City of Ashland

Transportation System Plan

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

CHAPTER **PAGE**

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (continued)

LIST OF FIGURES

TABLE OF CONTENTS (Continued)

FIGURE **PAGE**

LIST OF TABLES

TABLE **PAGE**

Chapter 1

Introduction

Chapter 1

INTRODUCTION

By *vision*, the City of Ashland expects to retain a small-town character even as it grows into the 21st century. To guide that vision, the City recently updated the Transportation Element of the Ashland Comprehensive Plan to include a number of revised land use and transportation goals and policies. The underlying theme or concept of the updated Transportation Element is “modal equity,” or equal consideration of all travel modes. Through the “modal equity” concept, the City recognizes the need for a *well-designed*, *integrated* and *convenient* network of pedestrian, bicycle, public transit and automobile systems in order to realize their vision. The purpose of the Ashland Transportation System Plan (TSP) is to define the modal system, and outline and prioritize specific modal improvements which embody the City’s vision for “modal equity.”

The City of Ashland has committed to developing a well planned, comprehensive transportation system that balances the needs of future land development with a system that serves all users. In the development of the TSP, the City must also address Oregon's Transportation Planning Rule (TPR), which requires public jurisdictions such as Ashland to develop:

- a road plan for a network of arterial and collector streets;
- bicycle and pedestrian plans;
- air, rail, water, and pipeline plans;
- a transportation finance plan; and
- policies and land use regulations for implementing the transportation system plan.

In addition, the TPR requires local jurisdictions to adopt land use and subdivision ordinance amendments to protect transportation facilities, and to establish requirements for bicycle facilities between residential, commercial, and employment/institutional areas. The TPR also requires that local communities coordinate their plans with county and state transportation plans. Beyond the external requirements of the Transportation Planning Rule and related statewide and federal policies, local conditions also point to the need for a system-wide study of the transportation facilities and services, including:

1.1 CITY OF ASHLAND COMPREHENSIVE PLAN - TRANSPORTATION ELEMENT GOALS AND POLICIES

In the Transportation Element of its Comprehensive Plan, the City of Ashland identifies goals and policies designed to promote the integrated development of pedestrian, bicycle and motor vehicle facilities with public transit and commercial freight and passenger transportation systems. The TSP will incorporate these goals and policies, described in Appendix A.

1.2 TSP DOCUMENT STRUCTURE

The TSP is intended to summarize the results of the public involvement process, the analysis of existing policies and conditions, the impact of future growth on the transportation system, and the identification of alternatives that can address local transportation system needs in the City of Ashland.

A review of the TSP project schedule, Technical Advisory Committee (TAC) meeting dates, and public workshop dates is given in **Chapter 2**.

Chapter 3 of this report outlines the development of the Ashland Transportation System Plan beginning with a review of relevant city, county, state, and federal plans and policies. This chapter also lists the requirements of the Transportation Planning Rule (OAR 660 Division 12) and identifies how the City, through the Transportation System Plan, will address those requirements. **Chapter 4** describes the current conditions inventory, which will be conducted to develop an understanding of the physical, operational, safety, and travel characteristics and environmental constraints of the existing transportation system in the City of Ashland.

Based on information summarized in preceding sections, **Chapter 5** discusses the development of a recommended set of design standards that will guide the direction of new facility construction (pedestrian, bicycle, and auto) in the City of Ashland. **Chapter 6** identifies existing and future transportation system problems. **Chapter 7** identifies pedestrian/bicycle generators and corridors, and details suggested pedestrian/bicycle amenities for the transportation system.

A review of existing access management standards culminates in **Chapter 8**, which contains an access management plan for Ashland arterial and collector streets. Future transportation system improvement needs are defined and recommended in **Chapter 9**.

The identification of available financial resources to pay for future transportation system improvements is summarized in **Chapter 10**. An evaluation of alternatives and the prioritization of projects is presented in **Chapter 11**. The culmination of these efforts is packaged into the financially-constrained plan in **Chapter 12**, which recommends a specific strategy to fund short and long-term projects for the TSP.

The TSP document concludes with a series of technical appendices that supplement supporting information to the analysis and findings included in Chapters 1 - 12.

Chapter 2

TSP Technical Review/ Public Participation Process

Chapter 2

TRANSPORTATION SYSTEM PLAN TECHNICAL REVIEW/PUBLIC PARTICIPATION PROCESS

This section describes the TSP project and meeting schedules of the Technical Advisory Committee. It also lists and summarizes the three public workshops held as Joint Study Sessions with the Ashland City Council, Planning Commission and Transportation Planning Advisory Committee (TPAC). These work sessions were conducted at major milestones of the Ashland TSP development process.

2.1 PROJECT SCHEDULE

The general project schedule, as shown in Figure 2-1, began in December 1996 and concluded in June 1997.

2.2 MEETINGS

The TSP project held five Technical Advisory Committee (TAC) meetings and three public workshops at major milestones of the project and in accordance with the following schedule:

TAC MEETING SCHEDULE

	PURPOSE	DATE
1.	Kick-Off Meeting/Coordination	December 4, 1996
2.	Review Background Policies, System Inventory and Existing Conditions, Access Management Plan, design standards pedestrian/bicycle report, and future improvements	February 20. 1997
3.	Review Identification of System Problems and Improvement Alternatives	April 17, 1997
4.	Review Financial Resources, Alternatives Evaluation and Draft SDC Methodology	May 1, 1997
5.	Review Draft TSP Project List Refinement and Draft Financial Plan	May 22, 1997

The TAC includes the following members:

1.	John McLaughlin	City of Ashland Planning
2.	Maria Harris	City of Ashland Planning
3.	Greg Scoles	City of Ashland
4.	Jim Olson	City of Ashland Public Works

5.	Bill Molnar	City of Ashland Planning
6.	Mark Ashby	Oregon Department of Transportation
7.	Monte Grove	Oregon Department of Transportation
8.	John Martin	Oregon Department of Transportation
9.	Jim Hinman	Department of Land Conservation and Development
10.	Eric Niemeyer	Jackson County Public Works
11.	Scott Chancey	Rogue Valley Transit District
12.	Paula Brown	Rogue Valley Council of Governments
13.	Don Paul	City of Ashland Fire Department
14.	Brent Jensen	City of Ashland Police Department
15.	Carole Wheeldon	City of Ashland TPAC
16.	Pete Lovrovich	City of Ashland Electric Department

In addition to TAC meetings, the following workshops as Joint Sessions of the Ashland City Council, Planning Commission and TPAC were held:

WORKSHOPS SCHEDULE		PURPOSE
1.	May 1, 1997	Review Financial Resources, Alternatives Evaluation and Draft SDC Methodology
2.	June 5, 1996	Review Draft TSP Project List Refinement and Draft Financial Plan
3.	July 29	Refinement of Draft TSP Financial Plan

Meeting minutes will be attached by City Staff as an appendix to the final TSP document.

Chapter 3

Background Policies and TPR Compliance

Chapter 3

BACKGROUND POLICIES AND TRANSPORTATION PLANNING RULE COMPLIANCE

3.1 CITY OF ASHLAND DATA AND DOCUMENTS

3.1.1 CITY OF ASHLAND DEVELOPMENT ORDINANCES

The City of Ashland has a development code for review of development and land divisions (Chapter 18 of the Ashland code). The City also has a separate set of design provisions, the Site Design and Use Standards. The structure of City ordinances and transportation-related provisions are addressed in Section 6 of this Chapter.

3.1.2 CITY OF ASHLAND COMPREHENSIVE PLAN - TRANSPORTATION ELEMENT

The Transportation Element of the City of Ashland Comprehensive Plan includes 92 transportation policies under the four headings of Street System, Pedestrian and Bicycle, Public Transit, and Commercial Freight and Passenger Transportation. These policies, intended to direct transportation-related aspects of City-wide development, are listed by mode in Appendix A. The Transportation Element includes a map of the street classification scheme for major streets in Ashland, including boulevards, avenues, and neighborhood collectors. Figure 3-1 illustrates Ashland's street classification system as defined in the Comprehensive Plan. Each of these categories, along with neighborhood streets and alleys, is described below.

Boulevards: Also called arterials, boulevards provide major access to major urban activity centers for pedestrian, bicyclists, transit users, and motor vehicles users; and provide connections to regional trafficways. Boulevards carry approximately 8,000 to 30,000 motor vehicle trips per day.

Avenues: Avenues, or major collectors, provide concentrated pedestrian, bicycle, and motor vehicle access from boulevards to neighborhoods and neighborhood activity centers. Avenues carry approximately 3,000 to 10,000 motor vehicle trips per day.

Neighborhood Collectors: Also called minor collectors, these streets distribute traffic from boulevards or avenues to neighborhood streets. Neighborhood collectors carry approximately 1,500 to 5,000 motor vehicle trips per day.

Neighborhood Streets: Neighborhood streets, or local streets, provide access to residential and neighborhood commercial uses. Neighborhood streets generally carry fewer than 1,000 motor vehicle trips per day.

Alleys: Alleys allow for off-street parking and rear property access in residential and some commercial areas.

3.1.3 CITY OF ASHLAND STREET STANDARDS

The City of Ashland street standards, as adopted in the Subdivision Chapter of the Ashland Land Use Ordinance, specify general street standard guidelines. These guidelines are summarized in Table 3-1 and predate the Transportation Element of the Ashland Comprehensive Plan. The TSP effort will evaluate these recommended design standards with regard to Transportation Element policies.

Table 3-1
CITY OF ASHLAND
CURRENT STREET DESIGN STANDARDS
(Ashland Land Use Ordinance)

Street Type	Minimum Right of Way	Travel Lanes	Turning Lanes	Parking Lanes	Parkrows	Sidewalks	Bike Lanes	Curbs/ Gutters	Median	Maximum Grade
Major Arterial	90 ft	4 - 12 ft	1 - 12 ft		2 - 4 ft	2 - 5 ft	2 - 4 ft	2 ft	8 ft	7 %
Minor Arterial	70 ft	2 - 15 ft		2 - 8 ft	2 - 4 ft	2 - 5 ft		2 ft		7 %
Collector	60 ft	2 - 13 ft		2 - 8 ft		2 - 4 ft		2 ft		13 %
Residential	47 ft	2 - 10 ft		2 - 8 ft[2]		1 - 4 ft		1 ft		13 %

NOTE: When minimum right-of-way is not available for construction of a street, improvements shall be deleted in order of 1) center landscape median; 2) park rows; and 3) auto parking lanes (Ashland Ordinance 2614, 1991).
[1] Combination driving and bike lanes.
[2] Optional.

