to conflicts and accidents. Intersections should be designed so motorists, bicyclists and pedestrians clearly understand their best trajectory across the intersection and who has right-of-way.

a. Right Angle Intersections

At right angle intersections, bike lanes should be striped to the marked crosswalks or a point where turning vehicles would normally cross them. The bike lanes should resume at the other side of the intersection.

Crosswalks, marked or unmarked, are considered an extension of sidewalks. They should be as short as possible. Wheelchair curb cuts should be placed in line with the crosswalk.

b. Skewed Intersections

Skewed intersections pose problems for all road users and introduce the following complications for bicycles and pedestrians:

- Bicycles and pedestrians are not as visible to motorists;
- The crossing distance for pedestrians is increased; and
- The best way across the intersection may not be evident.

To address these concerns, sight distances should be improved by removing obstacles. Curb extensions and pedestrian refuge islands should be provided. Bike lanes may be striped with dashes to guide bicyclists across.

c. Multiple Intersections

Multiple intersections pose problems for all road users and introduce the following complications for bicyclists and pedestrians:

- Multiple conflict points are created as motorists arrive from several directions;
- The visibility of bicycles and pedestrians is poor as they cross several lanes of traffic;
- Increased distance across the intersection; and
- At least one leg of the intersection will be skewed.

Again, to address these concerns, sight distances should be improved by removing obstacles. Curb extensions and pedestrian refuge island should be provided. Bike lanes may be striped with dashes to guide bicyclists across.

d. Right Turn-Lanes

Right-turn lanes present special problems for bicyclists and pedestrians for several reasons:

- Right turning cars and through bicycles must cross paths;
- The Additional lane width adds crossing distances for pedestrians; and
- Drivers queued to turn right, may not notice pedestrians on the right, even if pedestrians have the right-of-way.

To address these concerns for bicyclists, the paths of through bicyclists and right turning drivers should merge and cross prior to the intersection for the following reasons:

- Their paths cross and potential conflicts occur prior to the intersection;

- The different travel speeds allow a vehicle driver to pass a bicyclist rather than ride side-by-side; and

- All users are encouraged to follow the rules of the road requiring through vehicles to proceed to the left of right-turning vehicles.

For pedestrian safety and convenience, the pedestrian crossing must be clearly visible to the approaching right-turning vehicles. Where needed, curb extensions and pedestrian refuges should be provided to increase visibility and decrease the total crossing distance.

F. BIKEWAY SIGNING, MARKING, AND RESTRIPING

1. INTRODUCTION

As previously mentioned, all traffic control devises must conform to the national "Manual on Uniform Traffic Control Devices" (MUTCD) as supplemented by the Oregon Traffic Control Devices Committee. It is very important that signing and marking of bikeways and walkways is uniform and consistent if the facilities are to command the respect of the public and be safe for users. To provide uniformity and continuity, all jurisdictions in Union County will adopt the statewide traffic control standards.

2. BIKEWAY SIGNING AND MARKING

Standards for bikeway signing and marking are provided in the Oregon Bicycle and Pedestrian Plan, and the MUTCD, and are summarized below.

There are three groups of signs: regulatory, warning and guidance. Regulatory signs inform bicyclists, motorists and other users of traffic laws or regulations. Warning signs inform bicyclists and other users of potential hazardous conditions such as turns and curves, intersections, stops, hills, slippery surfaces, and railroad tracks. Guidance signs direct bicyclists and other users along an established bikeway.

a. Shared Roadways and Shoulder Bikeways

Signing and Marking

Signs aren't usually required on shared roadways and shoulder bikeways. Bicyclists should be expected on all urban local streets which are mostly shared roadways. Roadway shoulders that meet ODOT standards have adequate width and surface to serve bicyclists.

On narrow rural roads heavily used by bicyclists it may be helpful to install bike warning signs (W11-1) with the rider "ON ROADWAY" or "ON BRIDGE ROADWAY." These signs should be used where there is insufficient shoulder width for a

significant distance. This signing should be placed in advance of the roadway condition. If the roadway condition is continuous, an Additional rider "NEXT XX MILES" may be used.

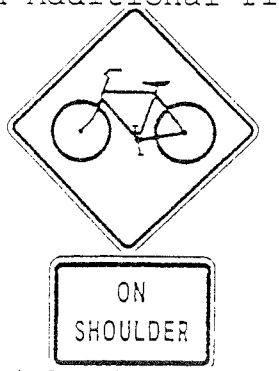


Figure 2: Sign W11-1 with riders
Source: Oregon Bicycle and Pedestrian Plan, 1995 draft.

Directional signs are used when bicycles follow a route different from automobiles for reasons of safety, convenience, or because bicycle are banned from a section of roadway. The detour route should have obvious advantages over the other route.

No special markings are used on shared roadways. A normal 4 inch fog line stripe is used to mark shoulder bikeways.

b. **Bike Lanes**

Signing and Marking

Official marking of bike lanes on urban arterials and collectors, and on appropriate suburban and rural roadways, creates an exclusive or preferential travel lane for bicycles.

Bike lanes are differentiated from the automobile travel lane by an 8 inch white bike lane stripe, and by stenciling a bicycle symbol and directional arrows on the bike lane pavement.

If parking is allowed next to the bike lane, the parking area should be defined by parking space markings or a solid 4 inch wide stripe.

Normally, bike lanes are not striped adjacent to diagonal parking. Where there is ample roadway width and parking spaces are long enough for large vehicles a bike lane may be located behind angled parking. A 4 inch stripe is used to separate the bike lane from the parking.

Bicycle stencils should be placed after most intersections to alert drivers and bicyclists entering the roadway that bike lanes are designated for bicycle use. Stencils should be placed after every intersection where a parking lane is placed between the bike lane and the curb. Avoid placing

stencils where a
such as driveway
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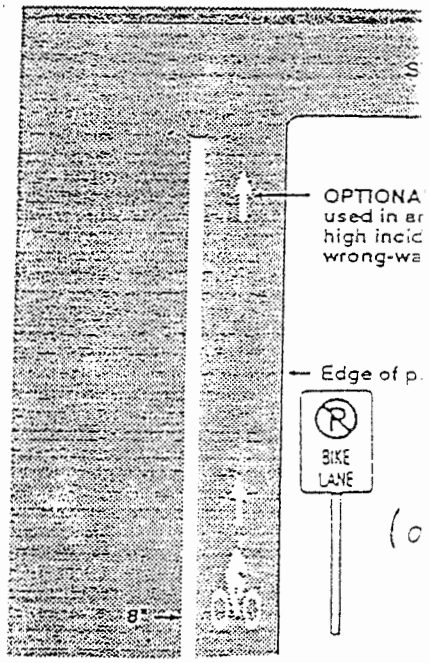


Figure 3: Typical bike
Source: Oregon Bicycle

For right turn lanes at intersections, the short through bike lane segment should be striped with two 8 inch stripes to the left of the right-turn lane and connect to the proceeding bike lane with a dashed line, using 8x24 inch segments on 15 foot centers. This allows turning motorists to cross the bike lanes. A stencil must be placed at the beginning of the through bike lane. Sign R4-4, "BEGIN RIGHT TURN LANE, YIELD TO BIKES," must be placed at the beginning of the taper (see ODOT Bicycle and Pedestrian Plan for standard taper rates).

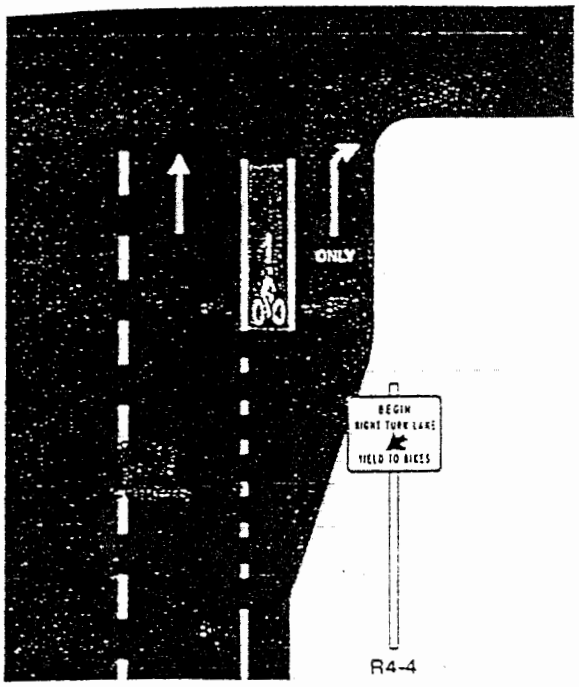


Figure 4: Right turn bike lane
Source: Oregon Bicycle and Pedestrian Plan, 1995 draft.

c. Multi-Use Paths

Signing and Striping

Multi-use paths should be signed with appropriate regulatory, warning and directional signs. Refer to the Oregon Bicycle and Pedestrian Plan.

d. Review of Existing Bikeway Signing and Marking

Many older bikeway signs are now obsolete. It is necessary to periodically inventory and review existing bikeway signs and markings to upgrade and standardized them. In most cases this results in a net decrease in the number of signs.

3. BIKE LANE RESTRIPING GUIDELINES

As noted, many roadways in the urban areas of Union County were constructed without accommodations for bicycles. Few roads include bike lanes. However, bike lanes can be provided to

remove barriers and encourage bicycle travel by retrofitting existing roadways using the following methods:

- Mark and sign existing shoulders as bike lanes. Bike lane standards are listed above and outlined in the Oregon Bicycle and Pedestrian Plan.

- Physically widen the road to add bike lanes. Standards are outlined in the Oregon Bicycle and Pedestrian Plan.

- Restripe the existing road to add bike lanes. On many roadways it is necessary to use the existing road surface to accommodate bike lanes.

Three options for modifying existing roads to accommodate bike lanes or wide outside lanes are discussed below: 1. reduce travel lane widths; 2. reduce number of travel lanes; and 3. reconsider the need for parking.

a. Reduce Travel Lane Widths

Current urban roadway width standards are 12 foot travel lanes, 14 foot center turns lanes, 6 foot bike lanes, and 8 foot parking lanes. The reduced lanes widths presented below are within ASSHTO guidelines. However, review by a traffic engineer is advised. The need for full-width travel lanes decreases with traffic speed.

- In 25 MPH speed zones, travel lanes may be reduced to 10 or 10.5 feet;

- In 30 to 40 MPH speed zones, 11 foot travel lanes and 12 foot center turn lanes may be adequate; and

- In 45 MPH or greater speed zones, maintain a 12 foot outside travel lane, and if traffic volumes are high, maintain a 14 foot center turn lane.

b. Reduce Number of Travel Lanes

Many one-way couplets were originally two-way streets. In some cases traffic can be handled with one less lane.

c. Reconsider the Need for Parking

A roadways primary function is to move people and goods not to store stationary vehicles. When parking is removed safety and road capacity are generally improved. Restricting parking will require negotiations with city councils and affected businesses and residents. To stave off potential conflicts, careful research is needed before making a proposal. This includes:

- Counting the number of businesses and residences and the availability of both on-street and off-street parking.

- Selecting which side would be less affected by removal. It will usually be the side with fewer businesses and

residences or the side with residences rather than businesses in a mixed-use neighborhood.

. Proposing alternatives such as;

  . Allow parking for church or school activities on adjacent lots during services or special events;

  . Businesses share parking; or

  . Construct special parking spaces for residents or businesses with no other options.

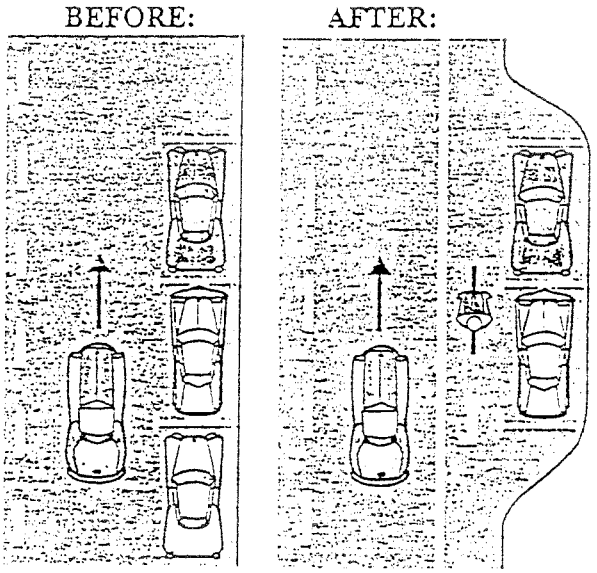


Figure 5: Providing parking when there are no reasonable alternatives. Source: Oregon Bicycle and Pedestrian Plan, 1995 draft.

Remove Parking on One Side Only

It may be necessary to remove parking from one side of the street to provide bike lanes.

Changing from Diagonal to Parallel Parking

Diagonal parking takes up an inordinate amount of roadway width relative to the number of parking spaces provided. It can be hazardous as drivers backing out often can't see oncoming traffic. Changing to parallel parking reduces parking spaces by less than one-half.

Prohibit Employee Parking

Most businesses cite the fear of losing potential customers as the main reason to retain on-street parking. Many cities have had successes with ordinances prohibiting employees parking on the street. This could help increase the number of parking spaces available for customers, even if the number of parking spaces is reduced. Note that one parking

space occupied by an employee for eight hours is the equivalent of 16 customers parking for half an hour each, or 32 customers for 15 minutes.

d. Other Considerations

Obviously not all existing roadway conditions and options for retrofitting roads for bicycles are discussed here. The examples listed provide options to combine and use in unique and creative ways to modify existing roads for bike lanes. It is important to have a traffic engineer review proposals which reduce roadway widths below the current urban standards.

Adding bike lanes can increase safety because automobile travel lanes are farther from curbs, traffic lanes are better defined, and parking is reduced. Adding bike lanes often improve sight distances and increase radii at intersections and driveways.

Restriping travel lanes relocates automobile traffic lanes which can help extend the pavement life as traffic is no longer driving in the same well worn ruts.

G. BICYCLE PARKING STANDARDS

1. INTRODUCTION

The Transportation Planning Rule requires jurisdictions to adopt bicycle parking standards. OAR 660-12-045(3)(a) requires local governments to adopt land use or subdivision regulations for urban areas and rural communities to require: (a) bicycle parking facilities as part of new multi-family residential developments of four units or more, new retail, office and institutional developments. . ."

Safe and convenient parking facilities are essential to all modes of transportation, including bicycles. Any bicycle trip includes parking. The lack of secure and convenient places to park bicycles discourages their use as transportation. The same consideration should be given to bicyclists as is given to automobile drivers who expect to find parking at their destinations.

2. TYPES OF BIKE PARKING

There are two types of bike parking, Class 1 and Class 2:

a. Class 1, long-term parking should provide complete security and protection from weather. It is intended for situations where a bicycle is left unattended for extended periods of time. For example, apartment complexes, places of employment, schools, libraries, entertainment centers, and shopping centers.

b. Class 2, short-term parking, provides racks that allow the bicycle frame and both wheels to be locked to the rack, but is not necessarily protected from the weather.

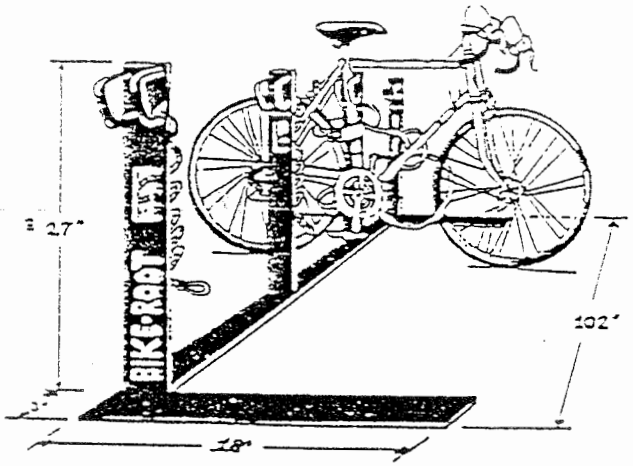
3. BICYCLE RACKS

Bicycle racks for required bicycle parking must be designed so that they:

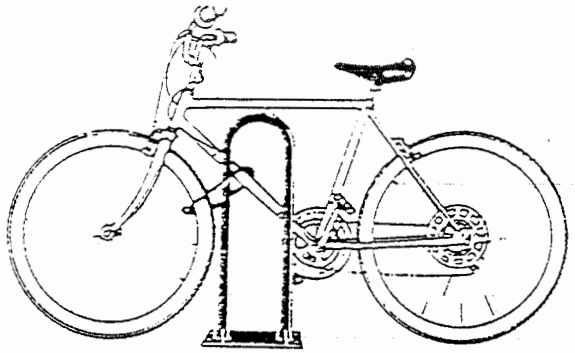
. Do not bend wheels or damage other bicycle parts;

. Accommodate the high security U-shaped locks; and

. Accommodate locks securing the frame and both wheels.



BIKE-ROOT



MINI-LOK

Figure 6: Preferred bike racks
Source: Oregon Bicycle and Pedestrian Plan, 1995 draft.

4. BICYCLE PARKING SPACE DIMENSIONS

The following dimensions assure that bicycle racks will be convenient to use and bicycles may be securely locked, safeguarded from theft or accidental damage:

. Bicycle parking spaces should be at least 6 feet long and 2 feet wide and overhead clearance in covered spaces should be at least 7 feet;

. A 5 foot aisle should be provided beside and between rows of bike racks; and

. Bicycle racks should be securely anchored to the surface or a structure.

5. COVERED BICYCLE PARKING REQUIREMENTS

Covered long term bicycle parking is critical in inclement weather for multifamily residential uses, for employees, and other commuters. Covered parking is not so important for short utilitarian or casual trips.

The requirement for covered bike parking can be met in a number of ways including building or roof overhangs, awnings, lockers, or bicycle storage spaces within buildings. Covered parking should be visible for security purposes. The following requirements apply to covered bicycle parking:

- All of the required bicycle parking for residential, school and places of employment should be covered.
- 50% of required bicycle parking for commercial uses should be covered.
- If motor vehicle parking is covered, required bicycle parking should also be covered.
- If 10 or more bicycle parking spaces are required, then at least 50% of the bicycle parking spaces should be covered.

6. BICYCLE PARKING LOCATION

Required bicycle parking should be located in well lighted, secure locations within 50 feet of a main entrance to a building, but not further from the entrance than the closest automobile parking space. A highly visible location with significant pedestrian traffic reduces the risk of theft. Care must be taken to avoid conflicts with pedestrian traffic.

Short term bike parking for customers may be located up front; long term parking for employees should be covered and may be located farther from an entrance.

In Central Business Districts efforts should be made to provide bicycle parking on the street or in established parking lots rather than on sidewalks. Bike parking on sidewalks encourages riding on the sidewalks and reduces the available sidewalk width. Care must be taken to protect on-street bike parking from automobiles.

Bicycle parking may be provided within the public right-of-way in areas without building setbacks, subject to approval of local officials and provided it meets other bicycle parking requirements. Bicycle parking within a public right-of-way should allow 6 feet clearance around parked bikes to allow pedestrians to pass.

7. NUMBER OF PARKING SPACES

The required number of bicycle parking spaces should be based on easily measured criteria such as, square feet of buildings, number of residential units, number of classrooms, etc. Employment and retail centers are encouraged to voluntarily provide additional parking to satisfy the needs of their customers and employees.

8. SIGNAGE

Bicycle parking facilities may be under used if they are not identified with appropriate signs, particularly when parking locations are not visible from the main building entrance. Signs indicating the bicycle parking location should be installed.

9. PARKING FEES

Bicycle parking should be provided free of cost to bicyclists with only a nominal fee for key deposit for locker use.

H. TRAFFIC CALMING TECHNIQUES

1. INTRODUCTION

Well designed local streets are intended to provide only low volume, low speed traffic access to neighborhoods. However, citizens often complain about excessive traffic speeds and volumes on neighborhood streets.

Traffic calming involves reducing traffic speeds and volumes on neighborhood streets. Reduced traffic speeds and flows allow bicycles and pedestrians to share the road. Streets are safer, quieter and easier for people of all ages to cross. In general, traffic calming involves designing and redesigning streets so local traffic moves at slower speeds, and through traffic is discouraged.

Several traffic calming techniques useful for reducing traffic speeds and discouraging through traffic on neighborhood streets are summarized below. There are many other techniques; design details are discussed in other publications such as, FHWA-PD-03-028, Case Study No. 19, Traffic Calming, Auto Restricted Zones and Other Traffic Management Techniques - Their Effects on Bicycling and Walking, and in the Oregon Bicycle and Pedestrian Plan, 1995 draft.

2. REDUCE TRAFFIC SPEEDS

Many traffic calming techniques used to control traffic on local streets physically constrict the roadway, while others create an illusion of less space.

a. Physical Constraints and Illusion of Less Space

- Narrow local streets tend to reduce traffic speeds and cost less to construct and maintain.

- Narrower travel lanes make many drivers slow down to adjust to the available lane width.

- Speed humps (not speed bumps) cause drivers to slow to the intended speed as they proceed over the hump with minimal discomfort.

- Curb extensions restrict the street width and provide pedestrians a shorter crossing distance.

- Creating vertical lines by bringing buildings closer to the roadway edge, or by adding trees, make the street appear narrower than it is.

3. DISCOURAGING THROUGH TRAFFIC ON LOCAL STREETS

Techniques that limit access to local streets for through vehicles have advantages but may require some out-of-direction travel for some residents.

- One-way curb extensions allow motor vehicles in or out of a street, but not both. However, bicycles and pedestrians are allowed through travel in both directions.

- Diverters and cul-de-sacs prohibit all movements into certain segment of the roadway. Cul-de-sacs restrict access and may conflict with other transportation goals, such as an open grid system, and should be used judiciously. Cul-de-sacs must provide bicycle and pedestrian access.

IV. IMPLEMENTATION

A. COORDINATION & MAINTENANCE

The success of any plan depends on proper coordination between affected parties. To properly implement the policies and standards identified in this document coordination among affected parties will need to be on going.

Facility projects identified in this plan have been developed according to the Oregon Department of Transportation (ODOT) guidelines. ODOT should actively communicate with all local jurisdictions to inform them about State improvement projects in their areas. Opportunities may exist for local projects to be developed in conjunction with State projects. It may also be possible for jurisdictions within the La Grande-Wallowa Lake Transportation Corridor to have certain projects performed by ODOT as part of their Corridor Management Plan.

The Union County Planning Department which has supplied staff and resources for the creation of this plan shall continue to encourage the adoption of this material and to offer technical support. This Department has acted as a nucleus for this planning effort and will continue to work with local communities and State Agencies on an as needed basis.

Local incorporated jurisdictions are now responsible for implementing their own bicycle and pedestrian facility plans. Most jurisdictions are not adequately staffed, therefore County and State agencies if requested must be available to aid in this process.

Internal coordination between local Public Works and Road Departments and other offices will be essential during implementation. All departments must have a firm understanding of the location and magnitude of each improvement project. Their role must be identified prior to starting any projects.

Many identified bikeway projects can be accomplished by restriping and/or minor widening of the existing roadway surface. Integrating these projects into the jurisdictions regular improvement schedule can be an orderly and cost effective way to complete these projects. For example, roads identified to include bicycle lanes can be reconfigured during annual striping rather than receiving the traditional striping. Roadways which are scheduled to be paved or resurfaced may be widened to properly accommodate bicycle and pedestrian traffic. Communication between agencies will ensure that the projects have been identified and properly funded.

When facilities have been constructed or improvements have been completed the final step is coordinating operation and maintenance. Union County's seasonal conditions require many roads be sanded or gravelled in the late fall and winter and many

areas are subject to high water or run off in the spring and early summer months. These conditions dictate that debris will accumulate along roadways and will inevitably end up on the bikeways or shoulders, directly in the path of the bicyclist and pedestrians. This unwanted material often includes other items such as larger rocks, broken glass and woody debris. All of these items represent a hazard to bicyclists and pedestrians.

The presence of vegetation on, in or near the bicycle or pedestrian facility will also discourage the use of these alternate forms of transportation. Tree branches which are allowed to extend into the bikeway or walkway will provide a constant nuisance. Such branches can also create conflicts as bicyclists are encouraged to swerve out into the travel lane to avoid them. Vegetation near intersections can reduce vision and create hazardous conditions for automobile users, bicyclists and pedestrians alike. The roots of trees and other types of large vegetation can also run under the facilities which will cause cracking and splitting.

The occurrence of relatively cold winters and warm summers presents a wide temperature range which is hard on road surfaces and sidewalks. Given time, these surfaces will begin to crack and/or fray which will seriously compromise the integrity of the facility.

If nothing is done to remedy these conditions bicycle and pedestrian traffic will be reduced or will be moved back into the travel lanes. Either of these situations is in direct conflict with the purpose of establishing facilities for bicycle and pedestrian mobility.

Fortunately the development of a comprehensive maintenance program in coordination with the applicable Public Works Department can ensure that the above described scenarios do not occur. Probably the simplest and most necessary component of a maintenance program would be a regular cleaning schedule. Most jurisdictions currently have some type of sweeping program. Sweeping the high use bike lanes and shoulders should be incorporated into the existing street programs. A program which identifies bike lanes and shoulders to be swept at least as frequently as streets will be essential. It may also be beneficial to plan to sweep bicycle routes after large storms which may deposit mud and other debris on the bicycle routes.

Vegetation removal and reduction can focus on a component of the maintenance program. Targeting identified problem areas for regular pruning is necessary to provide safe and efficient opportunities for bicycle and pedestrian mobility. Incorporating leaf and woody debris removal into this program would help to eliminate other potential hazards. Removing problem trees will also help to maintain the condition of the facility. Utilizing a root barrier (12 inch recommended) when constructing new facilities will help to supplement this effort.

The edges of paved areas are typically very susceptible to deterioration. Since this is the portion of the roadway which is utilized for bicycle and pedestrian activity it is important they are maintained in an acceptable condition. Chip sealing and oiling needs to be extended across the entire roadway so the ability to utilize shoulders for alternate sources of transportation is not jeopardized. This action will also ensure that the surface of the roadway is smooth and accommodating and that noticeable inconsistencies between travel lanes and other portions are rare. Items such as manhole covers and drainage grates should be improved so that they match the surface of the roadway with a minimum margin of error (no more than 3/4" is recommended). Where this can not be accomplished, edges should be tapered to provide a transition area in the roadway surface.

Maintenance work which is limited to one area or spot on the roadway surface may also prove to be detrimental unless precautionary measures are taken. If possible, the improvement project should extend across the entire roadway to maintain a consistent surface. If this is not possible, fill or patch material should be properly compacted and excess or loose materials should be swept away before they are able to stray onto a bikeway or shoulder and cause conflicts. Rolling is preferred to utilizing a grader blade although a grader having smooth tires will work acceptably. Maintenance projects which occur directly on the shoulder or in the bike lane should leave a smooth surface. Eliminating sharp edges is also important.

Ideally each jurisdiction would be capable of creating a position for a Bicycle/Pedestrian Coordinator. This position would oversee the development and maintenance of the program. Acting as a liaison between involved agencies the coordinator would have primary responsibility to ensure that facilities are planned, funded, constructed, maintained and used. This position would also work with the public on awareness and educational items.. Lacking such an individual to work exclusively and extensively with bicycle and pedestrian elements, a Bicycle/Pedestrian Advisory Committee can play a key role in the implementation of the bicyle/pedestrian program.

The committee can identify current or potential conflicts between transportation system users due to a lack of signing, maintenance and/or high levels of traffic. Holding meetings in an open forum can solicit public input. The committee can provide support to local law enforcement officers who are required to issue tickets for violations related to bicycle use and provide the public with educational information about bicycling standards and the location of bicycle and pedestrian routes. In addition, the Bicycle/Pedestrian Advisory Committee can work to encourage recreational uses.

Promoting riding and/or walking as recreational activities can be achieved through a number of ways. Identifying routes that are

conducive to this type of activity and being able to provide information on their location and condition will encourage these activities. Working with the public to increase awareness of such opportunities will also increase recreational uses. People who ride or walk recreationally are that much more likely to utilize these same sources for transportation.

B. PRIORITIZATION

Specific bikeway and walkway projects identified in this plan have been designated a high, medium or low priority status. This determination has been made based on public input and other factors relating to levels of current use, safety and funding availability.

C. COST ESTIMATES

The project cost estimates have been calculated using a variety of information. Shoulder additions have been estimated assuming they will be built to County or City road standards and have been calculated based on the following figures:

4 foot shoulders
Estimate: $2.80 - $4.00/Linear Foot x 5280 Feet
$14,784 - $21,120/mile one side
$27,568 - $42,240/mile both sides

6 foot shoulders
Estimate: $4.00 - $6.00/Linear Foot x 5280 Feet
$22,176 - $31,680/mile one side
$44,352 - $63,360/mile both sides

These cost figures were based on a road right-of-way being able to accommodate surface widening with minimal fill.

County roads needing widening have been designated a "chaos factor" of 2 while City streets were given a "chaos factor" of 1.5. This factor is meant to take into account the reality that the majority of County roads will need substantial barrow pit filling so that they can be improved. City streets where given a lower chaos factor because less filling and compacting will be necessary to complete the widening. These factors also account for all labor, material and hopefully, all unforeseen circumstances which will be part of construction. Examples are as follows:

County Road:
Widen roadway 6 feet for a distance of 1000 feet (fill needed)
$6.00 multiplied by 1000 feet = $6,000.00 (one side)
$6,000.00 multiplied by a chaos factor of 2 = $12,000.00
$12,000.00 is the estimated expense of the improvement for one side

City Street:
Widen roadway 6 feet for a distance of 1000 feet (fill needed)
$6.00 multiplied by 1000 feet = $6,000.00 (one side)
$6,000.00 multiplied by a chaos factor of 1.5 = $9,000.00
$9,000.00 is the estimated expense of the improvement for one side

These figures are estimates and can not be considered to represent the true cost of the improvement projects. This method of calculating costs has been reviewed by representatives of the Union County Road Department. The analysis concluded that although the figures may not be correct, they should by no means be under stated.