3.1.4 RESOLUTION 90-13: COMMITMENT TO FULL ACCESS FOR THE HANDICAPPED

Through Resolution 90-13 (adopted March 1990), The City of Ashland has identified the need to eliminate barriers to the handicapped and to promote handicap access awareness in the public. To achieve these goals, the resolution calls for the City to budget and spend approximately $10,000 per year on streets, sidewalks, and other public areas. The City has identified and targeted for improvement, 74 specific physical barriers to the handicapped, including inappropriate sidewalks and traffic islands. This resolution is taken into consideration as an element of this TSP.

Figure 3-1

Figure 3-1

3.2 FEDERAL/STATE POLICIES

3.2.1 INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1991 (ISTEA) POSSIBLE APPLICATION TO THE CITY OF ASHLAND STUDY

ISTEA established maximum funding levels for federally-aided highway and transit programs through the fiscal year 1997. The funding levels set by ISTEA are variable and could be reduced by congress each year as part of the appropriation process, or could increase significantly in later years, as proposed. Metropolitan Planning Organization (MPO) urban areas were guaranteed a larger portion of the Federal transportation dollars, and played a stronger role in determining on which transportation projects ISTEA money was spent.

For the City of Ashland, the prioritization of projects and funding will not change significantly from past practice because the City's priorities must compete with statewide priorities and needs.

The major programs funded under ISTEA that applied to the City of Ashland area include:

National Highway System - Including the interstate system and other major highways. These other major highways are those routes designated in the Oregon Highway Plan as "statewide" significant routes.

Surface/Transportation Program - Funds under this program can be used for any transportation project on any road except those classified as a local or rural, minor collector. The act sets aside 10% of this funding for safety improvements, 10% for transportation enhancement activities, 50% to be distributed to areas within the State based upon the relative share of population between urbanized areas over 200,000 population and other areas of less density, with the remaining 30% available to use in any area of the State.

Bridge Program - Provides for inspection, maintenance, rehabilitation or replacement of bridges on any highway system.

Safety - As stated above, 10% of the Surface Transportation Program funds are set aside for safety projects.

Although there are a number of other programs funded by ISTEA, such as Congestion Mitigation, IVHS and Mass Transit, these programs would generally not apply directly to the City of Ashland. Transit funding is possible under the National Highway System Program which allows up to 50% of the funds in this program to be shifted to transit projects at the State's discretion.

Also, ISTEA encourages programs that benefit alternative travel modes (i.e., modes other than single occupant vehicles), as well as programs in clean air, non-attainment areas. The City of Ashland has expressed an interest in further developing alternative travel modes, and the jurisdiction is considered a non-attainment area for the pollutants CO and PM-10.

In order for any needed project to meet the transportation and land use requirements, a thorough description of each project including its benefits, estimated cost and potential alternatives must be prepared in order to compete with the statewide needs. In addition, potential funding sources must be identified for each project.

The enactment of the ISTEA began moving the decision-making for federal programs to the State's discretion; and this program, and other State policies incorporated in the Oregon Transportation Plan, encourage reassessment of responsibilities and obligations for funding. These changing relationships have resulted in significant issues for State and local governments. There is no clear definition of State responsibility. At one time, the State operated on an informal consensus that it should provide one-half the match on federally funded projects that served statewide needs. No similar consensus seems to exist today. The State's responsibility for transit, airports and other local transportation infrastructure needs and services are also not clear.

Congress will deliberate the reauthorization of the surface transportation legislation, and must reauthorize ISTEA by September 30, 1997.

Note: Upon full and final ISTEA re-authorization, this section of the TSP will need to be modified.

3.2.2 SUMMARY OF THE OREGON TRANSPORTATION PLAN AS IT APPLIES TO THE CITY OF ASHLAND

The Oregon Transportation Plan (OTP), in a policy element, defines the goals, policies and actions for the State over the next forty years. It directs the coordination of transportation modes and the relationship of transportation to land use, economic development, the environment and energy use. It also addresses the coordination of transportation with federal, state, regional and local plans. In its system element, the OTP identifies a coordinated multimodal transportation system, a network of facilities and services for air, rail, highway, public transit, pipeline waterways, marine transportation, bikeways and other modes of transportation.

The OTP was adopted by the Oregon Transportation Commission on September 15, 1992. The financing program and legislation needed to implement the plan was submitted to the 1993 legislature, however, the financing plan failed to gain the support of the legislature at that time.

The OTP is part of an ongoing transportation planning process within the Oregon Department of Transportation (ODOT). ORS 184.168(1) requires the State agencies to use the OTP to guide and coordinate transportation activities. The goals and policies stated in the OTP define a balanced and efficient transportation system that promotes accessibility for all potential users.

Along with its associated modal plans (described subsequently), the OTP must comply with the State agency coordination program and the state-wide planning goals. The Land Conservation and

Development Committee's (LCDC's) Transportation Planning Rule (TPR) which implements Goal 12 (transportation) requires ODOT to identify a system of transportation facilities and services adequate to meet identified State transportation needs in the preparation of a transportation system plan. The OTP, including the policy and system elements and adopted modal and facility plans, is also intended to meet the requirements for the State TSP.

Note: This section will need to be updated upon final adoption of the Oregon Highway Plan.

Oregon Bicycle and Pedestrian Plan (1995)

The Oregon Bicycle and Pedestrian Plan outlines the general principles and policies that ODOT follows to provide bikeways along State highways, and describes the framework for cooperation between ODOT and local jurisdictions. The Plan also offers guidance to cities and counties for the development of local plans. It also states ODOT's commitment to providing wide, paved shoulders in rural areas as a part of its standard construction practices. The State's priority is to complete the bicycle and pedestrian networks within urban areas and to accommodate recreational improvements as a part of rural road improvements.

Section 1.6.7 - Oregon Transportation Safety Action Plan (1995)

The Oregon Transportation Safety Action Plan (OTSAP) is the safety component of the OTP. The OTSAP identifies 70 specific actions that constitute a safety agenda to guide ODOT and the State over the next 20 years. Of the 70 actions, the following 11 respond to most traffic-related deaths and injuries and other key areas of concern:

- Develop a traffic law enforcement strategic plan;
- Seek a dedicated funding source for traffic law enforcement services and support needs;
- Continue a sustained research-based transportation safety, public information/ education program;
- Support the expansion of local transportation safety programs;
- Complete a strategic plan for traffic records improvements and establish a traffic records system that will serve the needs of State and local agencies;
- Recognize the prevalence of driving under the influence of a controlled substance and revise DUII standards;
- Pass legislation to establish 0.04 percent blood alcohol count (BAC) as the standard for measuring alcohol impairment for all drivers 21 years and over. Continue zero tolerance law for persons under 21;
- Establish and fund a statewide accident management program designed to minimize traffic congestion and secondary crashes by clearing incidents as quickly as possible;
- Ensure access to child safety seats to all young children;

- Develop and implement a comprehensive youth transportation safety strategy for youth to age 21; and
- Increase emphasis on programs that will encourage pedestrian travel and improve pedestrian safety.

Oregon Highway Plan (1991)

The Oregon Highway Plan (OHP) is described in Section 3.2-3.

Oregon Aviation System Plan (1991)

The Oregon Aviation System Plan (ASP) provides State policy guidance and a framework for the planning and operation of a safe, convenient, and economically sound system of airports. The ASP contains the following elements:

- A classification of public and private airports;
- An analysis and projection of State and regional aeronautical facility and service needs;
- A strategic plan designed to carry out the purpose and policy of the aviation system planning rule (OAR 660-13);
- Policies that promote planning, coordination, and technical assistance in airport development and safety;
- A State aviation facility plan for each State owned airport; and
- A mechanism to change the classification of an airport, including coordination with affected local governments.

A city or county with an airport planning jurisdiction in its State ASP, is required to prepare a local ASP. The city or county has the option of requiring the local airport owner or manager to prepare the ASP. Local TSPs must be coordinated with transportation system plans. In the City of Ashland, there is one airport identified in the State ASP, the Ashland Municipal Airport (Sumner Parker Field).

Oregon Rail Freight Plan (1994)

The Oregon Rail Freight Plan presents an overview of the State's rail system, how it operates and how it is used. The Plan also examines rail lines that may be eligible for State or federal assistance. State and local government have little authority over rail, as it is privately owned.

Oregon Rail Passenger Policy and Plan (1992)

There is no passenger rail service in the City of Ashland. The Oregon Rail Passenger Policy Plan focuses on intercity rail options. The TSP does not consider commuter rail opportunities.

Corridor Planning

Corridor Planning is a program to develop a long-range "vision" and plan for improving and managing the State transportation system. The program aims to assure consistency of land use plans and transportation plans in these corridors. Corridor planning will identify the functions and levels of service of each corridor, needed transportation facility and service improvements, transportation management actions, priorities for necessary actions, and any changes in comprehensive land use plans needed to make transportation improvements and to protect transportation investments.

3.2.3 SUMMARY OF THE 1991 OREGON HIGHWAY PLAN AS IT APPLIES TO THE CITY OF ASHLAND

Note: This section will need to be updated upon adoption of the Oregon Highway Plan.

The Oregon Highway Plan (OHP), adopted by the Oregon Transportation Commission in 1991, outlines the policies which enable the Department of Transportation to better manage the highway system for the period 1991-2010. A key component of the OTP, the OHP merits special consideration. The adopted policies of the OHP that pertain to the City of Ashland TSP include:

- Level of Importance (LOI)
- Access Management

<u>LEVEL OF IMPORTANCE (LOI) POLICY</u>

Background and Purpose

The Oregon State Highway Division (OSHD) has devised a "level of importance" classification system to prioritize highway improvement needs and define operational objectives.