The expense of striping the road surface to delineate bicycle lanes and shoulder bikeways has been determined with more precision. Information gathered from the Oregon Department of Transportation identifies the following costs for painting lines:

4" Solid Line - $180.00/mile approximately $.034/foot
8" Solid Line - $384.00/mile approximately $.073/foot
4" Skip Line - $70.00/mile

ODOT estimates striping projects at cost plus 10%. This method was used to calculate project expenses. The cost for an eight-inch solid line was utilized.

Sidewalk construction costs have also been estimated with relative precision. Information provided the City of La Grande Public Works Department identifies the City's low bid for sidewalks at $4.50 per square foot. This figure has been used to calculate project expenses. Curb installation cost the City of La Grande $21.00 per foot. Storm drains have been estimated at $1400.00 per catch basin, $2500.00 per man hole into which the catch basin drains and $30.00 per foot for pipe (8").

D. FUNDING

Finding funding sources will be critical to the implementation of this plan. Programs such as the federal Intermodal Surface Transportation Efficiency Act (ISTEA) and the State Highway Fund are potential sources.

ISTEA was passed in 1991 to facilitate and encourage the development of transportational facilities which are not dependant on the automobile. Along with the passage of this act vast sums of money were dedicated to supporting transportation enhancements. These enhancements have been defined as follows:

" with respect to any projects or the area to be served by the project, provision of facilities for pedestrians and bicycles, acquisition of scenic easements and scenic or historic sights, scenic or historic highway programs, landscaping and other scenic beautification, historic preservation, rehabilitation and

operation of historic transportation buildings, structures or facilities (including historic railroad facilities and canals), preservation of abandoned railway corridors (including the conservation and use thereof for pedestrian and bicycle trails), control and removal of outdoor advertising, archaeological planning and research, and mitigation of water pollution due to highway runoff."

-[23 USC 101]

To be eligible for ISTEA funding a project must meet one of three tests. A project must:

1. Have a functional relationship to an existing or planned transportation facility (a bicycle facility is a good example of this). OR

2. Be related in proximity (ex. removing illegal billboards in the viewshed of a scenic highway) OR

3. Have an impact on an existing transportation facility (ex. if constructing a system of pedestrian ways reduces auto use in an area, that is an impact related enhancement).

The State Highway Fund may also be a source of financing. ORS 366.514 states that out of the funds received by any County or City from this source reasonable amounts shall be expended as necessary to provide foot paths and bicycle paths. One percent of the State Highway Funds received in one fiscal year is the minimum amount a jurisdiction can spend on these types of facilities. However, Cities or Counties in which one percent of received highway funding is less than $250.00 (cities) or $1500.00 (counties) are exempt from this requirement.

Bicycle and pedestrian projects which are completed with this funding source are divided into four categories.

Category 1 describes the construction of bikeways associated with new, reconstructed or relocated highways. The cost of these types of improvements is usually quite small when compared to the cost of the overall project.

Category 2 describes projects which maintain and improve existing facilities. Examples of a category 2 project would be the replacement of old signs and the establishment of a regular maintenance and sweeping schedule.

Category 3 describes bikeway projects which occur within the State Highway right-of-way. Widening the road surface to provide bike lanes or shoulder bikeways are examples of category 3 projects. The establishment of a separated multi-use path within the right-of-way would also fall into this category.

Category 4 is the name given to local assistance grants which jurisdictions are eligible to apply for. In this category applications can be made for construction projects with 80% state grants up to $50,000. Bicycle plan development with 50% state grants up to $20,000 and Bicycle map development with 50% state grants up to $10,000.

The Oregon Community Development Block Grant Program is also a possible source of state funding for bicycle projects. The Oregon Special Works Fund is another. Education and safety programs may be partially funded by the Oregon Traffic Safety Division.

Some projects for jurisdictions such as Union County, La Grande, Imbler and Elgin may be eligible to be included in the Oregon Department of Transportation's Corridor Management Plan for the La Grande-Wallowa Lake Transportational Corridor. The intent of this management plan is to analyze all types of transportation within the corridor and to encourage alternate sources of transportation which are not dependent on the automobile. The inclusion of some of these projects into ODOT's improvement program may shift the responsibly from the affected jurisdiction.

In addition, private citizens, businesses and developers may all be persuaded to encourage the use of alternate sources of transportation and perhaps even fund the construction of facilities or donate materials and/or equipment. Abandoned railroad lines, utility easements and many other types of corridors present opportunities to establish bicycle and pedestrian facilities. Jurisdictions need to be constantly on the look out for potential facilities.

E. EDUCATION & ENFORCEMENT

Along with providing facilities for bicycle and pedestrian mobility the public needs to be educated about their use. First of all, the public needs to understand where such facilities are located, so they can choose safe routes and reduce conflicts with the other system users.

Educating the public how to use these facilities is also extremely necessary. This aspect is commonly overlooked. Bicyclists who are turned onto the roadway with little or no regulations and an equally deficient understanding of how to effectively utilize the facilities are a potential threat to themselves and other system users.

Failing to educate the public about location and proper use can have several adverse effects. Faculties which are constructed but not used are of no benefit to anyone. Misuse of the facilities can create an animosity between motorists and bicyclists which discourage bicycle use and encourage conflict between the two users.

Several tools are available to educate the public about bicycling opportunities and pedestrian mobility. One item which may be easily prepared and cost effective to distribute are INFORMATION PACKAGES. These packages should include a map of the particular jurisdiction showing the locations and types of facilities which are offered. The map may also identify recreational or scenic routes and supply language which suggests which route or type of route would be most appropriate. Other beneficial information would be the location of local services and the names of local contacts. This information will prove useful to both local users and those from out of the area. The final item is an informational listing of safety tips and bicycle/pedestrian etiquette. This material will act to inform and remind the users how they should act to reduce the potential for injury to themselves and others and to reduce the potential for conflict.

In addition to the information packets, jurisdictions should strive to establish TRAINING CLASSES. Bicyclists need to be taught to interact with motorists. The use of the facilities in a safe and efficient manner can be demonstrated through these types of classes. This can help to encourage individuals who had previously been reluctant to use the system because of a lack of experience or confidence. While schools are the ideal place to begin these classes, the education does not have to be, and should not be, limited to children. Churches, community centers, health and recreational centers, community events and skills fairs are only a few of a long list of locations and activities which can present opportunities for bicycle/pedestrian education. Several types of programs have been developed with a variety of age groups and skill levels in mind. There are also videos on bicycle rules and safety precautions available from the State of Oregon.

The creation of COMMUTER PROGRAMS can also be beneficial in encouraging people to utilize the bicycle and pedestrian facilities. Sponsoring "bike-to-work" events has had large amounts of success through out the nation. These types of activities are very beneficial because most people have never ridden a bike to work and may not have gotten on a bicycle for utility reasons since childhood. They need advice and encouragement. They also need to feel secure that they will not be the only ones doing it.

Just as education is necessary, enforcement of bicycle rules is equally important. Bicycles are considered vehicles and must act accordingly on the roadway. A brochure detailing the rules of riding on Oregon's Highways may be obtained from the Department of Motor Vehicles. The Oregon Bicycle Plan identifies 32 statutes relating to bicycle use and ORS 814.400 specifically states that "everyone riding a bicycle or an animal on a public way is subject to the same provisions applicable to and has the same rights and duties as the driver of another vehicle..."

Requiring bicyclists to obey the rules designed for them has a farther reaching effect than simply issuing citations. Statistics show that many bicycle/automobile accidents are the result of a bicyclist failing to yield at a stop sign or weaving in and out of traffic with reckless abandon. These activities and similar traffic infractions place both the cyclist and the motorist in danger. These are also the type of activities which enrage motorists and discourages their support for construction of bicycle and pedestrian facilities. Police officers must be willing and able to enforce bicycle laws. They must receive the support of the community in doing so.

A P P E N D I C E S

APPENDIX A: GLOSSARY OF TERMS AND ABBREVIATIONS

AASHTO__American Association of State Highway and Transportation Officials. Their publication, *Guide for Development of New Bicycle Facilities*, provides the basic facility construction guidelines and specifications for this plan.

Accessway__An interconnecting paved pathway that provides pedestrian and or bicycle passage between blocks running from street to street.

ADA__The Americans with Disabilities Act; civil rights legislation passed in 1990, effective July 1992.

ADT__Average daily trips, a measure of traffic volume.

Arterial__A through road that connects major traffic generators. Arterials are designated by the Transportation Plan/Comprehensive Plan and the various City Comprehensive Plan.

BADT__Bicycle average daily trips measured during the months of June through September.

Bicycle__In the strictest sense a bicycle is a human-powered land vehicle with two tandem wheels, a steering handle, a saddle seat, and pedals by which it is propelled. In legal terms, the definition is expanded to include other velocipedes: (1) designed to operate on the ground on wheels, (2) propelled solely by human power, upon which any person or persons may ride, and (3) with every wheel more than 14 inches in diameter. This takes in the broader range of bicycle-type vehicle (recumbents, tricycle, etc.) while excluding such vehicles as pushcarts. Bicycles are legally classified as vehicles that may be ridden on public roadways in Oregon.

Bicycle Facilities__General term denoting improvements and provisions made by public agencies to accommodate or encourage bicycling, including parking facilities, all bikeways, and shared roadways not specifically designated for bicycle use.

Bicycle Parking Facilities__Space and improvements dedicated for securing bicycles including but not limited to marked spaces, structures including lockers, racks and enclosures and areas providing maneuvering space for access to parking spaces and improvements.

Bike Lane__A portion of the roadway which has been designated by striping, signing, and pavement marking for preferential or exclusive use by bicyclists.

Bike Lane Stripe__An 8-inch wide line separating a bike lane from a travel lane.

Bike Route__A segment of bikeway system designated with appropriate directional and information markers by the jurisdiction having authority.

Bikeway__Any road, path, or way which in some manner is specifically designated as being open to bicycle travel, regardless of whether such facilities are designated for the exclusive use by bicycles or are shared with other transportation modes.

CBD__Central Business District - A traditional downtown area usually characterized by established businesses fronting the street, sidewalks, slow traffic speeds, on-street parking and a compact grid system.

Clearance, Lateral__Width required for safe passage of a bicycle as measured in a horizontal plane.

Clearance, Vertical__Height necessary for the safe passage of a bicycle as measured in a vertical plane.

Collector__A branch road that feeds into an arterial from the local roads. Collectors are designated by Union County Comprehensive Plan and Transportation Plan and the respective City Comprehensive Plans.

Commuter Parking__Long-term parking, such as at work or school, where the bicycle must be left unattended for the greater part of the day.

Commuter/Utility Bicyclist__Riders who regularly travel to and from a specific destination, usually as quickly and directly as possible, for very practical purposes, such as to purchase or transport goods and services or to travel to and from work or school.

Convenience Parking__Short-term parking, such as at a store or park, where the bicycle is left for a brief time.

Crosswalk__The portion of a roadway designated for pedestrian crossing. They may be marked or unmarked. Unmarked crosswalks are a natural extension of the shoulder, curb line or sidewalk.

Direct Route__The shortest reasonable route between two points. A route is direct if it does not involve significant out of direction travel which could be avoided. Out of direction travel is significant if it is more than 50% longer that the straight line distance between two points.

Fog Line__A 4-inch white stripe delineating the edge of the roadway and separating it from the shoulder.

Grade (percent)__The rise (+) or fall (-) of a roadway measured in feet per 100 feet of length, expressed as a percentage.

Grade Separation__Vertical separation of travelways through the use of a structure so the traffic crosses without interference.

Highway__A general term denoting a public way for purposes of travel, including the entire area within the right-of-way.

ISTEA__The Intermodal Surface Transportation Efficiency Act.

Local Street__A street designated to provide access to and from residences or businesses.

Main Entrance__The principle building entrance or entrances. A main entrance door is not a door that is locked during normal business hours.

Motor Vehicles__A vehicle that is self propelled or designed for self-propulsion.

Multi-Use Path__A bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent right-of-way.

MUTCD__Abbreviation for Manual on Uniform Traffic Control Devices approved by the Federal Highway Administration as a national standard for placement and selection of all traffic control devices on or adjacent to all roadways open to public travel.

MVC__Motor Vehicle Code which contains the rules of the road that motorists and cyclists must follow.

Mountain Bike__A bicycle generally characterized by rugged construction, wide tires, extra bottom bracket clearance, low gears, and stable handling - attributes that enhance its rideability on rough and steep terrain.

Mountain Bike Route__A rough or unpaved bikeway upon which an average cyclist using a normal road bike would have difficulty.

OAR__Oregon Administrative Rule, A rule written by an affected government agency, intended to clarify the intent of an ORS.

ODOT__Oregon Department of Transportation

ORS__Oregon Revised Statute. ORS 366.514, the "Oregon Bicycle Bill," is the law describing funding and development of bikeways.

Pavement Marking__Painted or applied line(s) or legend placed on any bikeway surface for regulating, guiding or warning traffic.

Pedestrian__A person whose mode of transportation is on foot. A person walking a bicycle becomes a pedestrian.

Pedestrian Facilities__Any facility provided for the benefit of pedestrian travel, including walkways, crosswalks, signs, signals, illumination and benches.

Pedestrian Scale Lighting__Light standards or placements no greater than 14 feet in height located along walkways

Public Building Entrance__An entrance to a building intended for use by members of the general public, such as customers, clients and visitors. Also, employee or resident entrances used by more than 50 employees or residents per day.

Racing__Bicycle racing is a specialized sport. Race courses may use public roadways with the approval of appropriate government agencies. For more information on bicycle racing in Oregon, please contact the Bikeway/Pedstrian Program Manager, to obtain the "Guidelines for Administration of Bicycle Racing on Oregon Roads."

Recreational Cyclist__An individual who enjoys local bike rides for pleasure or fitness. The destination is of secondary importance.

Right-of-Way__A general term denoting land, property or interest therein, usually in a strip, acquired for or devoted to transportation purposes.

Roadway__The portion of the highway for vehicle use.

Shared Roadway__A type of bikeway where bicyclists and motor vehicles share the same roadway.

Shoulder__A portion of a highway contiguous to the roadway that is primarily used by pedestrians, bicyclists and stopped vehicles for emergency use.

Shy Distance__The distance between the edge of a travelway and a fixed object.

Sidewalk__The portion of the roadway or street designated for preferential or exclusive use by pedestrians.

Sight Distance__A measurement of a vehicle operator's visibility, unobstructed, along the normal path to the farthest visible point of the roadway surface.

Skew Angle__The angle formed between a roadway, bikeway, or walkway and an intersecting roadway, bikeway, walkway or railroad line, measured away from the perpendicular.

Touring__An extended bicycle trip requiring some advance planning to identify destination, accommodations, services and routes.

TPR__The Transportation Planning Rule (OAR 660-12).

Traffic Control Devices__Signs, signals or other fixtures, whether permanent or temporary, placed on or adjacent to the travelway by authority of public body having jurisdiction to regulate or guide traffic.

Traffic Volume__The number of vehicles that pass a give point for a given amount of time, usually expressed as Average Daily Trips (ADT).

Travelway__Any way, path, road or other travel facility used by any and all modes of transportation.

UGB__Urban Growth Boundary defines the area near an incorporated city, that is deemed suitable and necessary for urban uses.

Vehicle__Any device in, upon or by which any person or property is or may be driven or drawn upon a public highway. A bicycle is a vehicle.

Walkway__A transportation facility built for use by pedestrians, including persons in wheel chairs. Walkways include sidewalks, paths and paved shoulders.

Wide Outside Lane__A wider than normal curbside travel lane that is provided for ease of bicycle operation where there is insufficient room for a bike lane or shoulder bikeway.

APPENDIX B: LAND USE REGULATION CODE PROVISIONS

TPR Requirements for Urban Areas and Rural Communities [OAR 660-12-045 (3)(a)]

(3) (a) Bicycle parking facilities as a part of new multi-family residential developments (9+ units), new retail, office and institutional developments.

A. Discussion

Two types of bicycle parking are needed: long-term parking for employees and residents and short-term parking for visitors and customers. Long-term parking needs to be especially secure and protected because it may be unattended for hours at a time or overnight and possibly even longer. However, it does not need to be located any closer to a building entrance than auto parking. Short-term parking does not need to be as secure, bicycles will not be left unattended for long periods of time. To be convenient, short-term bicycle parking does need to be located near a building entrance.

Bicycle parking requirements need to address two distinct needs. Generally, long-term bicycle parking should be provided for one out of ten employees.

The need for the second type of bicycle parking, short-term, will vary from use to use. For example, an industrial use will not receive many visitors or customers, and therefore would not need a large amount of short-term parking of any kind. Retail uses, on the other hand, can expect to receive a large amount of short-term traffic and should provide for greater amounts of short-term parking. The recommended bicycle parking requirements are based on these concepts.

B. CODE PROVISIONS

Standards for Commercial, Professional and Public Zones, and Commercial Uses in Residential Zones

1. <u>Number of Parking Spaces Required</u>

- Integrate bicycle parking space requirements with auto parking space requirements - i.e, one space per multi-family residential unit, one space per 5,000 square feet of retail show room floor, one space per five employees and one space per five persons for places of assembly - churches, granges, etc.

- Shared bicycle parking areas shall be encouraged where all of the bicycle standards can be satisfied for the collective uses.

- The only exempt uses from meeting bicycle parking standards would be seasonal or part-time uses, i.e. fruit stands, fireworks stands and others.

2. Bicycle Parking Facilities

(Short-term sheltering from precipitation is not a necessary requirement in Union County with an average annual precipitation of 16 inches in the Grande Ronde Valley)

- Covered long-term bicycle parking will be provided for multi-family, residential, schools and places of employment

- Appropriate security methods will be adopted as a part of new construction or redevelopment for both long-term and short-term bicycle parking.

- Bicycle parking areas will be well-lighted, secure locations within 50 feet of the primary building entrance for new buildings and 100 feet for redevelopment. Require pedestrian access from bicycle parking area to building entrance. Bicycle parking area shall be as close as the closest auto parking area.

- Each bicycle parking space shall be a minimum six feet length, two feet width, seven feet clearance and at least five feet between rows.

- For buildings with multiple entrances, required short-term bicycle parking shall be distributed proportionally at the various public entrances. Required long-term public parking shall also be located at the employee entrance, if applicable.

- Bicycle parking may be provided within a building, but the location must be easily accessible for bicycles.

- In areas of demonstrated, anticipated or desired high bicycle use, additional bicycle parking, in exchange for required motor vehicle parking, may be authorized by the decisionmaker.

- Employee and residential bicycle parking shall offer a high level of security, i.e., bicycle lockers or a locked cage or room with locking facilities inside, to provide safe, long-term parking.

- Bicycle parking may be provided within the public right-of-way in areas without building setbacks, subject to approval of the appropriate local official and provided it meets the other bicycle parking requirements.

- Bicycle parking facilities shall be separated from motor vehicle parking and maneuvering areas by a barrier or sufficient distance to prevent damage to the parked bicycles.

- If ten or more bicycles spaces are required, then at least 50 percent of the bicycle spaces must be covered.

- Vertical or upright bicycle storage structures are exempted from the parking space length standard.

- Each required bicycle parking space must be accessible without moving another bicycle.

- Bicycle parking facilities shall offer security in the form of either a lockable enclosure in which the bicycle can be stored or a stationary object (i.e., a "rack") upon which the bicycle can be locked.

- All bicycle racks, lockers, or other facilities shall be securely anchored to the ground or to a structure.

- Lighting shall be provided in a bicycle parking area so that all facilities are thoroughly illuminated and visible from adjacent sidewalks or motor vehicle parking lots during all hours of use. Bicycle parking shall be at least as well-lit as motor vehicle parking.

- Areas set aside for required bicycle parking must be clearly marked and reserved for bicycle parking only.

- Where bicycle parking facilities are not directly visible and obvious from the public right(s)-of-way, entry and directional signs shall be provided to direct bicyclists from the public right-of-way to the bicycle parking facility. Directions to employee parking facilities may be signed or supplied by the employer as appropriate.

- Outdoor bicycle parking facilities shall be surfaced in the same manner as the motor vehicle parking areas or with a minimum of one inch thickness of hard surfacing (i.e., asphalt, concrete, pavers, or similar material). This surface will be maintained in a smooth, durable, and well-drained condition.

TPR Requirements for Urban Areas and Rural Communities [OAR 660-12-045 (3) (b), (c) & (d)]

(3) (b) Safe and convenient pedestrian and bicycle access within and from new subdivisions, planned developments, shopping areas and industrial parks to nearby residential areas, neighborhood activity centers including:

(A) Sidewalks along arterial and collectors in urban areas;

(B) Bikeways along arterials and major collectors;

(C) Where appropriate, separate bicycle and pedestrian ways to minimize travel distances within and between areas; and

(3) (c) "Safe, convenient and adequate" mean facilities that -

(A) Are reasonably free from hazards, particularly automobile traffic that would discourage short trips;

(B) Provide direct routes of travel between uses; and

(C) Meet cyclists and pedestrian travel needs considering length of trip destination.

A. DISCUSSION

While the TPR does not explicitly require sidewalks on local urban streets, they should be required by local ordinances. Sidewalks are critical to home-based pedestrian trips and transit. Without sidewalks, pedestrians must walk either in the road or on the roadway shoulder. These conditions make walking unsafe and inconvenient and discourage walking trips.

B. CODE PROVISIONS

Future Street Extensions

- All streets, alleys, bicycle and pedestrian pathways shall connect to other streets within the development and to existing and planned streets outside the development. Streets shall terminate at other streets or at parks, schools or other public land within a neighborhood.

- Local roads shall align and connect with other roads when crossing collectors and arterials.

- Cul-de-sacs, dead end streets or alleys, and flag lots shall only be permitted when the following conditions are met:

(a) One or more of following conditions prevent a required street connection: excess slope (20% or more); presence of a wetland or other body of water which cannot be bridged or crossed; existing development on adjacent property prevents a street connection, presence of a freeway or railroad;

(b) A street pattern which either meets standards for connection and spacing or requires less deviation from standards than possible;

(c) An accessway is provided consistent with the standards for Accessways;

(d) Cul-de-sacs shall be as short as possible and shall not exceed 400 feet in length.

- Where a subdivision or partition includes or is adjacent to land likely to be divided and developed in the future; streets, bicycle paths and pedestrian ways shall continue through the full length of the subdivision or partition and be planned for the adjacent land where necessary to provide for convenient pedestrian and bicycle access to other transportation routes, businesses and residential services areas.

- Where subdivision lots or partition parcels can be redivided the location of lot and parcel lines and other layout details shall be such that future division may be readily made without interfering with the orderly extension of adjacent streets, bicycle paths or pedestrian ways. Any building restrictions within future transportation locations shall be made a matter of record for the purpose of future land divisions.

- Where determined necessary by the decisionmaking body for public safety and convenience, the land developer may be required to publicly dedicate accessways (1) to connect to cul-de-sacs, (2) to pass through oddly shaped or unusually long blocks, (3) to provide for networks of public pedestrian and bicycle paths, or (4) to provide access to other transportation routes, businesses, residential or services areas.

- New construction or reconstruction of major collector and arterial streets will include bicycle facilities as prescribed by the BP Plan.

- Bikeways and sidewalks shall be installed along the frontage of all new streets during the construction of arterial and collector roads, where so designated in the comprehensive land use plan during reconstruction of arterial and collector roads and streets, and construction of local streets in other than single-family residential developments.

- On local streets in areas planned for single family residential development, sidewalks shall be constructed during home construction. The land divider may file an agreement as assurance of completion of all sidewalks within two years of final plat. The agreement may be in the form of a bank's letter of credit, surety bond or other acceptable surety and must cover 100% of the cost of the sidewalks. Sureties covering stages or portions of improvements may be released as such portion is completed to the satisfaction of the City Council or authorized agent.

- Where lack of public right-of-way width prevents inclusion of sidewalks within the public right-of-way, an easement may be required to provide for all or part of one or both sidewalks.

- When a sidewalk in good repair is required and does not exist an applicant for a building permit shall, prior to obtaining the building permit, or in conjunction with the issuance of a building permit, obtain a permit to construction a sidewalk for the full frontage of the lot or parcel. No final inspection or certificate of occupancy shall be issued for said building permit until there exists such a sidewalk in accordance with the requirements of the permit to construct the sidewalk.

- Sidewalks are not required along freeways and other fully access controlled highways.

- The provisions of sidewalks may be waived in residential zones where the street serves fewer than five potential dwelling units and cannot be continued or extended to other properties.

- To ensure access between a development site and an existing developed facility such as a commercial center, school, park or trail system, the decisionmaking body may require off-site pedestrian improvements concurrent with development where need for the access and its costs can be shown to be roughly proportional to the traffic created by the development.

- Structures are not allowed in any dedicated sidewalk areas which will obstruct movements of the sidewalk. The minimum areas of obstructions must meet ADA standards. All structures placed in the sidewalk are allowed only with permission of the City or County.

- Sidewalks shall be designed to parallel streets in line and grade and shall avoid unnecessary meandering and elevation changes except as necessary to avoid significant trees or traverse topographic barriers.

- Sidewalks shall be constructed to meet the following minimum widths:

	Land Use Designation/Sidewalk Type			
	Residential/Industrial		Commercial/Institutional	
Street Type	Curb	Setback	Curb	Setback
Local	6 ft	5 ft	7 ft	6 ft
Collector	7 ft	6 ft	8 ft	7 ft
Arterial	7 ft	6 ft	10 ft	8 ft

* Curb sidewalks shall maintain a minimum unobstructed width two feet less than the required sidewalk width. (Example - A mailbox may be located within two feet of the curb)

* A setback sidewalk shall be separated from the curb by a planting strip of at least four feet in width. The planting strip may be paved in neighborhood commercial areas.

* Bike lanes and shoulder bikeways along collectors and arterials shall be six feet wide and shall be provided for each direction of travel allowed on the street.

* Sidewalk and bicycle path lighting shall be provided in conjunction with new road construction and new development.

* Wheelchair ramps and other facilities shall be provided as required by the Americans with Disabilities Act (ADA). The lower lip of the wheelchair ramp shall be flush with the roadway surface.

* Bikeways shall be designed and constructed consistent with the design standards in the Oregon Bicycle Plan, 1992 and AASHTO's "Guide for the Development of Bicycle Facilities, 1991".

- Adequate overhead clearance on sidewalks, pedestrian paths and bicycle paths shall be eight feet for all signs projecting over such routes except where a marquee projects more than two-thirds of the distance from the property line to the curb or street side of the bicycle way, the minimum clearance shall be 12 feet.

- Vegetation shall not overhang or encroach upon a sidewalk, pedestrian path or bicycle path lower than nine feet. The city may require the person(s) responsible for encroachment into clearance areas to trim, prune or remove all trees, shrubs, plants and vegetation.

- Sidewalks along collector and arterial streets shall be set back from the curb where possible. On low-volume, residential collector streets, a five foot wide, curb-side sidewalk may be acceptable. On high-volume collector streets if the sidewalk is built adjacent to the curb, it shall be a minimum of seven feet wide. Greater width, up to 10 feet, may be required where higher pedestrian volumes, shared use with bicycles, or other pertinent factors require a safer and move convenient facility.

Vacating Public Right-of-Way

When vacating improved or unimproved public right-of-way, pedestrian and bicycle easements shall be established for public safety and convenience where determined necessary.

Accessways [045 (3)(b)(C)]

A. DISCUSSION

_____ explain how an accessway is different from bicycle/pedestrian routes.

B. CODE PROVISIONS

Accessways shall be provided in the following situations:

a. In residential areas and industrial parks where addition of a walkway/bikeway would reduce walking or cycling distance to a school, shopping center, or neighborhood park by 400 feet and by at least 50% over other available pedestrian routes and a street connection is not feasible.

b. For schools, commercial uses where addition of a walkway/bikeway would reduce walking or cycling distance to an existing or planned transit stop, school, shopping center, or neighborhood park by 200 feet and by at least 50% over other available pedestrian routes.

For purposes of (a) and (b) other available pedestrian routes include sidewalks and walkways including walkways within shopping centers, planned developments and industrial parks. (Routes may be across parking lots on adjoining properties if the route is open to public pedestrian use, hard surface, unobstructed, e.g. not through landscaped areas unless step stones are provided.)

c. For cul-de-sacs or dead end streets except when the review authority determines based on evidence in the record that construction of a separate accessway is infeasible or inappropriate. Such evidence may include but is not limited to:

1. When other federal, state or local requirements prevent construction of an accessway;

2. When the nature of abutting existing development makes construction of an accessway impractical;

3. When the walkway/bikeway would cross a natural area with significant natural habitat and construction would be incompatible with protection of natural values;

4. When the accessway would cross land designated for water quality, flood control or flood hazard and the accessway is incompatible with the designated use;

5. When the accessway would cross topography where slopes exceed 30% or where path grade would exceed 12% slope except when construction or a crossing structure is found to be feasible; or,

6. When a cul-de-sac or dead end street abuts rural resource land in farm or forest use at an urban growth boundary except where the adjoining land is designated as an urban reserve area.

Accessways shall be provided to adjacent developments when feasible. Development patterns must not preclude eventual site-to-site connections even if infeasible at the time of development.

(3) (d) Provide internal pedestrian circulation in new office parks and new commercial developments by clustering buildings; constructing pedestrian ways, skywalks, where appropriate; and similar techniques.

A. DISCUSSION

Walkways should be provided for the following:

. New office parks and commercial developments.

. Recommended for institutional development and public buildings.

. To each street abutting the property, not including limited access freeways.

. For every 300 feet of street frontage or for every eight rows of vehicle parking.

. To any bikeway or walkway along a frontage of the site which is not bordered by a street.

B. CODE PROVISIONS

- Walkways shall connect building entrances to one another and from building entrances to public street entrances.