The highway classification system defines four levels of importance including:

1. Interstate
2. Statewide
3. Regional
4. District

The level of importance concept is based on the premise that the more important routes require a higher level of service. Interstate routes, for example, should maintain a higher level of service than district routes.

Interstate Highways

The primary function of highways classified in this level is to provide connections and links to major cities, regions of the State, and other states. A secondary function in metropolitan areas is to provide connections and links for regional trips within the metropolitan area. These connections primarily involve roadways that serve areas of regional significance or scope.

Included in this level are highways on the federal interstate system, including I-5, I-84, I-205, and I-405.

The management objective is to provide for safe and efficient high-speed continuous-flow operation in urban and rural areas.

Statewide Highways

The primary function of highways classified in this level 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 provide links to the interstate system and alternate links to other states. A secondary function is to provide links and connections for intra-urban and intra-regional trips. These connections primarily involve roadways that serve areas of regional significance or scope.

Included in this level are US 101 (Coast Highway), highways on the National Highway System (excluding interstate highways) and other significant routes that connect the interstate system to urban areas, ports and major recreation areas throughout the State. Statewide routes generally serve centers of 5,000 or more population, have route lengths of 50 miles or more, do not parallel other statewide routes within 25 miles, connect at each end with interstate routes, statewide routes or major recreational areas, and carry at least 500 vehicles per day.

The management objective is to provide for safe and efficient high-speed, continuous-flow operation in rural areas and high to moderate-speed operations with limited interruptions of flow in urban and urbanizing areas.

Regional Highways

The primary function of highways classified in this level 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. There are no Regional highways in Ashland.

The management objective is to provide for safe and efficient high-speed continuous-flow operation in rural areas, except where there are significant environmental constraints, and moderate to low-speed operation in urban and urbanizing areas with moderate interruptions to flow.

District Highways

The primary function of highways in this level is to serve local traffic and land access needs.

Highways included in this level primarily serve local functions and are of relatively low significance from a statewide perspective. They are often routes that held a higher function during the early development of Oregon's highway system. With the passage of time and the construction of other through routes, the importance of District highways from a statewide perspective has diminished. They now serve a similar function to county roads and city streets. Included in this level are Highway 66 (Ashland Street) and Highway 99 (North Main - Siskiyou Boulevard) in Ashland.

The management objective is to provide for safe and efficient, moderate to high-speed, continuous-flow operation in rural areas reflecting the surrounding environment, as well as moderate to low-speed operation in urban and urbanizing areas with a moderate to high level flow interruptions.

Table 3-2 summarizes the LOI designation for State highways in the City of Ashland.

Table 3-2
LEVEL OF IMPORTANCE DESIGNATION
CITY OF ASHLAND HIGHWAYS

LEVEL OF IMPORTANCE	CITY OF ASHLAND HIGHWAY	
Interstate	I- 5	Pacific Highway
District	HWY 66	Ashland Street (Green Springs Highway)
	HWY 99	North Main Street - Siskiyou Boulevard (Rogue River Highway)

Level of Service (LOS) Standards

The LOI policy includes operational level of service (LOS) standards as summarized in Table 3-3. These standards are to be used by OSHD when making operating decisions (such as access management decisions), and when coordinating with local comprehensive planning. The OSHD's objective is to maintain LOS at or above the listed standards.

The standards depend on the highway level of importance and general land use characteristics. Special standards are provided for areas where highways are located in exclusive transitway corridors, and where highways, other than interstate highways, pass through special transportation areas such as dense transit or pedestrian-oriented business districts. Other allowances are made for highway sections that are severely constrained by intensive land use development or major environmental limitations, and for highway sections that are operating at a substandard level but are not scheduled for improvement in the Six-Year Transportation Improvement Program.

ACCESS MANAGEMENT POLICY

Purpose

Several factors, including the number, spacing, type and location of accesses, intersections, and traffic signals have a significant effect on the capacity, speed, safety and general operational efficiency of highways. These factors need to be effectively managed in order to operate the highway system safely, at reasonable levels of service and in a cost-effective manner. Collectively these factors comprise access management.

The OHP Access Management policy provides a framework for making access decisions which will be consistent with the function and operating levels of service identified in the LOI Policy. It will be used by the OSHD to carry out its responsibilities for managing access under statutes and administrative rules. It will also be used by the OSHD to guide the design of highways and coordination with local comprehensive planning.

Table 3-3
OPERATING LEVEL OF SERVICE STANDARDS
LEVELS FOR DESIGN HOUR OPERATING CONDITIONS
THROUGH A 20-YEAR HORIZON[1]

Level of Importance	Type of Area Highway Is In				Special Considerations	
	Urban[2] Parts of Metropolitan Areas[3]	Urban Parts of Other Cities	Urbanizing[4] Areas and Rural Development Centers[5]	Rural Areas[6]	Special Transportation Areas[7]	Within Exclusive Transit Corridor[8]
Interstate	D	C	C	B	NA	D/E[9]

Operating standards are not design standards. Operating standards are used by ODOT when making operating decisions, such as access management decisions. Design standards, which are used to guide the design of highway improvements, are often higher to provide acceptable operating conditions in the future.

Urban areas are those areas within an urban growth boundary that are generally developed at urban intensities as allowed by the comprehensive plan.

Metropolitan areas include Portland, Salem, Eugene, Medford, Ranier (part of Longview-Kelso) urban areas.

Urbanizing areas are those within an urban growth boundary that are undeveloped or are developing. They may include vacant lands and areas developed well below urban intensities as allowed by the local comprehensive plan.

Rural development centers are concentrations of development outside of urban growth boundaries. Included are rural unincorporated communities.

Rural areas are areas outside of urban growth boundaries but not including rural development centers.

Special Transportation Areas (STAs) are compact areas in which growth management considerations outweigh this policy. STAs include central business districts, transit-oriented development areas and other activity or business centers oriented to non-auto (principally pedestrian) travel. They do not apply to whole cities or strip development areas along individual highway corridors.

Exclusive transit corridors are corridors within which the highway runs generally parallel to an exclusive transitway, such as a light rail line or exclusive busway.

LOS 'D' applies when the facility is located in an urbanizing area. LOS 'E' applies in an urbanized area.

Statewide	D	C	C	B	E	E
Regional	D	D	C	C	E	E
District	E	D	D	C	E	E

Shaded cells indicate LOS standards for the City of Ashland.
See Appendix C for description of LOS.

Policy

The OHP Access Management Policy standards are defined by roadway category in Table 3-4. Table 3-5 summarizes the access management category designation for State highways in the City of Ashland.

3.2.4 OREGON BENCHMARKS (1994)

The Oregon Benchmarks (updated in 1994) is a planning guide used by all State agencies to track quality of life issues throughout the State. In 1992, the Governor's Task Force on State Government recommended in their report, "New Directions," that Oregon Benchmarks be integrated into the goals of State agencies, and their planning and budgeting be directed towards addressing the significant Benchmarks.

A number of transportation related Benchmarks guide ODOT planning efforts. One of the core benchmarks is to provide livable communities, a component of which entails providing transportation facilities to points near where people live and work. This same theme of improving transportation access options appears under the Developed Communities Benchmark. In addition, this Benchmark emphasizes access to alternative transportation modes. Under this same Developed Communities Benchmark, specific goals exist for improving State highways, transit facilities, and air service. Under the Benchmark to maintain Oregon's capacity for expansion and growth, transportation related goals are considered to be critical. Specifically, this Benchmark calls for improvements to telecommunication networks throughout the State. All of these goals are considered important to improving the livability, the developed environment, and the capacity for expansion and growth of communities throughout Oregon.

Table 3-4
ACCESS MANAGEMENT CLASSIFICATION SYSTEM

Category	Access Treatment	LOI[1]	Urban/ Rural	Intersection				Signal Spacing[2]	Median Control
				Public Road		Private Drive[3]			
				Type[4]	Spacing	Type	Spacing		
1	Full Control (Freeway)	Interstate/ Statewide	U	Interchange	2-3 Mi	None	NA	None	Full
			R	Interchange	3-8 Mi	None	NA	None	Full
2	Full Control (Expressway)	Statewide	U	At grade/Intch	½-2 Mi	None	NA	½-2 Mi	Full
			R	At grade/Intch	1-5 Mi	None	NA	None[5]	Full
3	Limited Control (Expressway	Statewide	U	At grade/Intch	½-1 Mi	Rt Turns	800'	½-1 Mi	Partial
			R	At grade/Intch	1-3 Mi	Rt Turns	1200'	None[5]	Partial[6]
4	Limited Control	Statewide/ Regional	U	At grade/Intch	1/4 Mi	Lt/Rt Turns	500'	½ Mi	Partial/None[7]
			R	At grade/Intch	1 Mi	Lt/Rt Turns	1200'	None[5]	Partial/None[7]

The Level of Importance (LOI) to which the Access Category will generally correspond. In cases where the access category is higher than the LOI calls for, existing levels of access control will not be reduced.

Generally, signals should be spaced to minimize delay and disruptions to through traffic. Signals may be spaced at intervals closer than those shown to optimize capacity and safety.

Generally, no signals will be allowed at private access points on statewide and regional highways. If warrants are met, alternatives to signals should be investigated, including median closing. Spacing between private access points is to be determined by acceleration needs to achieve 70% of facility operating speed. Allowed moves and spacing requirements may be more restrictive than those shown to optimize capacity and safety.

The basic intersection design options are as listed. Special treatments may be considered in other than category 1. These include partial interchanges, jughandles, etc. The decision on the design should be based on function of the highway, traffic engineering, cost-effectiveness and need to protect the highway. Interchanges must conform to the interchange policy.

In some instances, signals may need to be installed. Prior to deciding on a signal, other alternatives should be examined. The design should minimize the effect of the signal on through traffic by establishing spacing to optimize progression. Long-range plans for the facility should be directed at ways to eliminate the need for the signal in the future.

Partial median control will allow some well-defined and channelized breaks in the physical median barrier. These can be allowed between intersections if no deterioration of highway operation will result.

Use of physical median barrier can be interspersed with segments of continuous left-turn lane or, if demand is light, no median at all.

5	Partial Control	Regional/ District	U	At grade	1/4 Mi	Lt/Rt Turns	300'	1/4 Mi	None
			R	At grade	½ Mi	Lt/Rt Turns	500'	½ Mi	None
6	Partial Control	District	U	At grade	500'	Lt/Rt Turns	150'	1/4 Mi	None
			R	At grade	1/4 Mi	Lt/Rt Turns	300'	½ Mi	None

Table 3-5
ACCESS MANAGEMENT CATEGORY DESIGNATION
CITY OF ASHLAND HIGHWAYS

ACCESS MANAGEMENT CATEGORY	CITY OF ASHLAND HIGHWAY	
Category 1	I-5	Pacific Highway
Category 6	HWY 66	Ashland Street (Green Springs Highway)
	HWY 99	Lithia Way-East Main Street-Siskiyou Boulevard (Rogue Valley Highway)

3.3 REGIONAL POLICIES

3.3.1 ROGUE VALLEY TRANSPORTATION DISTRICT TEN-YEAR COMMUNITY TRANSPORTATION PLAN (1996-2006)

The Rogue Valley Transportation District's (RVTD) Ten-Year Community Transportation Plan (adopted June 1996) outlines regional transit development through the year 2006. The plan identifies 42 measurable objectives in support of the following goals:

- Quality Service
- Transportation Options
- Financial Stability
- Land Use Coordination
- Customer-Oriented Outlook
- Ecological Sensitivity

In addition to traditional bus service, alternative transit options within the Rogue Valley include:

- Valley Feeder Program - shuttle service;
- Valley Rideshare Program - a carpool program centered around the workplace;
- Valley Lift Program - transportation option for the disabled, fulfills requirements of the Americans with Disabilities Act;
- Valley Commute - prearranged employment transportation; and
- Dial-A-Ride Program - "flexible" fixed route shuttle/van, not currently used, but anticipated within the ten-year planning horizon.

In view of the tightening financial constraints anticipated by the RVTD, the district has developed three plan options for future service. Within each option, the RVTD plans to emphasize quality over quantity, increasing the service frequency on existing routes by either maintaining or reducing the number of those routes. The RVTD also encourages increased use of alternative transportation options and community "Service Blocks," in which specific communities (such as Southern Oregon College) connect their individual transit networks to that of the RVTD.

Under the preferred option, Plan A, approval of a five-year tax levy would have supported increased service quality and initial route improvement, leading to a financially, sustainable 50-year transit system, however, voters rejected this levy. Under Plan B, the tax base would remain as is, and only basic mobility improvements for the elderly, disabled, and disadvantaged would be provided. As such, alternative transit options (listed on page 3-16) would be emphasized. Plan C also assumes that the existing tax base will remain unchanged, although under this scenario, traditional bus service would be emphasized. Plans B and C are both expected to result in a 32% decrease in service hours, a 75% decrease in ridership, and a 54% decrease in farebox revenue.

3.3.2 JACKSON COUNTY COMPREHENSIVE PLAN

A general review of the Jackson County Comprehensive Plan was conducted. The Jackson County Comprehensive Plan generally defers land use and transportation policy and planning responsibilities to the City for the Ashland urban area.

3.3.3 JACKSON COUNTY BICYCLE MASTER PLAN

The County developed the Bicycle Master Plan in May 1996 (BMP) to comply with Oregon's TPR and other federal and State requirements. The document, which provides for the management of bicycle facilities over a 20-year horizon (1995 - 2015), has been incorporated into other County plans, including the Jackson County Comprehensive Plan (Transportation Element) and the Rogue Valley Metropolitan Planning Organization Regional Transportation Plan.

As described in its mission statement, the BMP aims to integrate bicycling throughout Jackson County as an essential element of the transportation system, through two goals:

1. To provide a safe and convenient bicycling system; and

2. To promote increased use of the bicycle system.

To meet these goals, the BMP has created a computerized inventory of existing bicycle facility conditions, has identified system deficiencies, has developed a plan for the construction of new facilities that will support the existing network, and has identified potential funding sources for these projects.

In addition to the Bear Creek Greenway improvement described in Section 4.1, the County has identified two bicycle routes of importance to Ashland, one on each side of I-5, connecting Ashland to the City to Medford. Although not within the City of Ashland, once improved and maintained, these routes will encourage bicycling between Ashland and surrounding communities within the County.

3.4 TRANSPORTATION SYSTEM IMPROVEMENT PROJECTS

Improvement Projects from the following sources were reviewed and those pertaining to City of Ashland Urban area are discussed:

ODOT Statewide Transportation Improvement Program 1996-1998

ODOT Statewide Transportation Improvement Program 1998-2001

City Capital Improvements Plan, 1996-97 Through 2001-02

3.4.1 ODOT STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM 1996-1998

The following projects, for which funding has been identified, apply to the City of Ashland study area:

1996 no projects

1997 *Ashland Park and Ride Lot* - Construction of Rogue Valley Transit District park and ride lot. COST: $171,000.

Bear Creek Greenway - South Valley View Road to Ashland - Jackson County project. COST: $1,600,000.

1998 no projects

3.4.2 ODOT STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM 1998-2001 DRAFT

The following projects, for which final project commitment and funding have not been identified, would also apply to the City of Ashland study area:

1998 no projects

1999 *North Main Street/East Main Street Overlay* - Roadway overlay between Valley View Road and 4th Street. COST: $1,099,000.

2001 *Oxing Crowson and Mill Road Bridges* - Structural overlay of existing Interstate 5 overpasses at these three locations. Although only Crowson Road lies within the study area, ODOT defines the overlays between mileposts 13.2 and 17.2 as a single project. COST: $1,506,000.

Replacement of Signals on Highway 99 between Helman Street and 2nd Street - Replacement of existing signals. COST: $550,000.

2002 *Installation of Bicycle Lanes on Siskiyou Avenue* - Roadway widening to allow for bicycle lanes between 4th Street and Walker Avenue. COST: $2,356,000.

3.4.3 CITY OF ASHLAND CAPITAL IMPROVEMENTS PLAN, 1996-97 THROUGH 2001-02

The following projects and their funding sources have been identified in the City of Ashland's Capital Improvements Plan (CIP):

1996 *Sidewalk Installation Throughout the City* - design and construction of sidewalk facilities throughout Ashland to provide greater continuity in the sidewalk system. This project will be on-going throughout the projected five-year time frame and will include portions of Fifth, Sixth, East Main, Iowa, Garfield, Bridge, Morse, and California Streets. The cost for this project is estimated at $330,000 and will be funded through transportation utility fees and community development block grants[1].

Beginning July 1994, the City was entitled to receive Community Development Block Grant (CDBG) funds from the federal Department of Housing and Urban Design (HUD). A portion of the funds was earmarked for sidewalks in eligible neighborhoods. As defined by HUD, a neighborhood having 51% or more of the residents earning at or below 80% of median income is eligible.

Sidewalk projects are selected on a yearly basis. There are two restrictions of the use of CDBG funds: 1) the funding can not be used to install sidewalks in front of commercial property; and 2) the sidewalk improvements can not be constructed along an arterial or collector. Continuation of CDBG sidewalk project funding depends on two factors: 1) the "entitlement" status of the City, and 2) the future of HUD as a federal program.

1997 *Bikeway from Railroad Park to Shamrock Lane* - construction of a 1.3 mile bike/pedestrian path adjacent to railroad tracks to provide a safe pathway through the city for bicyclists and pedestrians (also included in the 1996-1998 STIP). This project, costing an estimated $300,000, will be supported by State funds, in addition to transportation SDCs, transportation utility fees, and the Bike CIP[1].

Reconstruction of East Main Street from Railroad Tracks to Walker Avenue - repavement of East Main Street, including storm drain installation and sidewalk construction on both sides from the railroad tracks near California Street to Walker Avenue. This project is currently funded through Federal State exchange resources at $360,000.

Rogue Valley Transit District Bus Shelters - replacement of four bus shelters and construction of two new shelters on the plaza, in front of the library, in front of the Safeway, at Palm Avenue and Siskiyou Boulevard, at SOSC near Bridge Street, and on the Water Street overpass on Lithia Way. Shelter areas will be improved to include lighting, a bicycle rack, and a drinking fountain. The shelters are designed to encourage ridership by offering a more attractive and useful environment in which to wait for the bus. The cost for this project is estimated at $145,000 and will be funded through the State Light Rail Program.

Realignment of the Indiana Street/Siskiyou Boulevard Intersection - reconstruction of the intersection, including curbing, crosswalk and storm drain construction, to improve pedestrian and vehicle movement from Indiana Street to Siskiyou Boulevard. This project is funded at $175,000 through Southern Oregon State College and ODOT, as well as transportation utility fees.

Airport Security Fencing - construction of chain link fencing around the perimeter of the Airport property to prevent people and animals from straying onto the runway. Funding for this project, totaling $180,000 will be provided by Federal Aviation Administration (FAA) and airport user fee revenues.

East Main Street/Mountain Avenue Intersection Signals - installation of new turn signals to address increasing current and future traffic flows. Funding sources for this project, costing an estimated $175,000, have not yet been determined.

The Bike CIP refers to an account within the CIP fund dedicated for bicycle capital construction.

1998 *Siskiyou Boulevard Redesign* **-** construction of a 0.57 miles bikeway along Siskiyou Boulevard to provide a direct, convenient and safe travel route through the city for bicyclists (installation of bike lanes on Highway 99 from Valley View Road to Walker Avenue is included in the 1996-1998 STIP). Southern Oregon State College, Bike CIP, and other undetermined sources will finance the estimated $376,000 required for this project.

Eight Unit T-hangars - construction of a new block of eight T-shaped hangars adjacent to the 18 T-hangars currently in use, to meet consistent demand for enclosed hangars. Private sources will provide the necessary funding, estimated at $177,000.

1999 *Ashland Street Redesign* - three year project that will include sidewalk expansion and landscape improvements, beginning at the intersection of Siskiyou Boulevard and Ashland Street, to increase pedestrian and bicycle use of the area. This project will cost an estimated $1,500,000, and will be paid for through Local Improvement Districts[1], State funds, and other sources to be determined.

Rebuild Sherman Street from Siskiyou Boulevard to Iowa Street - replacement of Sherman Street, including curb, gutter, and storm drainage systems. Federal State Exchange funds will finance this $113,000 project.