- Onsite walkways shall connect with walkways, sidewalks, bikepaths, alleyways and other bicycle or pedestrian connections on adjacent properties used or planned for commercial, multi-family, institutional or park use.

- Walkways and driveways shall provide a direct connection to walkways and driveways on adjacent developments.

- Potential pedestrian connections between the proposed development and existing or future development on adjacent properties other than connections via the street system shall be identified. The development application shall designate these connections on the proposed site plan or findings shall be submitted demonstrating that the connection is infeasible.

- Rights-of-way or public easements shall be provided for all required walkways which provide a direct connection to adjacent properties.

- Accessways shall be located to provide a reasonably direct connection between likely pedestrian destinations. A reasonably direct connection is a route which minimizes out of direction travel for most of the people likely to use the walkway/bikeway considering terrain, safety and likely destinations.

- The length of an accessway shall not exceed 400 feet.

- Accessways shall be as short as possible and, where possible, straight enough to allow one end of the accessway to be seen from the other.

- Stairways shall be at least five feet wide with a handrail on both sides.

- Accessways shall be lighted either by street lights on adjacent streets or pedestrian scale lighting along the accessway. Lighting shall not shine into adjacent residences.

Fencing along accessways shall meet one of the following standards:

- Accessways shall be fenced from adjoining residential properties with at least a five foot high chain link or similarly constructed fence without a top rail; or,

- Residences along accessways which are 200 feet or longer shall have the building fronts oriented to the accessway and shall treat the yard along the accessway as the front yard. Fences along such accessways shall not exceed three and one-half feet in height; or,

- For purposes of fencing only, accessways will be treated as a front yard.

Pedestrian walkways shall be directly linked to entrances and the internal circulation of the building. The onsite pedestrian circulation system shall directly connect the street to the main entrance of the primary structure on the site.

- Walkways shall be at least five feet in paved unobstructed width. Walkways bordering parking spaces shall be at least seven feet wide unless concrete bumpers, bollards, or curbing and landscaping or other similar improvements are provided which prevent parked vehicles from obstructing the walkway.

- Pedestrian scale lighting fixtures shall be provided along all walkways. Onsite pedestrian walkways must be lighted to a level where the system can be used at night by employees, residents and customers.

- Stairs or ramps shall be provided where necessary to provide a direct route. Walkways without stairs shall have a maximum slope of eight percent and a maximum cross slope of two percent. Where walkways provide principal access to building entrances maximum slope is limited to five percent to meet ADA standards.

- Where the pedestrian system crosses driveways, parking areas and loading areas, the system must be clearly identifiable through the use of elevation changes, speed bumps, a different paving material or other similar method.

- Walkways on private property that provide direct links between publicly owned pedestrian routes shall be placed in public easements or be dedicated to the public.

APPENDIX C: TRANSPORTATION PLANNING RULE, OAR CHAPTER 660, DIVISION 12

660-12-000 Purpose

The purpose of this division is to implement Statewide Planning Goal 12 (Transportation). It is also the purpose of this division to explain how local governments and state agencies responsible for transportation planning demonstrate compliance with other statewide planning goals and to identify how transportation facilities are provided on rural lands consistent with the goals. The division sets requirements for coordination among affected levels of government for preparation, adoption, refinement, implementation and amendment of transportation system plans. Transportation system plans adopted pursuant to this division fulfill the requirements for public facilities planning required under ORS 197.712(2)(e), Goal 11 and OAR Chapter 660, Division 11, as they relate to transportation facilities. Through measures designed to reduce reliance on the automobile, the rule is also intended to asure that the planned transportation system supports a pattern of travel and land use in urban areas which will avoid the air pollution, traffic and livability problems faced by other areas of the country. The rules in this Division are not intended to make local government determinations "land use decisions" under ORS 197.015(10). The rules recognize, however, that, under existing statutory and case law, many determinations relating to the adoption and implementation of transportation plans will be land use decisions.

660-12-005 Definitions

For the purposes of this division, the definitions in ORS 197.015, the Statewide Planning Goals and OAR Chapter 660 shall apply. In addition the definitions listed below shall apply.

(1) Access Management: means measures regulating access to streets, roads and highways from public roads and private driveways. Measures may include but are not limited to restrictions on the siting of interchanges, restrictions on the type and amount of access to roadways, and use of physical controls, such as signals and channelization including raised medians, to reduce impacts of approach road traffic on the main facility.

(2) Affected local government: means a city, county or metropolitan service district that is directly impacted by a proposed transportation facility or improvement.

(3) Committed Transportation Facilities: means those proposed transportation facilities and improvements which are consistent with the acknowledged comprehensive plan and have approved funding for construction in a public facilities plan or the Six Year Highway or Transportation Improvement Program.

(4) Demand Management: means actions which are designed to change travel behavior in order to improve performance of transportation facilities and to reduce need for additional road capacity. Methods may include but are not limited to the use of alternative modes, ride-sharing and vanpool programs, and trip-reduction ordinances.

(5) Major: means, in general, those facilities or developments which, considering the size of the urban or rural area and the range of size, capacity or service level of similar facilities or developments in the area, are either larger than average, serve more than neighborhood needs or have significant land use or traffic impacts on more than the immediate neighborhood.

"Major" as it modifies transit corridors, stops, transfer stations and new transportation facilities means those facilities which are most important to the functioning of the system or which provide a high level, volume or frequency of service.

"Major" as it modifies industrial, institutional and retail development means such developments which are larger than average, serve more than neighborhood needs or which have traffic impacts on more than the immediate neighborhood.

Application of the term "major" will vary from area to area depending upon the scale of transportation improvements, transit facilities and development which occur in the area. A facility considered to be major in a smaller or less densely developed area may, because of the relative significance and impact of the facility or development, not be considered a major facility in a larger or more densely developed area with larger or more intense development or facilities.

(6) Metropolitan Planning Organization (MPO): an organization located within the State of Oregon and designated by the Governor to coordinate transportation planning in an urbanized area of the state including such designations made subsequent to the adoption of this rule. The Longview-Kelso-Rainier MPO is not considered an MPO for the purposes of this rule.

(7) ODOT: means the Oregon Department of Transportation.

(8) Parking spaces: means on and off street spaces designated for automobile parking in areas planned for industrial, commercial, institutional or public uses. The following are not considered parking spaces for the purposes of 660-12-045(5)(c): park and ride lots, handicapped parking, and parking spaces for carpools and vanpools.

(9) Planning Period: means the twenty year period beginning with the date of adoption of a TSP to meet the requirements of this rule.

(10) Preliminary Design: means an engineering design which specifies in detail the location and

alignment of a planned transportation facility or improvement.

(11) Refinement Plan: an amendment to the transportation system plan, which resolves, at a systems level, determinations on function, mode or general location which were deferred during transportation system planning because detailed information needed to make those determinations could not reasonably be obtained during that process.

(12) Roads: means streets, roads and highways.

(13) Transit-oriented development (TOD): means a mix of residential, retail and office uses and a supporting network of roads, bicycle and pedestrian ways focused on a major transit stop designed to support a high level of transit use. The key features of transit oriented development include:

(a) a mixed use center at the transit stop, oriented principally to transit riders and pedestrian and bicycle travel from the surrounding area;

(b) high density of residential development proximate to the transit stop sufficient to support transit operation and neighborhood commercial uses within the TOD.

(c) a network of roads, and bicycle and pedestrian paths to support high levels of pedestrian access within the TOD and high levels of transit use.

(14) Transportation facilities: means any physical facility that moves or assists in the movement of people and goods including facilities identified in 660-12-020 but excluding electricity, sewage and water systems.

(15) Transportation system management measures: means techniques for increasing the efficiency, safety, capacity or level of service of a transportation facility without increasing its size. Examples include, but are not limited to, traffic signal improvements, traffic control devices including installing medians and parking removal, channelization, access management, ramp metering, and restriping for high occupancy vehicle (HOV) lanes.

(16) Transportation Needs: means estimates of the movement of people and goods consistent with acknowledged comprehensive plan and the requirements of this rule. Needs are typically based on projections of future travel demand resulting from a continuation of current trends as modified by policy objectives, including those expressed in Goal 12 and this rule, especially those for avoiding principal reliance on any one mode of transportation.

(17) Transportation Needs, Local: means needs for movement of people and goods within communities and portions of counties and the need to provide access to local destinations.

(18) Transportation Needs, Regional: means needs for movement of people and goods between and through communities and accessibility to regional destinations within a metropolitan area, county or associated group of counties.

(19) Transportation Needs, State: means needs for movement of people and goods between and through regions of the state and between the state and other states.

(20) Transportation Project Development: means implementing the transportation system plan (TSP) by determining the precise location, alignment, and preliminary design of improvements included in the TSP based on site-specific engineering and environmental studies.

(21) Transportation Service: means a service for moving people and goods, such as intercity bus service and passenger rail service.

(22) Transportation System Plan (TSP): means a plan for one or more transportation facilitiesthat are planned, developed, operated and maintained in a coordinated manner to supply continuity of movement between modes, and within and between geographic and jurisdictional areas.

(23) Urban Area: means lands within an urban growth boundary or two or more contiguous urban growth boundaries.

660-12-010 Transportation Planning

(1) As described in this division, transportation planning shall be divided into two phases: transportation system planning and transportation project development. Transportation system planning establishes land use controls and a network of facilities and services to meet overall transportation needs. Transportation project development implements the TSP by determining the precise location, alignment, and preliminary design of improvements included in the TSP.

(2) It is not the purpose of this division to cause duplication of or to supplant existing applicable transportation plans and programs. Where all or part of an acknowledged comprehensive plan, TSP either of the local government or appropriate special district, capital improvement program, regional functional plan, or similar plan or combination of plans meets all or some of the requirements of this division, those plans or programs may be incorporated by reference into the TSP required by this division. Only those referenced portions of such documents shall be considered to be a part of the TSP and shall be subject to the administrative procedures of this division and ORS Chapter 197.

660-12-015 Preparation and Coordination of Transportation System Plans

(1) ODOT shall prepare, adopt and amend a state TSP in accordance with ORS 184.618, its program for state agency coordination certified under ORS 197.180, and OAR 660-12-030, 035, 050, 065 and 070. The state TSP shall identify a system of transportation facilities and

services adequate to meet identified state transportation needs.

(a) The state TSP shall include the state transportation policy plan, modal systems plans and transportation facility plans as set forth in OAR 731, Division 15.

(b) State transportation project plans shall be compatible with acknowledged comprehensive plans as provided for in OAR 731, Division 15. Disagreements between ODOT and affected local governments shall be resolved in the manner established in that division.

(2) MPOs and counties shall prepare and amend regional TSPs in compliance with this division. MPOs shall prepare regional TSPs for facilities of regional significance within their jurisdiction. Counties shall prepare regional TSPs for all other areas and facilities.

(a) Regional TSPs shall establish a system of transportation facilities and services adequate to meet identified regional transportation needs and shall be consistent with adopted elements of the state TSP.

(b) Where elements of the state TSP have not been adopted, the MPO or county shall coordinate the preparation of the regional TSP with ODOT to assure that state transportation needs are accommodated.

(c) Regional TSPs prepared by MPOs other than metropolitan service districts shall be adopted by the counties and cities within the jurisdiction of the MPO. Metropolitan service districts shall adopt a regional TSP for areas within their jurisdiction.

(d) Regional TSPs prepared by counties shall be adopted by the county.

(3) Cities and counties shall prepare, adopt and amend local TSPs for lands within their planning jurisdiction in compliance with this division.

(a) Local TSPs shall establish a system of transportation facilities and services adequate to meet identified local transportation needs and shall be consistent with regional TSPs and adopted elements of the state TSP.

(b) Where the regional TSP or elements of the state TSP have not been adopted, the city or county shall coordinate the preparation of the local TSP with the regional transportation planning body and ODOT to assure that regional and state transportation needs are accommodated.

(4) Cities and counties shall adopt regional and local TSPs required by this division as part of their comprehensive plans. Transportation financing programs required by OAR 660-12-040 may be adopted as a supporting document to the comprehensive plan.

(5) The preparation of TSPs shall be coordinated with affected state and federal agencies, local governments, special districts, and private providers of transportation services.

(6) Mass transit, transportation, airport and port districts shall participate in the development of TSPs for those transportation facilities and services they provide. These districts shall prepare and adopt plans for transportation facilities and services they provide. Such plans shall be consistent with and adequate to carry out relevant portions of applicable regional and local TSPs. Cooperative agreements executed under ORS 197.185(2) shall include the requirement that mass transit, transportation, airport and port districts adopt a plan consistent with the requirements of this section.

(7) Where conflicts are identified between proposed regional TSPs and acknowledged comprehensive plans, representatives of affected local governments shall meet to discuss means to resolve the conflicts. These may include:

(a) Changing the draft TSP to eliminate the conflicts; or

(b) Amending acknowledged comprehensive plan provisions to eliminate the conflicts;

For MPOs which are not metropolitan service districts, if conflicts persist between regional TSPs and acknowledged comprehensive plans after efforts to achieve compatibility, an affected local government may petition the Commission to resolve the dispute.

660-12-020 Elements of Transportation System Plans

(1) A TSP shall establish a coordinated network of transportation facilities adequate to serve state, regional and local transportation needs.

(2) The TSP shall include the following elements:

(a) A determination of transportation needs as provided in 660-12-030.

(b) A road plan for a network of arterials and collectors. Functional classifications of roads in regional and local TSPs shall be consistent with functional classifications of roads in state and regional TSPs and shall provide for continuity between adjacent jurisdictions.

(c) A public transportation plan which

(A) Describes public transportation services for the transportation disadvantaged and identifies service inadequacies.

(B) Describes intercity bus and passenger rail service and identifies the location of terminals.

(C) For areas within an urban growth boundary which have public transit service, identifies existing and planned transit trunk routes, exclusive transit ways, terminals and major transfer stations, and park-and-ride stations.

(D) For areas within an urban area containing a population greater than 25,000 persons not currently

served by transit, evaluates the feasibility of developing a public transit system at buildout. Where a transit system is determined to be feasible, the plan shall meet the requirements of subsection 2(c)(C) of this section.

(d) A bicycle and pedestrian plan for a network of bicycle and pedestrian routes throughout the planning area. The network and list of facility improvements shall be consistent with the requirements of ORS 366.514.

(e) An air, rail, water and pipeline transportation plan which identifies where public use airports, mainline and branchline railroads and railroad facilities, port facilities, and major regional pipelines and terminals are located or planned within the planning area. For airports, the planning area shall include all areas within airport imaginary surfaces and other areas covered by state or federal regulations.

(f) For areas within an urban area containing a population greater than 25,000 persons a plan for transportation system management and demand management.

(g) A parking plan in MPO areas as provided in 660-12-045(5)(c).

(h) Policies and land use regulations for implementing the TSP as provided in 660-12-045.

(i) For areas within an urban growth boundary containing a population greater than 2500 persons, a transportation financing program as provided in 660-12-040.

(3) Each element identified in subsection (2)(b)-(d) of this section shall contain:

(a) An inventory and general assessment of existing and committed transportation facilities and services by function, type, capacity and condition.