Senior Bus Shuttle - purchase of a 17 to 21 passenger bus to transport local senior citizens to various locations, equipped with wheelchair life kit, air conditioning, and a mobile radio,. State funds and private donations will finance this project, estimated to cost $72,000.

2000 *Six Unit T-hangar and Turf Tie Down Area* - construction of a six unit T-hangar and an area dedicated and equipped as a turf tie down area, to meet demand for aircraft storage facilities. This project will cost approximately $245,000 and will be funded through the FAA, airport user fee revenues, private sources, and other sources yet to be determined.

2001 *Rebuild Union Street from Siskiyou Boulevard to Auburn Street* - replacement of Union Street, including curb, gutter, and storm drainage systems. Federal State Exchange funds will finance this $132,000 project.

Through the sidewalk Local Improvement District (LID) program, the City of Ashland pays 25% of sidewalk construction up to a total of $30,000 per year, and provides engineering and inspection for residential neighborhoods that form a LID for sidewalk improvements.

East Area Access to Taxi Lanes - construction of a road, including grading and drainage, for access to the east side of the airport. Funding for this project will be provided primarily through the FAA and will be supported by airport user fee revenues for an estimated total of $50,000.

Long-Range Future Projects

In addition to those projects identified in the six-year Ashland CIP, the City has identified and scheduled the following projects to begin after the 2001-02 fiscal year:

Redesign of the East Main Street/Siskiyou Boulevard/Lithia Way Intersection.

Siskiyou Boulevard Overlay (ODOT responsibility).

Installation of Signal at Hersey Street/Wimer Street/North Main Street Intersection.

Installation of Signal at Normal Avenue/Ashland Street Intersection.

Installation of Signal at Oak Street/Lithia Way Intersection.

Pedestrian Bicycle Bridge on Nevada Street.

Additional Sidewalks Throughout the City.

3.5. OTHER DOCUMENTS AND DATA

3.5.1 RECENT PLANS

Ashland has commissioned various traffic impact-related studies within the last seven years. A brief summary of each follows.

Ashland Street Transportation Land Use Plan and Appendix (Draft Final Report, June 1995)- This project examined methods for transforming the Ashland Street / Highway 66 area into a more pedestrian and bicycle-oriented place. In addition to recommending the establishment of commercial nodes and an increase in residential densities, the plan identified specific modifications to Ashland Street. Namely, Ashland Street would be reduced from five lanes throughout to four lanes on the railroad overpass and three lanes west of the overpass. The Ashland Street project would also include a realignment of the Siskiyou Boulevard intersection (included in the City of Ashland CIP), bike lanes on both sides of the street, and widened sidewalks.

Grandview Drive Subdivision - Transportation Impact Analysis (October 1992) - The purpose of this analysis was to determine the traffic related impacts of the proposed Grandview Drive Subdivision, located south of Grandview Drive and east of Sunnyview Drive. The project recommended minor improvements to ensure adequate internal circulation and site access, as well as recommended the construction of site driveway access perpendicular to the existing Grandview Drive/Sunnycrest intersection.

Pacific Institute of Natural Sciences - Transportation Impact Study (March 1990) - This study explored the impacts of the proposed Pacific Institute of Natural Sciences, located on the SOSC campus, and the East Main Street/Walker Avenue intersection. In addition to minor modifications, the study recommended signalization of the East Main Street/Siskiyou Boulevard intersection, but did not recommend the signalization of the I-5 ramp/Ashland Street intersection.

Tolman Creek Plaza Shopping Center - Transportation Impact Analysis (February 1990) - The purpose of this report was to describe the potential traffic related impacts of the proposed development of the Tolman Creek Shopping Center located on the northeast corner of the Ashland Street/Tolman Creek Road intersection. The analysis determined that the intersection should be signalized, but that existing left turn bays at affected locations and site driveways were adequate.

3.5.2 ASHLAND TRAVEL DEMAND MODEL

The City of Ashland commissioned a travel demand forecasting model in 1992 to test various measures of reducing future motor vehicle travel in the Ashland area by 2005. Both non-automotive and automobile-oriented measures were studied.

Assuming no physical changes in the transportation system existing in 1992, the model predicted high congestion (volumes in excess of capacity) in 2005 on five boulevard/avenue roadway segments. The study also examined alternatives in which various physical and policy-based improvements were made, including transportation system management (TSM)[1] and transportation demand management (TDM)[2] scenarios, as well as a combination of the two methods. Analysis results were varied.

Transportation system management (TSM) is a method of maximizing the efficiency of the existing transportation system by managing traffic through the use of traffic control devices such as traffic signals, ramp meters, median turn barriers, restricted access to properties along congested corridors, etc.

Transportation demand management (TDM) is a method of reducing the number of motor vehicles using the road system by providing a wide variety of mobility options, such as walking, bicycling, or using rideshares.

Because traditional travel demand models like the one used in Ashland's study are inherently automobile-oriented, the City has chosen to use travel demand modeling as one of many tools to determine how to meet Ashland's transportation goals and objectives successfully.

3.6 OREGON TRANSPORTATION PLANNING RULE (TPR)

3.6.1 INTRODUCTION

The TPR (OAR Chapter 660, Division 12) requires adoption of transportation plans by local governments and amendment of land use regulations to implement the plans. A primary objective of the required amendments is to make new development more pedestrian and transit friendly.

Ashland is a recognized leader in transit and pedestrian friendly development standards. Many of Ashland's site design standards pre-date the TPR and have served as a model for communities around the State.

The purpose of this section is to introduce proposed land use ordinance concepts, which have been designed to bring the City of Ashland development ordinances into full compliance with the TPR. Sources used to prepare this report include recommendations from the American Planning Association's (APA) "Transportation Rule Working Group," the Oregon Department of Transportation's (ODOT) "Best Management Practices" (August 1992 draft), the City of Newberg's "Pedestrian Oriented Commercial Development Workbook," Tri-Met's "Planning and Design for Transit," and the City of Milwaukie's Ordinance Amendments to Implement the Milwaukie TSP.

This section outlines state-mandated requirements and suggests methods to satisfy these requirements. The following subsections address the TPR and the structure of the local land use ordinances. Issues identified by the TPR are described and recommendations for compliance are suggested. New ordinance language has not been developed as part of this report.

3.6.2 REQUIREMENTS OF THE TRANSPORTATION PLANNING RULE

The TPR was originally adopted by the Land Conservation and Development Commission (LCDC) in April 1991. An amendment to the rule in 1993 provided a time extension until May 1994 for local governments to develop implementing measures. The City of Ashland has adopted a number of provisions consistent with TPR requirements.

The TPR requires each city and county to adopt a TSP and implementing regulations. It also requires ODOT and regional Metropolitan Planning Organizations (MPOs) to adopt TSPs. The plans must address the following issues:

- a determination of transportation needs;
- a road plan for a network of arterials and collectors;
- a public transportation plan;
- a bicycle and pedestrian plan;

- an air, rail, water and pipeline transportation plan;
- a plan for transportation system management and demand management;
- a parking plan;
- a transportation financing program; and
- policies and land use regulations for implementing the TSP.

This section focuses on the land use regulations for implementing the TSP, as noted in the final item above. Section 660-12-045 of the TPR sets forth issues that must be addressed to implement a compliant TSP. Key points are discussed below.

A. Protection of Transportation Facilities and Corridors

Ordinance regulations are required to protect transportation facilities and corridors including:

- access control measures;
- standards to protect future operations;
- a process for coordinated review;
- a process for applying conditions to development proposals;
- a process for providing notice to public agencies; and
- regulations assuring that development standards are consistent with transportation system capacity.

B. Land Use and Subdivision Regulations

Land use and subdivision regulations are required for the following:

- bicycle parking for multi-family, commercial, and institutional development;
- sidewalks and bikeways that provide safe and convenient access within new development and similar connections to nearby residential areas, transit stops, and activities centers; and
- internal pedestrian connections provided in new office parks and commercial developments.

C. Transit Facilities

Land use and subdivision regulations are required for transit facilities. Ordinances must provide:

- bus stops and other facilities where appropriate;

- preferential access to transit through building orientation and clustering for new retail, office, and institutional buildings near planned transit stops;
- preferential parking for carpools and vanpools;
- opportunities to redevelop parking areas for transit-oriented use;
- road systems that include pedestrian and bicycle access to identified transit routes; and
- designation of land use types and densities adequate to support viable transit alternatives.

D. Reduced Reliance on the Automobile

In MPO areas, local governments are required to adopt regulations that reduce reliance on automobiles including:

- allowing transit-oriented development along transit routes;
- adopting a demand management program;
- adopting a parking plan; and
- requiring major industrial, institutional, retail, and office uses to provide a transit stop along transit trunk routes.

Although Ashland is not presently in an MPO, the City has adopted standards to reduce automobile reliance.

E. Improvements for Bicycle and Pedestrian Travel

Identification of improvements to facilitate bicycle and pedestrian travel in developed areas are required, including:

- improvements providing direct, convenient and safe bicycle and pedestrian travel within and between residential areas and activity centers.

3.6.3 ORDINANCE STRUCTURE

The City of Ashland has a development code for review of development and land divisions, and has a separate set of design provisions, the Site Design and Use Standards. The City ordinances structure is addressed below. Zoning and development issues are addressed first, followed by a description of land division processes. A general discussion of the suitability of the format and structure of the ordinances for addressing TPR requirements is also provided.

A. Development Ordinance Format

The City of Ashland uses a tiered process to review new development proposals. Chapter 18.72 of the Ashland Codes establishes three site design and use processes, addressed briefly next page.

1. Staff Permit

A Staff Permit process requires no public hearing. Notice is provided to property owners within 100 feet of the site. The following types of developments are reviewed under the Staff Permit Procedure.

- Any change of occupancy from a less intensive to a more intensive occupancy, as defined in the City building code, or any change in use which requires a greater number of parking spaces.
- Any addition less than 2,500 square feet or 10% of the building's square footage, whichever is less, to a building.
- Any use which results in three or fewer dwelling units per lot, other than single-family homes on individual lots.
- All installations of mechanical equipment in any zone. Installation of disc antennas shall be subject to the requirements of Section 18.72.160. Any disc antenna for commercial use in a residential zone shall also be subject to a Conditional Use Permit.
- Any exterior change to a structure listed on the National Register of Historic Places.