(A) The transportation capacity analysis shall include information on:

(i) The capacities of existing and committed facilities;

(ii) The degree to which those capacities have been reached or surpassed on existing facilities; and,

(iii) The assumptions upon which these capacities are based.

(B) For state and regional facilities, the transportation capacity analysis shall be consistent with standards of facility performance considered acceptable by the affected state or regional transportation agency.

(C) The transportation facility condition analysis shall describe the general physical and operational condition of each transportation facility (e.g. very good, good, fair, poor, very poor).

(b) A system of planned transportation facilities, services and major improvements. The system shall include a description of the type or functional classification of planned facilities and services and their planned capacities and levels of service.

(c) A description of the location of planned facilities, services and major improvements, establishing the general corridor within which the facilities, services or improvements may be sited. This shall include a map showing the general location of proposed transportation improvements, a description of facility parameters such as minimum and maximum road right of way width and the number and size of lanes, and any other additional description that is appropriate.

(d) Identification of the provider of each transportation facility or service.

660-12-025 Complying with the Goals in Preparing Transportation System Plans; Refinement Plans

(1) Except as provided in subsection (3) of this section, adoption of a TSP shall constitute the land use decision regarding the need for transportation facilities, services and major improvements and their function, mode, and general location.

(2) Findings of compliance with applicable statewide planning goals and acknowledged comprehensive plan policies and land use regulations shall be developed in conjunction with the adoption of the TSP.

(3) A local government or MPO may defer decisions regarding function, general location and mode of a refinement plan if findings are adopted which:

(a) Identify the transportation need for which decisions regarding function, general location or mode are being deferred;

(b) Demonstrate why information required to make final determinations regarding function, general location, or mode cannot reasonably be made available within the time allowed for preparation of the TSP;

(c) Explain how deferral does not invalidate the assumptions upon which the TSP is based or preclude implementation of the remainder of the TSP;

(d) Describe the nature of the findings which will be needed to resolve issues deferred to a refinement plan; and

(e) Demonstrate that the refinement effort will be completed within three years or prior to initiation of the periodic review following adoption of the TSP.

(4) Where a Corridor Environmental Impact Statement (EIS) is prepared pursuant to the requirements of the National Environmental Policy Act of 1969, the development of the refinement plan shall be

coordinated with the preparation of the Corridor EIS. The refinement plan shall be adopted prior to the issuance of the Final EIS.

660-12-030 Determination of Transportation Needs

(1) The TSP shall identify transportation needs relevant to the planning area and the scale of the transportation network being planned including:

(a) State, regional, and local transportation needs.

(b) Needs of the transportation disadvantaged.

(c) Needs for movement of goods and services to support industrial and commercial development planned for pursuant to OAR 660-09 and Goal 9 (Economic Development)

(2) Counties or MPOs preparing regional TSPs shall rely on the analysis of state transportation needs in adopted elements of the state TSP. Local governments preparing local TSPs shall rely on the analyses of state and regional transportation needs in adopted elements of the state TSP and adopted regional TSPs.

(3) Within urban growth boundaries, the determination of local and regional transportation needs shall be based upon:

(a) Population and employment forecasts and distributions which are consistent with the acknowledged comprehensive plan, including those policies which implement Goal 14, including Goal 14's requirement to encourage urban development on urban lands prior to conversion of urbanizable lands. Forecasts and distributions shall be for 20 years and, if desired, for longer periods.

(b) Measures adopted pursuant to 660-12-045 to encourage reduced reliance on the automobile.

(4) In MPO areas, calculation of local and regional transportation needs also shall be based upon accomplishment of the requirement in 660-12-035(4) to reduce reliance on the automobile.

660-12-035 Evaluation and Selection of Transportation System Alternatives

(1) The TSP shall be based upon evaluation of potential impacts of system alternatives that can reasonably be expected to meet the identified transportation needs in a safe manner and at a reasonable cost with available technology. The following shall be evaluated as components of system alternatives:

(a) Improvements to existing facilities or services.

(b) New facilities and services, including different modes or combinations of modes that could reasonably meet identified transportation needs.

(c) Transportation system management measures.

(d) Demand management measures, and

(e) A no-build system alternative required by the National Environmental Policy Act of 1969 or other laws.

(2) Local governments in MPO areas of larger than 1,000,000 population shall and other governments may also evaluate alternative land use designations, densities and design standards to meet local and regional transportation needs. Local governments preparing such a strategy shall consider:

(a) Increasing residential densities and establishing minimum residential densities within one quarter mile of transit lines, major regional employment areas and major regional retail shopping areas;

(b) Increasing densities (i.e. minimum floor area ratios) in new commercial office and retail developments;

(c) Designating lands for neighborhood shopping centers within convenient walking and cycling distance of residential areas;

(d) Designating land uses to provide a better balance between jobs and housing considering:

(A) The total number of jobs and total of number of housing units expected in the area or subarea;

(B) The availability of affordable housing in the area or subarea; and,

(C) Provision of housing opportunities in close proximity to employment areas.

(e) Establishing maximum parking limits for office and institutional developments consistent with 660-12-045(5)(c) which reduce the amount of parking available at such developments.

(3) The following standards shall be used to evaluate and select alternatives:

(a) The transportation system shall support urban and rural development by providing types and levels of transportation facilities and services appropriate to serve the land uses identified in the acknowledged comprehensive plan.

(b) The transportation system shall be consistent with state and federal standards for protection of air, land and water quality including the State Implementation Plan under the Federal Clean Air Act and the State Water Quality Management Plan;

(c) The transportation system shall minimize adverse economic, social, environmental and energy consequences.

(d) The transportation system shall minimize conflicts and facilitate connections between modes of transportation.

(e) The transportation system shall avoid principal reliance on any one mode of transportation and shall reduce principal reliance on the automobile. In MPO areas this shall be accomplished by selecting transportation alternatives which meet the requirements in 660-12-035(4).

(4) In MPO areas, regional and local TSPs shall be designed to achieve the following objectives for reducing automobile vehicle miles travelled (VMT) per capita for the MPO area.

(a) No increase within 10 years of adoption of a plan as required by OAR 660-12-055(1);

(b) A 10% reduction within 20 years of adoption of a plan as required by OAR 660-12-055(1); and,

(c) Through subsequent planning efforts, a 20% reduction within 30 years of adoption of a plan as required by OAR 660-12-055(1).

(5) Regional TSPs shall specify measurable objectives for each of the following and demonstrate how the combination selected will accomplish the objectives in subsection 4:

(a) An increase in the modal share of non-automobile trips (i.e. transit, bicycle, pedestrian); for example, a doubling of the modal share of non-automobile trips;

(b) An increase in average automobile occupancy (i.e. persons per vehicle) during; for example, an increase to an average of 1.5 persons per vehicle; and,

(c) Where appropriate, a decrease in the number or length of automobile vehicle trips per capita due to demand management programs, rearranging of land uses or other means.

(6) Regional and local TSPs shall include interim benchmarks to assure satisfactory progress towards meeting the requirements of this section at five year intervals over the planning period. MPOs and local governments shall evaluate progress in meeting interim benchmarks at five year intervals from adoption of the regional and local TSPs. Where interim benchmarks are not met, the relevant TSP shall be amended to include new or additional efforts adequate to meet the requirements of this section.

(7) The Commission shall, at five year intervals from the adoption of this rule, evaluate the results of efforts to achieve the reduction in VMT and the effectiveness of the standard in achieving the objective of reducing reliance on the automobile.

(8) Where existing and committed transportation facilities and services have adequate capacity to support the land uses in the acknowledged comprehensive plan, the local government shall not be required to evaluate alternatives as provided in this section.

660-12-040 Transportation Financing Program

(1) For areas within an urban growth boundary containing a population greater than 2,500 persons, the TSP shall include a transportation financing program.

(2) A transportation financing program shall include:

(a) A list of planned transportation facilities and major improvements;

(b) A general estimate of the timing for planned transportation facilities and major improvements.

(c) Determination of rough cost estimates for the transportation facilities and major improvements identified in the TSP.

(3) The determination of rough cost estimates is intended to provide an estimate of the fiscal requirements to support the land uses in the acknowledged comprehensive plan and allow jurisdictions to assess the adequacy of existing and possible alternative funding mechanisms. In addition to including rough cost estimates for each transportation facility and major improvement, the transportation financing plan shall include a discussion of the facility provider's existing funding mechanisms and the ability of these and possible new mechanisms to fund the development of each transportation facility and major improvement. These funding mechanisms may also be described in terms of general guidelines or local policies.

(4) Anticipated timing and financing provisions in the transportation financing program are not considered land use decisions as specified in ORS 197.712(2)(e) and, therefore, cannot be the basis of appeal under ORS 197.610(1) and (2) or ORS 197.835(4).

(5) The transportation financing program shall implement comprehensive plan policies which provide for phasing of major improvements to encourage infill and redevelopment of urban lands prior to facilities which would cause premature development of urbanizable areas or conversion of rural lands to urban uses.

660-12-045 Implementation of the Transportation System Plan

(1) Each local government shall amend its land use regulations to implement the TSP.

(a) The following transportation facilities, services and improvements need not be subject to land use regulations except as necessary to implement the TSP and, under ordinary circumstances do not have a significant impact on land use:

(A) Operation, maintenance, and repair of existing transportation facilities identified in the TSP, such as road, bicycle, pedestrian, port, airport and rail facilities, and major regional pipelines and terminals.

(B) Dedication of right-of-way, authorization of construction and the construction of facilities and improvements, where the improvements are consistent with clear and objective dimensional standards.

(C) Uses permitted outright under ORS 215.213(1)(m) through (p) and ORS 215.283(1)(k) through (n), consistent with the provisions of 660-12-065, and.

(D) Changes in the frequency of transit, rail and airport services.

(b) To the extent, if any, that a transportation facility, service or improvement concerns the application of a comprehensive plan provision or land use regulation, it may be allowed without further land use review if it is permitted outright or if it is subject to standards that do not require interpretation or the exercise of factual, policy or legal judgment.

(c) In the event that a transportation facility, service or improvement is determined to have a significant impact on land use or to concern the application of a comprehensive plan or land use regulation and to be subject to standards that require interpretation or the exercise of factual, policy or legal judgment, the local government shall provide a review and approval process that is consistent with 660-12-050. To facilitate implementation of the TSP, each local government shall amend its land use regulations to provide for consolidated review of land use decisions required to permit a transportation project.

(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, transitways 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, MPO[illegible] 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.

(3) Local governments shall adopt land use or subdivision regulations for urban areas and rural communities to require:

(a) Bicycle parking facilities as part of new multi-family residential developments of four units or more, new retail, office and institutional developments, and all transit transfer stations and park and ride lots.

(b) Facilities providing safe and convenient pedestrian and bicycle access within and from new subdivisions, planned developments, shopping centers and industrial parks to nearby residential areas, transit stops, and neighborhood activity centers, such as schools, parks and shopping. This shall include:

(A) Sidewalks along arterials and collectors in urban areas;

(B) Bikeways along arterials and major collectors;

(C) Where appropriate, separate bike or pedestrian ways to minimize travel distances within and between the areas and developments listed above.

(c) For purposes of subsection (b) "safe, convenient and adequate" means bicycle and pedestrian routes, facilities and improvements which:

(A) Are reasonably free from hazards, particularly types or levels of automobile traffic which would interfere with or discourage pedestrian or cycle travel for short trips;

(B) Provide a direct route of travel between destinations such as between a transit stop and a store; and,

(C) Meet travel needs of cyclists and pedestrians considering destination and length of trip;

(d) Provision of internal pedestrian circulation in new office parks and commercial developments through clustering of buildings, construction of pedestrian ways, skywalks, where appropriate, and similar techniques.

(4) To support transit in urban areas containing a population greater than 25,000, where the area is already served by a public transit system or where a determination has been made that a public transit

system is feasible, local governments shall adopt land use and subdivision regulations to require:

(a) Design of transit routes and transit facilities to support transit use through provision of bus stops, pullouts and shelters, optimum road geometrics, on-road parking restrictions and similar facilities, as appropriate.

(b) New retail, office and institutional buildings at or near existing or planned transit stops to provide preferential access to transit through the following measures:

(A) Orienting building entrances to the transit stop or station;

(B) Clustering buildings around transit stops; and,

(C) Locating buildings as close as possible to transit stops.

(c) New industrial and commercial developments to provide preferential parking for carpools and vanpools.

(d) An opportunity for existing development to redevelop a portion of existing parking areas for transit oriented uses, including bus stops and pullouts, bus shelters, park and ride stations, transit oriented developments, and similar facilities, where appropriate.

(e) Road systems for new development which can be adequately served by transit, including provision of pedestrian access to existing and identified future transit routes. This shall include, where appropriate, separate bicycle and pedestrian ways to minimize travel distances.

(f) Along existing or planned transit routes, designation of types and densities of land uses adequate to support transit.

(5) In MPO areas, local governments shall adopt land use and subdivision regulations to reduce reliance on the automobile which:

(a) Allow transit oriented developments (TODs) on lands along transit routes.

(b) Implements a demand management program to meet the measurable standards set in the TSP in response to 660-12-035(4).

(c) Implements a parking plan which:

(A) Achieves a 10% reduction in the number of parking spaces per capita in the MPO area over the planning period. This may be accomplished through a combination of restrictions on development of new parking spaces and requirements that existing parking spaces be redeveloped to to other uses.

(B) Aids in achieving the measurable standards set in the TSP in response to 660-12-035(4).

(C) Includes land use and subdivision regulations setting minimum and maximum parking requirements, and,

(D) Is consistent with demand management programs, transit-oriented development requirements and planned transit service.

(d) Require all major industrial, institutional, retail and office developments to provide either a transit stop on site or connection to a transit stop along a transit trunk route when the transit operator requires such an improvement.

(6) In developing a bicycle and pedestrian circulation plan as required by 660-12-020(2)(d), local governments shall identify improvements to facilitate bicycle and pedestrian trips to meet local travel needs in developed areas. Appropriate improvements should provide for more direct, convenient and safer bicycle or pedestrian travel within and between residential areas and neighborhood activity centers (i.e. schools, shopping, transit stops). Specific measures include, for example, constructing walkways between cul-de-sacs and adjacent roads, providing walkways between buildings, and providing direct access between adjacent uses.

660-12-050 Transportation Project Development

(1) For projects identified by ODOT pursuant to OAR 731, Division 15, project development shall occur in the manner set forth in that Division.

(2) Regional TSPs shall provide for coordinated project development among affected local governments. The process shall include:

(a) Designation of a lead agency to prepare and coordinate project development.

(b) A process for citizen involvement, including public notice and hearing, if project development involves land use decision-making. The process shall include notice to affected transportation facility and service providers, MPOs, and ODOT.

(c) A process for developing and adopting findings of compliance with applicable statewide planning goals, if any. This shall include a process to allow amendments to acknowledged comprehensive plans where such amendments are necessary to accommodate the project;

(d) A process for developing and adopting findings of compliance with applicable acknowledged comprehensive plan policies and land use regulations of individual local governments, if any. This shall include a process to allow amendments to acknowledged comprehensive plans or land use regulations where such amendments are necessary to accommodate the project.

(3) Project development involves land use decision-making to the extent that issues of compliance

with applicable requirements remain outstanding at the project development phase. Issues may include, but are not limited to, compliance with regulations protecting or regulating development within floodways and other hazard areas, identified Goal 5 resource areas, estuarine and coastal shoreland areas, and the Willamette River Greenway. Where project development involves land use decisionmaking, all unresolved issues of compliance with applicable acknowledged comprehensive plan policies and land use regulations shall be addressed and findings of compliance adopted prior to project approval. To the extent compliance has already been determined during transportation system planning, including adoption of a refinement plan, affected local governments may rely on and reference the earlier findings of compliance with applicable standards.

(4) Where an Environmental Impact Statement (EIS) is prepared pursuant to the National Environmental Policy Act of 1969, project development shall be coordinated with the preparation of the EIS. All unresolved issues of compliance with applicable acknowledged comprehensive plan policies and land use regulations shall be addressed and findings of compliance adopted prior to issuance of the Final EIS.

(5) If a local government decides not to build a project authorized by the TSP, it must evaluate whether the needs that the project would serve could otherwise be satisfied in a manner consistent with the TSP. If identified needs cannot be met consistent with the TSP, the local government shall initiate a plan amendment to change the TSP or the comprehensive plan to assure that there is an adequate transportation system to meet transportation needs.

(6) Transportation project development may be done concurrently with preparation of the TSP or a refinement plan.

660-12-055 Timing of Adoption and Update of Transportation System Plans; Exemptions

(1) MPOs shall complete regional TSPs for their planning areas within four years following the effective date of this division. For those areas within an MPO, cities and counties shall adopt local TSPs and implementing measures within one year following completion of the regional TSP. Urban areas designated as MPOs subsequent to the adoption of this rule shall adopt TSPs in compliance with applicable requirements of this rule within three years of designation.

(2) For areas outside an MPO, cities and counties shall complete and adopt regional and local TSPs and implementing measures within five years of the effective date of this division.

(3) Within two years of adoption of this rule affected cities and counties shall, for urban areas of 25,000 or more, adopt land use and subdivision ordinances or amendments required by 660-12-045(3),(4)(a)-(e) and (5)(a).

(4) Cities and counties shall update their TSPs and implementing measures as necessary to comply with this division at each periodic review subsequent to initial compliance with this division. This shall include a reevaluation of the land use designations, densities and design standards in the following circumstances:

(a) If the interim benchmarks established pursuant to 660-12-035(6) have not been achieved, or,

(b) If a refinement plan has not been adopted consistent with the requirements of 660-12-025(3).

(5) The director may grant a whole or partial exemption from the requirements of this division to cities under 2,500 population outside MPO areas and counties under 25,000 population. Eligible jurisdictions may, within five years following the adoption of this rule or at subsequent periodic reviews, request that the director approve an exemption from all or part of the requirements in this division until the jurisdiction's next periodic review.

(a) The director's decision to approve an exemption shall be based upon the following factors:

(A) Whether the existing and committed transportation system is generally adequate to meet likely transportation needs.

(B) Whether the new development or population growth is anticipated in the planning area over the next five years;

(C) Whether major new transportation facilities are proposed which would affect the planning area;

(D) Whether deferral of planning requirements would conflict with accommodating state or regional transportation needs; and,

(E) Consultation with the Oregon Department of Transportation on the need for transportation planning in the area, including measures needed to protect existing transportation facilities.

(b) The director's decision to grant an exemption under this section is appealable to the Commission as provided in OAR 660-02-020 (Delegation of Authority Rule).

(6) Portions of TSPs and implementing measures adopted as part of comprehensive plans prior to the responsible jurisdiction's periodic review shall be reviewed pursuant to OAR 660, Division 18, Post Acknowledgement Procedures.

660-12-060 Plan and Land Use Regulation Amendments

(1) Amendments to functional plans, acknowledged comprehensive plans, and land use regulations which significantly affect a transportation facility shall assure that allowed land uses are consistent with the identified function, capacity, and level of

service of the facility. This shall be accomplished by either:

(a) Limiting allowed land uses to be consistent with the planned function, capacity and level of service of the transportation facility;

(b) Amending the TSP to provide transportation facilities adequate to support the proposed land uses consistent with the requirements of this division; or,

(c) Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes.

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

(a) Changes the functional classification of an existing or planned transportation facility;

(b) Changes standards implementing a functional classification system;

(c) Allows types or levels of land uses which would result in levels of travel or access which are inconsistent with the functional classification of a transportation facility; or

(d) Would reduce the level of service of the facility below the minimum acceptable level identified in the TSP.

(3) Determinations under subsections (1) and (2) of this section shall be coordinated with affected transportation facility and service providers and other affected local governments.

(4) The presence of a transportation facility or improvement shall not be a basis for an exception to allow residential, commercial, institutional or industrial development on rural lands under this division or OAR 660-04-022 and 028.

660-12-065 Transportation Improvements on Rural Lands

(1) This section identifies transportation facilities, services and improvements which may be permitted on rural lands consistent with Goals 3, 4, 11 and 14 without a goal exception.

(2) For the purposes of this section, the following definitions apply:

(a) Access roads: means low volume public or private roads that provide access to property and travel within a built and committed area.

(b) Local service roads: means collectors and arterials but does not include state highways of regional or statewide significance.

(c) Local travel: means travel within a built and committed area or between resource lands or a built and committed area and a nearby urban area or rural community.

(d) State highways of regional or statewide significance: means highways identified in ODOT's Highway Plan as interstate highways, Access Oregon highways, and highways of regional or statewide significance.

(e) Major road improvement: means a major realignment; addition of travel lanes; and new interchanges and intersections. Major road improvements do not include replacement of an existing intersection with an interchange, the replacement of one or more intersections with another intersection to correct a safety deficiency, or the creation of an intersection for a log haul road.

(f) Major realignment: means a realignment where the center line of the roadway shifts outside of the existing right of way for a distance of one half mile or more.

(g) Realignment means replacement of an existing road segment where the replaced road segment is either abandoned or is modified to function as an access road. New road segments which do not meet this definition are considered new roads for purposes of this section.

(3) The following transportation facilities and improvements are consistent with Goals 3 and 4 and may be sited on rural agricultural and forest land:

(a) On land zoned for agricultural use, transportation facilities and improvements permitted outright or conditionally under ORS 215.213 (1) or (2) or ORS 215.283 (1) or (2); and,

(b) On land zoned for forest use, transportation facilities and improvements permitted outright or conditionally under OAR 660, Division 6.

(4) The following transportation facilities and improvements are consistent with Goals 11 and 14 and may be located on rural lands:

(a) Maintenance or repair of an existing transportation facility.

(b) Reconstruction, surfacing, minor widening or realignment of an existing road, but not including the addition of travel lanes;

(c) Replacement of bridges;

(d) Replacement of docks, and other facilities without significantly increasing the capacity of those facilities;

(e) Climbing and passing lanes;

(f) New access roads in built and committed exception areas;

(g) Temporary improvements in association with construction projects, such as temporary roads and detours;

(h) Bikeways, footpaths, and recreation trails;

(i) Turn refuges at existing street intersections;

(j) Transportation system management measures, including medians which limit or prevent turning movements, but not including the creation of additional travel lanes or median turn lanes;

(k) Streets and bridges on farm or forest lands for the purpose of managing land for farm or forest uses;

(l) Railroad mainlines and branchlines;

(m) Pipelines;

(n) Navigation channels;

(o) Personal use airports and expansions or alterations of public use airports that do not permit service to a larger class of airplanes;

(p) Accessory uses to transportation facilities, such as weigh stations, maintenance stations, stockpile sites, and safety rest areas.

(q) New local service roads and extensions of existing local service roads on farm and forest lands as provided in subsection (5) of this section;

(r) Major road improvements to state highways of regional and statewide significance as provided in subsection (6) of this section;

(s) Other transportation facilities, services and improvements serving local needs as provided in subsection (7) of this section.

(5) New local service roads including extensions of existing local service roads shall comply with the following standards:

(a) Only two lanes of traffic shall be accommodated.

(b) Intersections and private accesses shall be limited to be consistent with rural uses and densities

(c) Major realignments shall not be permitted.

(d) New local service roads shall be permitted only to connect built and committed areas or to reduce local access to and local traffic on a state highway. Access to farm and forest lands shall be limited.

(e) Major road improvements to state highways of regional or statewide significance shall comply with the following standards:

(A) Accesses shall be reduced to the minimum practicable and shall not exceed that which would be consistent with the function and operation of the highway considering traffic at buildout of nearby rural lands.

(B) Local travel may be accommodated to the extent that it is not feasible to meet such needs on other existing roads or through improvements to other existing roads, including construction of local access roads in built and committed areas.

(C) New interchanges or intersections may be allowed only in the following circumstances:

(A) To connect to other state highways of regional or statewide significance;

(B) To replace existing interchanges or intersections; or

(C) To reduce and consolidate direct road accesses consistent with (a) and (b) above.

(D) Direct private access to new facilities shall not be permitted.

(E) Median turn lanes shall comply with the following standards:

(A) The median turn lane is needed to correct a safety problem which cannot practicably be corrected through other measures such as:

(i) Limited left turn refuges;

(ii) Construction or extension of local service roads as otherwise permitted by this section;

(iii) Median barriers; and

(iv) Reconstruction of existing road accesses or purchase of access rights.

(B) The median turn lane is consistent with the function and operation of the facility considering traffic on affected roads and accesses at buildout of nearby rural lands; and

(F) Realignments shall not create new parcels of land that are provided direct access to the highway.

(G) A bypass of all or part of an urban growth boundary shall be permitted only if planned, designed and operated to limit use for trips between locations within the urban growth boundary to be less than a third of the average daily traffic on the bypass.

(7) Other transportation facilities, services or improvements serve local needs if:

(a) The facility, service or improvement serves the rural land uses identified in the acknowledged comprehensive plan, and

(b) The facility, service or improvement provides travel capacity and a level of service which is adequate but which does not exceed that required to serve travel needs in the rural area over the planning period. Travel

needs in the rural area includes travel that would result from development otherwise anticipated to occur in the rural area consistent with plan policies including those which encourage new development to locate within urban growth boundaries.

660-12-070 Exceptions for Transportation Improvements on Rural Land

(1) Transportation facilities and improvements which do not meet the requirements of 660-12-065 require an exception to be sited on rural lands.

(2) Where an exception to Goals 3, 4, 11, or 14 is required, the exception shall be taken pursuant to ORS 197.732(1)(c), Goal 2, OAR 660, Division 4 and this division.

(3) An exception adopted as part of a TSP or refinement plan shall, at a minimum, decide need, mode, function and general location for the proposed facility or improvement.

(a) The general location shall be specified as a corridor within which the proposed facility or improvement is to be located, including the outer limits of the proposed location. Specific sites or areas within the corridor may be excluded from the exception to avoid or lessen likely adverse impacts.

(b) The size, design and capacity of the proposed facility or improvement shall be described generally, but in sufficient detail to allow a general understanding of the likely impacts of the proposed facility or improvement. Measures limiting the size, design or capacity may be specified in the description of the proposed use in order to simplify the analysis of the effects of the proposed use.

(c) The adopted exception shall include a process and standards to guide selection of the precise design and location within the corridor and consistent with the general description of the proposed facility or improvement. For example, where a general location or corridor crosses a river, the exception would specify that a bridge crossing would be built but would defer to project development decisions about precise location and design of the bridge within the selected corridor subject to requirements to minimize impacts on riparian vegetation, habitat values, etc.

(d) Land use regulations implementing the exception may include standards for specific mitigation measures to offset unavoidable environmental, economic, social or energy impacts of the proposed facility or improvement or the assure compatibility with adjacent uses.

(4) To address Goal 2, Part II(c)(1) the exception shall demonstrate that there is a transportation need identified consistent with the requirements of 660-12-030 which cannot reasonably be accommodated through one or a combination of the following measures not requiring an exception.

(a) Alternative modes of transportation,

(b) Traffic management measures, and

(c) Improvements to existing transportation facilities.

(5) To address Goal 2, Part II(c)(2), the exception shall demonstrate that non-exception locations cannot reasonably accommodate the proposed transportation improvement or facility.

(6) To determine the reasonableness of alternatives to an exception under subsections (4) and (5) of this section, cost, operational feasibility, economic dislocation and other relevant factors shall be addressed. The thresholds chosen to judge whether an alternative method or location cannot reasonably accommodate the proposed transportation need or facility must be justified in the exception.

(7) To address Goal 2, Part II(c)(3), the exception shall:

(a) Compare the economic, social, environmental and energy consequences of the proposed location and other alternative locations requiring exceptions.

(b) Determine whether the net adverse impacts associated with the proposed exception site are significantly more adverse than the net impacts from other locations which would also require an exception. A proposed exception location would fail to meet this requirement only if the affected local government concludes that the impacts associated with it are significantly more adverse than the other identified exception sites.

(c) The evaluation of the consequences of general locations or corridors need not be site-specific, but may be generalized consistent with the requirements of 660-12-070(3).

(8) To address Goal 2, Part II(c)(4), the exception shall:

(a) Describe the adverse effects that the proposed transportation improvement is likely to have on the surrounding rural lands and land uses, including increased traffic and pressure for nonfarm or highway oriented development on areas made more accessible by the transportation improvement.

(b) Adopt as part of the exception, facility design and land use measures which minimize accessibility of rural lands from the proposed transportation facility or improvement and support continued rural use of surrounding lands.

Oregon
John A. Kitzhaber, M.D., Governor

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March 12, 1999

FILE CODE:

Richard Comstock
Director of Public Works
Union County
PO Box 1103
LaGrande, Oregon 97850

Subject: Intersection Review
Hunter Road @ Booth Lane

Dear Mr. Comstock:

As you are aware the intersection of Hunter Road and Booth Lane has been identified as a dangerous intersection under the draft Union County Transportation System Plan. It was recommended that this intersection be reviewed and possible solutions be identified to include in the Union County TSP. Based upon your request I have completed a review of this intersection and provide the following comments.

- The accident history that Union County supplied identified 7 accidents since 1983. Of these 7 accidents 2 resulted in fatalities. The accident history is small, however the accident severity is very high. ODOT's standard for intersection review is normally based upon these same 2 items. For frequency values we look for 5 accidents occurring within a 12-month period. If this type of frequency is occurring it is a strong indicator that there may be capacity issues, physical limitations and or a poor design that is contributing to these accidents. If a single fatality occurs, this triggers a review. Again we look for physical features of the intersection that may have been a contributing factor. Per the review of the accident data the accident history is small. However, it was identified that the major cause was vehicles running the stop sign. This appeared to be occurring equally from both directions. Per my conversation with you, it was indicated that the majority of this traffic is local traffic going and coming to work and that the majority of these drivers do not stop, as they should at these stop signs. Information on the fatal accidents indicates that one was the result of an intoxicated driver failing to stop and the second one was a lost driver that was not paying attention and or distracted.
- Traffic Volumes: I don't have any traffic counts. However, from observations it appears that the traffic volumes at this intersection are not at any critical level.
- Alignment and grade issues – Both roadways are tangent and fairly level and connect at standard 90-degree intersection. This is good.
- Intersection site distance – Site distances along both roadways are fairly good. However, there are some limiting factors. When driving along Hunter Road either from the north or the south approaches, the intersection is difficult to recognize. An overhead flasher has been installed and this helps tremendously. When coming from

the west approach on Booth Lane there is a slight vertical curve, which does hide the intersection. If the drivers are driving reasonable, there is still adequate distance to get stopped. Advance stop ahead signs are in place to help with this. Also when approaching from the west, an existing power pole does hide the stop sign for a ways. However, it is visible within a couple of hundred feet of the intersection. When sitting at the west approach and heading east, there are two items that do limit the visibility. The fenceline to the left (north) and the flasher pole and mail box to the right (south). If one takes there time they can see around or pass these items, but it does take more concentration. When approaching from the east or west bound there is minimal limitations. However, if a driver is not paying attention, the power poles to the north could block ones view.