2. Type 1

Type 1 decisions are decided by staff with review by the Planning Commission. Notice is provided to surrounding property owners. The following types of developments are subject to approval under the Type I procedure:

- Any change in use of a lot from one general use category to another general use category, e.g., from residential to commercial, as defined by the zoning regulations of the Code.
- Any residential use which results in four dwelling units or more on a lot.
- All new structures or additions greater than 2,500 square feet, except for developments included in Section 18.72.040 (A).

3. Type 2

Type 2 developments require Planning Commission approval. Notice is provided to surrounding property owners. Any development in the Detail Site Review Zone which exceeds 10,000 square feet or is longer than 100 feet in length or width, shall be reviewed according to the Type 2 procedure.

B. Land Division Procedures

Chapter 18.76 of the Ashland code set forth procedures for partitions. A partition is processed as a Type 1 decision. The tentative plat is approved by staff with decision review by the Planning Commission.

Chapter 18.80 of the Ashland code set forth procedures for subdivisions. A subdivision is processed as a Type 2 decision. The preliminary plat is approved by the Planning Commission. Final subdivision and partition plats are approved by staff. Most subdivisions are processed under the City's performance standards (Chapter 18.80), allowing flexibility in design.

C. Suitability of Structure

The TPR requires that cities and counties reduce reliance on the automobile and promote alternative modes such as pedestrian, bicycle and transit travel. The rule requires that local development ordinances be consistent with this primary objective. Generally, this has required new standards and policies to be added to local ordinances to assure that new development and new facilities are pedestrian and transit friendly.

In other communities, new standards have been developed to address street widths, sidewalks, building orientation, connections between buildings and developments and other similar design related concepts. These concepts are implemented through site design review procedures and land division procedures. The established development review procedures are well-suited for implementing the TPR requirements.

3.6.4 RECOMMENDATIONS - GENERAL ISSUES

Sections 6.4 to 6.9 address the specific requirements of the TPR. Each section provides a statement of the relevant issues, background information, and a recommendation.

A. ISSUE: INCORPORATION OF NEW STANDARDS IN DEVELOPMENT CODES/ORDINANCES

BACKGROUND/OPTIONS: To meet the requirements of the TPR, new standards need to be added and existing standards need to be modified in Chapter 18 (Land Use) of the City of Ashland code.

RECOMMENDATION: Specific standards within Ashland's development ordinance should be modified, as described later in this section.

B. ISSUE: GENERAL APPLICABILITY FOR DEVELOPMENT REVIEW - WHEN TO APPLY STANDARDS

BACKGROUND/OPTIONS: Application of the new standards in the development review process is a key issue. The TPR requires certain improvements for new commercial, institutional, and multi-family uses. The City of Ashland Code requires site design review for expansions as well as new development. Therefore, the City of Ashland has a process in place to implement TPR measures.

The City of Ashland, like many communities, allows deferral of street or sidewalk improvements through a waiver of remonstrance, which commits the owner/developer to future participation in a local improvement district. This procedure results in improvements that are only implemented over a very long time frame. By requiring certain improvements in the short term, Ashland can accelerate pedestrian and bicycle friendly improvements.

RECOMMENDATION: No amendments are required.

3.6.5 RECOMMENDATIONS - PROTECTION OF TRANSPORTATION FACILITIES AND CORRIDORS, AND SITES

A. ISSUE: ACCESS CONTROL MEASURES AND STANDARDS TO PROTECT SYSTEM OPERATION AND AIRPORTS

RULE REQUIREMENTS: OAR 660-12-045 (2) (a-c)

BACKGROUND/OPTIONS: Access control is a critical component of maintaining operation of the transportation system. ODOT manages access control on State Highways 66 and 99. Currently, ODOT relies on ORS 374.310(3) and OAR 734-50-030(2) and -065 to manage access. Guidelines for access are provided in the Access Management Classification System of the 1991 Oregon Highway Plan.

Under the highway plan, Highways 66 and 99 are considered District facilities with limited access control (Category 5). Public road intersections must be separated by one-quarter mile.

The City of Ashland code does not include access standards that specifically address intersection spacing. Chapter 18.72.120 establishes driveway separation standards for partitions. Chapter 18.80.020(C)(2) sets maximum block length standards. These standards do not establish minimum intersection spacing on state highways. The City has relied on its access management policies to limit access on arterial streets.

Another method of maintaining operation of the local transportation system is by obtaining adequate right-of-way for future improvements. The city requires right-of-way dedication as a part of the land division and site review process. Right-of-way dedication requirements are set forth in Chapter 18.82 of the code.

The City of Ashland has an airport overlay zone (Chapter 18.60). This overlay zone is applied to properties which lie within close proximity to the Ashland Airport where aircraft are likely to be flying at relatively low elevations. The zone is intended to prevent the establishment of airspace obstructions in such areas through height restrictions and other land use controls.

RECOMMENDATION: Develop local access spacing standards as part of the transportation plan. Apply the standards as guidelines that are part of the site review and land division process.

B. ISSUE: COORDINATED REVIEW WITH NOTICE TO AGENCIES/ABILITY TO CONDITION

RULE REQUIREMENTS: OAR 660-12-045 (1)(c) and (2) (d-f)

BACKGROUND/OPTIONS: The TPR requires coordination and consolidation of local decisions regarding transportation facilities, services, and improvements.

The rule is intended to require a clear process for decisions related to new or improved facilities, and consolidation of local government decisions into a single process, when multiple jurisdictions are involved.

The City of Ashland's codes do not establish a procedure to coordinate review of development actions.

RECOMMENDATION: Amend the City code to require notice to ODOT and the Rogue Valley Transit District for land use actions. Through a higher level of referrals and agency coordination, the City can be assured that transportation concerns are adequately addressed.

3.6.6 RECOMMENDATIONS - LAND USE AND SUBDIVISION REGULATIONS

A. ISSUE: BICYCLE PARKING FOR MULTI-FAMILY, COMMERCIAL AND INSTITUTIONAL DEVELOPMENT

RULE REQUIREMENTS: OAR 660-12-045 (3)(a).

BACKGROUND/OPTIONS: The City of Ashland requires bicycle parking for all uses, with the exception of single family detached uses. In most cases, one bicycle parking space is required for every five automobile parking spaces. Bicycle parking standards are set forth in Chapter 18.92.040 of the Ashland code.

Bicycle parking spaces are required within 50 feet of a "well-used" entrance and not farther than the nearest automobile parking space. Fifty percent (50%) of all required bicycle parking spaces are required to be sheltered from the weather. The Ashland code is consistent with TPR bicycle parking standards.

RECOMMENDATION: No changes necessary.

B. ISSUE: SIDEWALKS AND BIKEWAYS THAT PROVIDE SAFE AND CONVENIENT ACCESS WITHIN AND FROM NEW DEVELOPMENT TO NEARBY RESIDENTIAL AREAS, TRANSIT STOPS, AND ACTIVITIES CENTERS

RULE REQUIREMENTS: OAR 660-12-045 (3)(b)

BACKGROUND/OPTIONS: A primary purpose of the TPR is to reduce reliance on automobiles and make other forms of transportation, such as walking and bicycling, more accessible. To do so, the rule requires sidewalks and bikeways on arterials and collectors, and separate accessways, where appropriate.

1. Sidewalks

The TPR requires sidewalks only on collectors and arterials. The City of Ashland's current street design standards (Chapter 18.80.020(B)(2)) require sidewalks on both sides of arterial and collector streets and one side of residential streets. Park rows and landscape medians are to be provided on arterial streets. Sidewalks on arterials are to be five feet wide; sidewalks are to be four feet wide on collector and residential streets. In addition, the Ashland Site Design Guide establishes specific design standards for the Ashland Boulevard Corridor. A two foot wide area for tree placement and a six foot wide sidewalk (eight foot minimum width) is required (Section V-B).

The APA Transportation Rule Working Group recommended sidewalks on both sides of all streets. The Working Group recommended that sidewalks range from a five-foot width for a setback residential sidewalk on a local street, to a ten-foot width for a commercial curbed sidewalk on an arterial.

To enhance pedestrian safety and comfort, all sidewalks should be set back from the curb.

2. Bikeways

The TPR requires bikeways on arterials and collectors. American Association of State Highway Officials (AASHTO) standards recommend six foot wide bike lanes.

Chapter 18.80.020(B)(2)of the Ashland Code addresses bikeways as well as sidewalks. Two, striped four foot wide bike lanes are required on major arterials. Shared bike and driving lands are required on minor arterials and collectors. The City should consider providing six foot wide striped bike lanes on all arterials and on high volume collector streets.

3. Connections/Accessways

Street connections and accessways between developments are important links that promote, rather than prevent, bicycling and walking. One way to create these connections is to limit the use of cul-de-sacs and to require new streets to connect with existing streets. Currently, the City has a 500 foot limit on the length of cul-de-sacs. The City's subdivision provisions (Chapter 18.80) do not reference bicycle and pedestrian accessways (note: the Site Design and Use Standards address pedestrian connections for multifamily, commercial, and industrial development). The code provides general language about extending streets into surrounding areas. The City relies on strong connectivity policies to limit cul-de-sacs and promote adequate street connections.

Changes suggested to local development ordinances include:

- requiring a future street plan for land within 400 feet on subdivision submittal requirements;
- further limiting or preventing use of cul-de-sacs, except as required by topography or natural features (e.g., waterways or wetlands);
- providing accessways at a minimum of 600-foot intervals; and
- requiring accessways to be a minimum of 15 feet wide with a 10-foot-wide paved surface.

4. Block and Street Spacing

Block length and spacing between streets influence mobility through a neighborhood. Generally, shorter blocks provide easier access. Currently, the City of Ashland code limits block length to 1,320 feet (Chapter 18.80.020(C)). The APA Working Group recommends that block perimeters not exceed 1,500 feet. This implies an average block length of about 550 feet, if 100-foot-deep lots are provided.

RECOMMENDATIONS: Provide sidewalks on all streets consistent with the APA Working Group recommendations. Develop bikeways consistent with AASHTO standards. Limit cul-de-sac use and develop new standards for block length and accessways, as noted above. Incorporate changes into the development ordinances.

C. ISSUE: INTERNAL PEDESTRIAN CONNECTIONS - WALKWAY CONNECTIONS WITHIN COMMERCIAL AND OFFICE PARK DEVELOPMENT

RULE REQUIREMENTS: OAR 660-12-045 (3)(d)

BACKGROUND/OPTIONS: The rule requires provision of internal pedestrian connections in new office parks and commercial developments. The Ashland Site Design and Land Use Standards require commercial and industrial buildings to be oriented toward the street and accessible from sidewalks (Section II-C-1a). Within the Detail Site Review Zone, the following design standards apply (Section II-C-2):

- A building shall not be set back more than 20 feet unless the area is used for pedestrian activities. If more than one building is proposed for the site, at least 25% of the aggregate building frontage shall be within 20 feet of a sidewalk.
- Protected, raised walkways must be installed through parking areas of 50 or more spaces or more than 100 feet in average width or depth.
- Parking lots with more than 50 spaces must be divided by separate landscape areas, or walkways at least 10 feet in width, or by a building or group of buildings.
- Developments larger than one acre must provide a bicycle and pedestrian plan. On-site pedestrian walkways must be lighted to a level where the system can be used at night. Pedestrian walkways shall be directly linked to entrances and the internal circulation of the building.

RECOMMENDATION: No amendments are required.

3.6.7 RECOMMENDATIONS - LAND USE AND SUBDIVISION REGULATIONS FOR TRANSIT FACILITIES

A. ISSUE: PROVISION OF BUS STOPS AND OTHER FACILITIES, WHERE APPROPRIATE

RULE REQUIREMENTS: OAR 660-12-045 (4)(a)

BACKGROUND/OPTIONS: The purpose of this requirement is to allow the Rogue Valley Transit District to request installation of transit facilities associated with a new major development, when it is along existing or future transit lines. The APA Working Group recommends that major commercial development be defined as one that generates 1,000 automobile trips per day.

RECOMMENDATION: Use the development review process to require transit facilities when requested by Rogue Valley Transit District. .

B. ISSUE: BUILDING ORIENTATION - PROVISION OF PREFERENTIAL ACCESS TO TRANSIT THROUGH BUILDING ORIENTATION AND CLUSTERING IN NEW RETAIL OFFICES AND INSTITUTIONAL BUILDINGS NEAR PLANNED TRANSIT STOPS

RULE REQUIREMENTS: OAR 660-12-045 (4)(b)

BACKGROUND/OPTIONS: The TPR requires walkways connecting building entrances and adjoining streets, pedestrian connections to adjoining properties, except where a connection is impractical as provided in OAR 660-12-045, and certain improvements at major transportation stops. The City of Ashland has adopted the following specific development standards for commercial, industrial and employment development within the Detailed Site Review district (Site Design and Use Standards, Section II-C-2):

- Building frontages greater than 100 feet in length must have off-sets, jogs, or other distinctive changes.
- Any wall within 30 feet of a street, plaza, or open space shall contain at least 20% of wall area facing the street in display areas, windows, or doorways.
- Infill within existing parking lots adjacent to sidewalks is encouraged.
- A building shall not be set back more than 20 feet unless the area is used for pedestrian activities. If more than one building is proposed for the site, at least 25% of the aggregate building frontage shall be within 20 feet of a sidewalk.

RECOMMENDATION: No amendments are required.

C. ISSUE: PREFERENTIAL PARKING FOR CARPOOLS AND VANPOOLS

RULE REQUIREMENTS: OAR 660-12-045 (4)(c)

BACKGROUND/OPTIONS: The APA Working Group recommends that 10% of required parking, but not less than one parking space, be for carpool and vanpool parking. An alternative is to apply the requirement only to new developments with 50 or more employees.

RECOMMENDATION: For large employers, carpool and vanpool parking should be provided for 10% of required parking.

D. ISSUE: OPPORTUNITIES TO REDEVELOP PARKING AREAS FOR TRANSIT ORIENTED USE

RULE REQUIREMENTS: OAR 660-12-045 (4)(d)

BACKGROUND/OPTIONS: Along transit routes, opportunities should be provided for developers to redevelop existing parking for transit facilities. This can be accomplished through design procedures and standards. The APA Working Group recommends that within 400 feet of a transit route, the number of parking spaces associated with an existing use may be reduced by up to 10% to provide a transit stop and related amenities.

RECOMMENDATION: Amend the development requirements to meet the APA Working Group's suggested standards.

E. ISSUE: CONNECTIONS FROM NEW DEVELOPMENT TO PLANNED EXISTING AND IDENTIFIED FUTURE TRANSIT ROUTES

RULE REQUIREMENTS: OAR 660-12-045 (4)(e)

BACKGROUND/OPTIONS: The intent of the TPR provision is to minimize travel distance from new development to transit stops. Improvements may include separate bicycle and pedestrian systems, as well as road improvements. Methods of implementing the provision include limiting the use of cul-de-sacs, providing sidewalk connections between developments, and providing mid-block accessways. This provision is similar to 660-12-045 (3)(b), which requires safe and convenient access between developments. The recommendations for meeting the rule also are similar.

RECOMMENDATION: Amend the development ordinances to require connections between developments. See ISSUE 6.6 B. above.

F. ISSUE: DESIGNATION OF TYPES AND DENSITIES OF LAND USE ADEQUATE TO SUPPORT TRANSIT

RULE REQUIREMENTS: OAR 660-12-045 (4)(f)

BACKGROUND/OPTIONS: The TPR requires amendments to zoning and subdivision ordinances that support transit facilities through increased density and intensity of land use. The City has adopted specific design standards to improve pedestrian movement along the Ashland Boulevard Corridor and in the downtown area. Mixed uses and high residential densities are permitted in these areas. To fully implement this provision, the City should prepare a corridor plan for each transit route. The corridor plans should address urban design issues including density and combined access. Preparing specific corridor plans will allow the City to address individual problems and non-conforming uses that may be created through a blanket standard.

RECOMMENDATION: Develop specific corridor plans for transit routes in the community.

3.6.8 RECOMMENDATION - IMPROVEMENTS

A. ISSUE: IMPROVEMENTS TO FACILITATE BICYCLE AND PEDESTRIAN TRAVEL

RULE REQUIREMENT: OAR 660-12-45 (6)

BACKGROUND/OPTIONS: The TPR requires the identification of improvements to facilitate bicycle and pedestrian travel in undeveloped areas. Improvements should provide more direct, convenient and safe bicycle and pedestrian travel within and between residential areas and activity centers.

Specific improvements should be part of a TSP. The standards discussed previously will facilitate development of improvements.

RECOMMENDATION: Include the improvements as part of the TSP.

3.6.9 DEVELOPMENT OF A TRANSPORTATION SYSTEM PLAN

Outlined below is a list of recommendations and requirements for a TSP for an urban area with a population between 2,500 and 25,000, and how each of those are/will be addressed in the Ashland TSP.

TPR Recommendations/Requirements	**City of Ashland TSP Compliance**
Public and Interagency Involvement	
• Establish Advisory Committees.	A project Technical Steering Advisory Committee (TAC) was established at the outset of the project. Membership includes: Mark Ashby - ODOT (Region #3) John McLaughlin - City of Ashland Planning Susan Wilson-Broadus - City of Ashland Public Works Eric Niemeyer - Jackson County Public Works Scott Chancey - Rogue Valley Transit District Paula Brown - RVCOG Monte Grove - ODOT District office Jim Hinman - DLCD Bill Molnar - City of Ashland Planning Maria Harris - City of Ashland Planning/RVCOG Greg Scoles - City of Ashland, Assistant City Administrator Don Paul - City of Ashland Fire Department Brent Jensen - City of Ashland Police Pete Lovrovich - City of Ashland Electric Dept. Carole Wheeldon - City of Ashland City Council
• Develop informational material.	Informational material was provided by City Staff in advance of public meetings.
• Schedule informational meetings, review meetings and public hearings throughout the planning process. Involve the community.	Three public workshops were held throughout the planning process. The City of Ashland provided publication and advanced notice, logistical support (record minutes) and workshop coordination.
• Coordinate Plan with other agencies.	Coordination with local government agencies was accomplished through the TAC. The City of Ashland also held separate City Council/Transportation Planning Advisory Committee (TPAC) Study Sessions.

Review Existing Plans, Policies, Standards, and Laws

• Review and evaluate the existing comprehensive plan.	The following documents were reviewed as part of the development of the TSP: *Ashland Comprehensive Plan - Transportation Element* (December 1996); *Ashland Capital Improvements Plan* (1996-97/2001-02)*; Ashland Street Transportation Land Use Plan and Appendix* (Draft Final Report, June 1995); *Rogue Valley Transit District Community Transportation Plan (1996-2006); Jackson County Bicycle Master Plan* (May 1996)*; Oregon Transportation Plan* (1992); *1991 Oregon Highway Plan,* (June 1991); *Oregon Bicycle and Pedestrian Plan* (1995); *Oregon Transportation Safety Action Plan* (1995); *Oregon Aviation System Plan* (1991); *Oregon Rail Freight Plan* (1994)*; Oregon Benchmarks* (1994); *Statewide Transportation Improvement Program* (1996 - 1998); *Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA); Rogue Valley Metropolitan Planning Organization Regional Transportation Plan (August 1996).*
• Land use analysis - existing land use/vacant lands inventory.	The *City of Ashland Comprehensive Plan* (1981), containing the most recent comprehensive overview Ashland's land use, is incorporated in Ashland's travel model.
• Review existing ordinances - zoning, subdivision, engineering standards.	The following documents were reviewed as part of the development of the TSP: *Ashland City Ordinances - Subdivisions, Physical and Environmental Constraints, Performance Standard Options; Resolution 90-13 - Handicapped Access Barriers* (March 1990)*; Resolution 91-39 - Standards for Determining Adequate Street Capacity* (October 1991).
• Review existing significant	The following documents were reviewed as

transportation studies.	part of the development of the TSP: *Pacific Institute of Natural Sciences - Transportation Impact Study* (March 1990)*; Tolman Creek Plaza Shopping Center - Transportation Impact Analysis* (February 1990)*; Grandview Drive Subdivision - Transportation Impact Analysis* (October 1992); *Ashland Street Transportation Land Use Plan* (Draft Final Report, June 1995).
• Review existing capital improvements programs/public facilities plans.	The City of Ashland CIP and the State of Oregon STIP have been reviewed as part of the TSP development.
• Americans with Disabilities Act requirements.	The ADA requirements were reviewed and acknowledged as part of the TSP development.
Inventory Existing Transportation System	
• Street system (number of lanes, lane widths, traffic volumes, level of service, traffic signal location and jurisdiction, pavement conditions, structure locations and conditions, functional classification and jurisdiction, truck routes, number and location of accesses, safety, substandard geometry)	An inventory of the existing street network, traffic volumes, traffic control devices, accident history, and level of service is provided in Chapter 4 of the TSP.
• Bicycle ways (type, location, width, condition, ownership/jurisdiction).	A summary of the existing bicycle route system is given in Chapter 4.
• Pedestrian ways (location, width, condition, ownership/jurisdiction).	A summary of existing sidewalks along boulevards, avenues, neighborhood collectors, mid-block pathways, and park walkways is listed in Chapter 4.
• Public Transportation Services (transit ridership, routes, frequency, stops, fleet, intercity bus, special transit services).	A summary of the existing public transportation system is given in Chapter 4.