- Speed: Hunter Road a main north – south route and is expected to act as a through route. The posted speed is 55 MPH however; much of the traffic drives it faster. Booth Lane is a main east – west route, but it is secondary to Hunter Road. It's posted speed is 45 MPH. These both seem appropriate for the intended roadway function.
- Other factors: Per our conversation it was stated that the majority of the drivers on Booth Lane are local drivers. Many of them ignore the stop signs and pass through the intersection with only a casual glance onto Hunter Road. The only method to help with this is enforcement.

Conclusions:

- This intersection does have fairly good alignment and grade.
- Traffic volumes and accident rates are such, that a traffic signal is not warranted.
- Established speeds do seem appropriate for both of these roadways.
- The overhead flasher does provide for intersection recognition.
- There are some minor limitations to the site distance on the west approach.
- Many of the local drivers choose to ignore the stop signs on Booth Lane.

Recommendations by Priority:

- Increase the local patrol and enforcement at this intersection.
- Relocate the flasher pole on the SW quadrant.
- Relocate the power pole on the south side of Booth Lane on the west approach.
- Relocate the fence line on the NW quadrant.
- Install advance rumble strips to warn traffic of the upcoming stop signs on Booth Lane.

Continue to monitor this intersection. If additional questions come up please fill free to call me. My phone number is 541-889-8558.

Sincerely;

Thomas Kuhlman

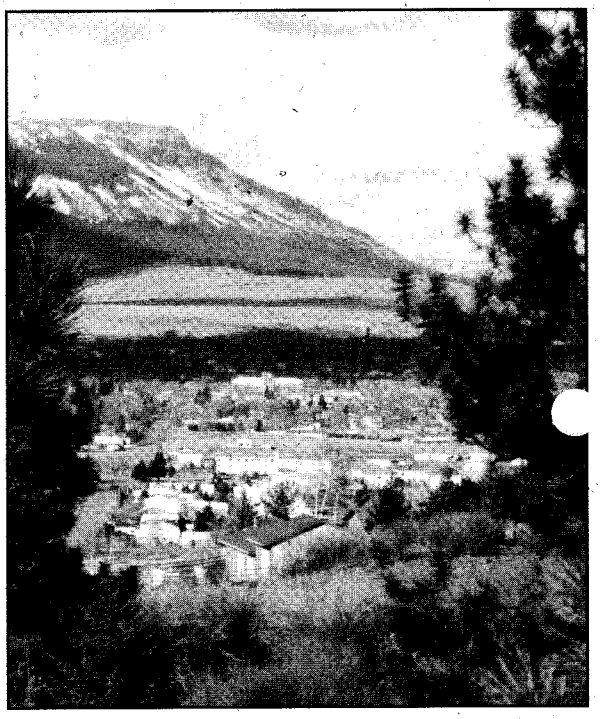
Thomas Kuhlman PE; PLS
Region 5 Traffic Operations Manager

Cc: Tom Schuft – Region 5 Manager
Tom Carman – Region 5 Federal Aide Specialist

Appendix E

THE GRANDE TOUR

Driving Guide and Route Description



The Grande Tour is an Oregon state tour route that showcases the diverse landscape, history, and culture of Union County.

TOUR ROUTE HIGHLIGHTS:

Used by Native Americans as summer pasture for their horses and a place for gathering winter stores of berries and camas root, the Grande Ronde Valley was first seen by people of European descent when the Wilson Price Hunt Expedition passed through in the winter of 1811-12. Emigrants passed this way during the great migration on the Oregon Trail. Following are some of the places where you might want to stop along the route.

Birnie Park, is in the oldest section of La Grande. The site of this park was a camping place for wagons traveling on the Oregon Trail. Ceramic pillars commemorate the pioneers who gathered and rested here before attempting the steep climb across the Blue Mountains, often called the most difficult of the two thousand mile journey west to the Willamette Valley.

Foothill Drive is where some of the earliest Grande Ronde Valley settlers established farms in the shadow of the Blues, beginning in the early 1860s. Historic barns and farm homes hug the sides of the winding paved road.

Ladd Marsh Wildlife Area provides excellent opportunity for people to enjoy wildlife viewing, bird watching and duck hunting. The wildlife area has a nature hike through the marsh, photography blinds, and a view point.

Hot Lake Resort always attracts the attention of passers by. This huge old brick building is but a fraction of a once sprawling complex, alive with hundreds of visitors who came from around the world to "take the waters" a renew their health. The spa/

Oregon State University Agriculture Experiment Station was built in 1901 and was the first in the state to be developed and operated by Oregon Agricultural College. The site was once the farm of Charles Elliott Davis, a prominent Union County agriculturalist and miller who went on to become governor. The building is listed in the State Registry of Historic Buildings. Area research continues at the site. Turn right onto Arch Street than left on 10th to get to the station headquarters.

Union Library is a noteworthy structure in downtown Union, built in 1912, with a $5,000 matching fund from the Carnegie Foundation. It still serves as a library for the residents of Union.

Historic Union Hotel was built in 1923. The hotel saw several years of hard times before it was recently purchased and renovated. Each charming room has a theme of decoration and the parlor is a wonderful place in which to curl up with a good mystery.

Pyle's Canyon was an alternate route around the mountain pass for pioneers on the Oregon Trail. This important route for travel to and from the east was a toll road constructed through the bottom of the canyon in 1864 by J. M. Pyle. Mr. Pyle was an early member of the state legislature and the first Senator from Union County. After he died, the county tried to purchase the road. They were unable to agree on terms with the Pyle estate so they built another road above it. After the new road was completed, the Pyle estate agreed to sell the toll road and the new road was abandone

NATURAL HIGHLIGHTS:

A combination of volcanic action, block faulting, and glacier carving formed the Grande Ronde Valley and the surrounding mountains. The result of all of that earth moving is a landscape rich in diversity. Towering peaks comprised largely of granite are visible in the distance from many vantage points along the Grande Tour route. Millions of years ago, large blocks of rock gradually folded and slid into the earth, leaving ragged cliffs of Columbia River Basalt standing above the valley. Now colorfully covered with lichen, the cliffs guard the many creeks and rivers that tumble from mountain top to valley floor and eventually to the Columbia River and Pacific Ocean. Glacial rock, ground into loess and carried to the valley floor by wind and water, makes up much of the rich soil that is farmed in the Grande Ronde Valley.

Agriculture is a major component of the economic structure in Union County. A wide variety of crops including wheat, oats, barley, grass seed, alfalfa hay, seed potatoes, cherries, peppermint, peas, garbanzo beans, sugar beets, and evening primrose are crops grown in the rich valley soils of Union County. The Grande Ronde River, its tributaries, and deep wells supply irrigation water. Cattle, sheep, horses, emus, and llamas are raised in the valley and on the surrounding hills.

Like agriculture, forestry has long played an important roll in the Union County economy. While logging activity and the production of wood products have been significantly reduced in recent years, they remain one of the larg employment

resort/hospital was also known as the Mayo Clinic of the West, as the famous Mayo Brothers were visitors and friends of Dr. Phy, the administrator. The resort was in its heyday from 1908 through 1932. A complete history of this fascinating place is available for purchase at the visitor center. Hot Lake is private property - do not enter.

Union is a Victorian era town that offers a step back in time. In 1862, Conrad Miller settled in the area and planted apple and pear trees and began one of the first nurseries in the Grande Ronde Valley. Other settlers soon followed and a town was established. Many of the early settlers around Union engaged in the freighting business, yoking their oxen into teams of six and carrying merchandise from The Dalles or Umatilla to the mines around Auburn in Baker County. Victorian homes and charming brick buildings still line the main street through town. The city of Union recently acquired historic district status and is currently working with local businesses in an effort to restore downtown buildings. **Union County Museum** is housed in a historic brick building. The museum recently acquired the **Cowboys Then & Now** exhibit, formerly located in Portland. This fascinating collection of Cowboy artifacts and memorabilia traces the history of cowboys and cattle in America. The museum is in an expansion mode. A new outdoor agriculture and forestry exhibit is being installed, with completion planned over the next two to three years.

Union Municipal Golf Course construction began in May, 1999. Play should begin on the course in late summer, 2000.

Telocaset was pronounced by the Indians as Taulekarset" and of Nez Perce origin, meaning "on the top." It marks the crest on the railroad grade between the Grande Ronde and Powder River Valleys. The Telocaset post office was established in 1885.

Thief Valley was named after John Wetherly, who was accused of stealing four mules from an emigrant at Boise and subsequently hanged there by vigilantes in December of 1864. The Thief Valley Reservoir, formed by a dam on the Powder River, is a popular place to windsurf or fish.

Medical Springs was established around 1868 by Dunham Wright, a cousin to Abraham Lincoln and an early state politician. Medical Springs became a popular hotel and hot springs resort in the late nineteenth and early twentieth centuries. The Medical Springs Store is well worth a visit.

Ascension Chapel is the highlight of Cove, a tiny town nestled at the base of Mount Fanny. Built in 1869, the picturesque Episcopal church has been visited by such esteemed guests as Desmond Tutu and the previous Episcopal Church Presiding Bishop, Edmond Browning, who visited the chapel more than once. The stained glass window was brought by ship around the "horn."

Historic Cove Hot Springs Swimming Pool and adjacent picnic area provides an excellent stopping place for both children and adults. Long before the beginning of migration on the Oregon Trail, mountain men wintered around the mineral spring that now feeds the pool. The pool is open daily from May to Labor Day.

Ackles Cemetery, on Mt. Glen Rd., was established in 1866. It has the graves of some of the Grande Ronde Valleys earliest settlers.

sectors for the county. The Grande Tour passes through a segment of mixed conifer forest, including a stand of timber owned by the Oregon State University Agriculture Experiment Station (mentioned earlier in the text). This plot is undergoing experimental timber management to determine which methods of timber harvest best meet the objectives of producing good forage along with sustainable timber harvest. The impact of grazing on upland meadows and fish habitat is also studied here, sometimes with surprising results. Farther down the road, the route passes the Hall Ranch, also owned by the Experiment Station, where research into range, grassland, and forest management for the production of beef cattle is conducted.

This section of the tour also passes through a portion of the Wallowa-Whitman National Forest and by several trailheads that access the beautiful Eagle Cap Wilderness. Hiking, camping and fishing are very popular activities here in the warmer months. In winter, a SnoPark serves snowmobilers, cross-country skiers, and sledders.

The Grande Tour begins and ends in La Grande, home of Eastern Oregon University. La Grande is the largest city in a three county area and serves as center for commerce, education, and state government. Visitors drive through fertile farmlands, rugged sage-covered range lands and lush green forests. Rivers, creeks, and a reservoir add beauty to the route and reflect the importance of life-giving water to the livelihood of all of the area's residents; wild and domestic.

DRIVING DIRECTIONS

Begin the Grande Tour at the intersection of Fourth and Adams Avenue in Downtown La Grande. From the parking lot of the visitor center, turn right onto Fourth Avenue and follow it up the hill to the intersection with C Avenue. Turn left and continue to the small parking lot of Birnie Park on the right side of the street. After seeing the memorial exhibit at Birnie Park, proceed on C Avenue which soon takes a bend and becomes Gekeler Road. Follow Gekeler about 1 mile and turn right unto Foothill Drive. Follow Foothill Drive four miles as it hugs the base of the hill and winds toward the south. A wildlife viewing sign directs you to a viewpoint overlooking the Ladd Marsh Wildlife Area, the Grande Ronde Valley and the distant peaks of the Wallowa Mountains.

Return to Foothill Drive and follow it across the freeway. An immediate left leads to a parking area and the Ladd Marsh Nature Trail. To continue on the tour route, turn right on Pierce Road then a quick curve to the left on Hot Lake Road. This section of the route is gravel, but it is well maintained and suitable for passenger cars. At the intersection with Oregon Highway 203, turn right and follow the paved highway to the town of Union. Follow the Main Street through the historic downtown and continue south. The highway is now Oregon Highway 237.

Stay on 237 f[illegible]everal miles through Pyles Canyon. Immediately after crossing the railroad overpass turn left on the gravel road that goes through the tiny railroad town, Telocaset. Stay on Telocaset Lane, turning left to cross the railroad. This gravel road will travel for six miles through wide open range country. The gravel road ends at an intersection with Oregon Highway 203, the Medical Springs Highway. Turn left onto the paved road and follow it past over the Catherine Creek Summit, and down the mountain.

Stay on this highway as it follows Catherine Creek past Catherine Creek State Park. Before entering Union again, turn right on Kofford Rd., then a quick left on High Valley Road. At the east edge of Union, turn right on Cove Highway, Oregon Highway 237, which will take you four miles to Cove. Continue through Cove on Highway 237 for one mile, then go straight onto Lower Cove Road and travel north along the foothills. Turn right onto the graveled Gray's Corner Road and then left onto Alicel Road and follow it to Oregon Highway 82. Cross Highway 82 at Alicel and continue on what is now called Standley Lane. Stay on Standley until it intersects with Mt. Glen Rd. Turn left onto Mt. Glen and follow it to Riverside Park on the northern edge of La Grande. To reach La Grande's main arterial, travel south on Spruce Street. Turn left at Monroe Ave. which will lead you across the railroad tracks to Island Avenue. A left turn here will take you to Interstate 84. A right turn will lead you through an underpass to Adams Avenue, turn right to downtown.

ROADWAY DESCRIPTIO[illegible]

Most of the Grande Tour has a paved surface and is a two lane highway. However, there are a few sections that are hard gravel surfaces. On portions of the route, there may be occasional closure in bad weather.

The entire route of the Grande Tour is appropriate for recreation vehicles. Although there are no bike lanes along the route, all paved sections are appropriate and popular for bicycle use. Because of narrow shoulders, caution is required on the sections through Pyles Canyon, south of Union on OR Hwy. 237, and along Catherine Creek on OR Hwy. 203.

Before you begin your drive, please be sure you carry drinking water and have adequate fuel in your vehicle to travel at least fifty miles. The route is ninety-five miles long, with opportunities for fuel and food at La Grande, Union, and Cove. In addition, there is a small store in Medical Springs. Figure two to four hours to enjoy the route, depending on stops.

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