• Intermodal and private connections.	No significant intermodal and private carrier transportation services and/or connections are found within the City of Ashland.
• Air transportation.	A summary of existing air (passenger and cargo) transportation services is provided in Chapter 4.
• Freight rail transportation.	A summary of existing rail (passenger and cargo) transportation services is provided in Chapter 4.
• Water transportation.	No significant water transportation service is found within the City of Ashland.
• Pipeline transportation.	A summary of the existing pipeline transportation system is given in Chapter 4.
• Environmental constraints.	The existing environmental constraints, mainly waterways and steep slopes, were considered as part of the technical evaluation of alternatives.
• Existing population and employment.	The current population of Ashland is approximately 17,985.

Determine Transportation Needs

• Forecast population and employment.	A summary of forecast population and employment is provided in Chapter 6.
• Determination of transportation capacity needs.	**The determination of capacity needs is provided in Chapter 6.**
• Other roadway needs (safety, bridges, reconstruction, operation/ maintenance).	General needs based on ongoing assessment by City Staff through maintenance program.
• Freight transportation needs.	The recommended TSP in Chapter 9 will provide for adequate freight movements by rail and highway.
• Public transportation needs (special	The public transportation and transit plan

transportation needs, general public transit needs).	recommended in Chapter 9 will provide excellent public transportation facilities and services.
• Bikeway needs	Future bicycle and pedestrian improvements are to be made in the Ashland UGB to provide cyclists with full accessibility to Ashland's street system.

Develop and Evaluate Alternatives

• Update community goals and objectives.	Goals have been established in the City of Ashland Comprehensive Plan - Transportation Element.
• Establish evaluation criteria.	Informal evaluation criteria were established as part of the TSP development.
• Develop and evaluate alternatives (no-build system, all build alternatives, transportation system management, transit alternative/ feasibility, improvements /additions to roadway system, land use alternatives, combination alternatives).	The development and evaluation of alternatives was conducted by the TAC and joint City Council/TPAC work sessions.

Produce a Transportation System Plan

• Transportation goals, objectives and policies.	Goals, objectives and policies are identified in the City of Ashland Comprehensive Plan - Transportation Element.
• Streets plan element (functional street classification and design standards, proposed facility improvements, access management plan, truck plan, safety improvements).	The street plan element is addressed throughout the TSP, mainly in Chapters 3, 8, and 9.
• Public transportation element (transit route service, transit facilities, special transit services, intercity bus and	The public transportation element is outlined in Chapter 9.

passenger rail).	
• Bikeway system element.	The bicycle plan is outlined in Chapters 7 and 9.
• Pedestrian system element.	The pedestrian plan is outlined in Chapters 7 and 9.
• Airport element (land use compatibility, future improvements, accessibility/connections/conflicts with other modes).	The airport element is provided in Chapter 9.
• Freight rail element (terminals, safety).	The freight rail element is provided in Chapter 9.
• Water transportation element (terminals).	Waterways within Ashland are not conducive to water transportation, and are used primarily for recreation.
• Transportation System Management element (TSM).	TSM element not applicable per OAR 660-12-020(2)(f) and (g). Access Management Strategies for Ashland are outlined in Chapter 8.
• Transportation Demand Management element (TDM).	TDM element not applicable per OAR 660-12-020(2)(f) and (g). However, the alternatives analysis included the evaluation of transportation-efficient land use. The implementation of these strategies is promoted as one of the elements of the recommended TSP.

3.6.10 IMPLEMENTATION OF A TRANSPORTATION SYSTEM PLAN

Plan Review and Coordination

• Consistent with ODOT and other applicable plans.	To follow.

Adoption

	To follow.

- Is it adopted?

Implementation

• Ordinances (facilities, services and improvements; land use or subdivision regulations).	To follow.
• Transportation financing/capital improvements program.	The transportation finance plan is summarized in Chapter 10.

Chapter 4

Existing Conditions and Constraints

Chapter 4

EXISTING CONDITIONS AND CONSTRAINTS

A detailed assessment of the existing transportation system has been conducted, including an inventory of the existing transportation facilities and services (see Appendix B), summary of existing transportation operations in the urban area, and an evaluation of the existing traffic safety conditions. This section of the City of Ashland Transportation System Plan (TSP) provides a summary of the existing system conditions and physical constraints within the Ashland urban area. The following elements are described:

- characteristics of existing pedestrian facilities;
- characteristics of existing bicycle facilities;
- existing public transit service routes and ridership;
- existing traffic control measures and physical characteristics of boulevard, avenue and neighborhood collector streets;
- existing traffic operations (levels-of-service) and safety characteristics of roadway facilities within the study area;
- existing traffic volumes; and,
- existing air and rail transportation facilities.

4.1 PEDESTRIAN FACILITIES

According to the boulevard and avenue street standards suggested in the Ashland Comprehensive Plan (and included in the TSP), pedestrian facilities must be provided along both sides of the street for either functional class. At a minimum, these sidewalks must be 5 feet wide in noncommercial areas and 8 to 15 feet wide in commercial areas.

Pedestrian facilities within the study area consist mainly of sidewalks along the majority of the City's boulevards, although not along most of the City's avenues, as shown in Figure 4-1. The sidewalk network is most extensive in the downtown area, providing good connectivity in that region. The remaining sidewalks are distributed throughout the City. All signalized intersections, described in Section 4.4, are equipped with pedestrian call buttons.

The City has also provided paths in public spaces, such as along the length of Lithia Park. Additional walkways exist throughout the Southern Oregon State College campus.

4.2 BICYCLE FACILITIES

Currently, a limited network of bicycle lanes, shoulder lanes, shared lanes, and off-street bicycle paths exists within or adjacent to the City of Ashland, as detailed in Figure 4-2 and in Appendix B. Bicycle lanes are delineated on roadways as separate travel lanes, intended exclusively for bicycle use. In Ashland, these lanes vary in width from 4 feet to 7 feet. Shoulder lanes, areas in which bicyclists are directed to ride on the street shoulder, range between 4 and 5 feet in width. Shared lanes, where bicycles and motorized vehicles travel in the same lane also exist and are often posted.

Boulevard and avenue street standards for the City of Ashland recommend 6 foot bicycle lanes, which meet with the design standards set forth in the Oregon Bicycle and Pedestrian Plan (OBPP)(ODOT, 1995). On neighborhood collectors and neighborhood streets, the OBPP recommends any of the three types of on-street bicycle facilities described in the preceding paragraph, but specifically recommends against sidewalk bikeways. The existing bicycle network contains only one such facility on Iowa Street between Wightman Street and Walker Avenue. The OBPP also does not include or endorse use of posted “bike routes” and specifies that all roads should be built to accommodate bicyclists.

4.3 PUBLIC TRANSPORTATION

The Rogue Valley Transportation District (RVTD) provides inter- and intracity public transit to the City of Ashland and surrounding areas. Figure 4-3 shows existing traditional transit facilities, including bus routes, stops, and shelters. The two bus routes (#5 and #10) which serve Ashland operate at half hour intervals, as described in Table 4-1, so that the areas of overlap receive 15 minute service on weekdays.

Table 4-1
RVTD ROUTE HOURS OF SERVICE

Route	Hours of Operation	Service
#5	weekdays: 7:10 AM to 5:10 PM weekends: no service	½ hour
#10	weekdays: 5:00 AM to 6:00 PM weekends: no service	½ hour

Routes which service Ashland are heavily used, relative to the entire RVTD bus system. Out of the total 1995-1996 fiscal year RVTD ridership logged, approximately 43% occurred on the two

Figure 4-1 (hard copy)

Figure 4-1 (hard copy)

Figure 4-2 (hard copy)

Figure 4-2 (hard copy)

Figure 4-3 (hard copy)

Figure 4-3 (hard copy)

Ashland routes (406,901 passengers out of a total of 951,669 passengers). In addition, RVTD offers the following alternative transit options, described previously in Chapter 3:

- Valley Feeder Program - shuttle service;
- Valley Rideshare Program - a carpool program centered around the workplace;
- Valley Lift Program - transportation option for the disabled, fulfills requirements of the Americans with Disabilities Act;
- Valley Commute - prearranged employment transportation; and
- Dial-A-Ride Program - "flexible" fixed route shuttle/van, not currently used, but anticipated within the ten-year planning horizon.

4.4 ROADWAY FACILITIES

Development of the existing roadway system in the City of Ashland has been significantly influenced by the constraints created by surrounding topography. In addition, the State highway system comprises the majority of boulevards within the urban area.

The City of Ashland recognizes five functional street classifications, as described in the Transportation Element of the Ashland Comprehensive Plan. Figure 3-1 illustrates the location of boulevards, avenues, neighborhood collectors and neighborhood streets within the City of Ashland. Figure 4-4 describes existing boulevards and avenues, detailing whether they meet standards for pavement width.

State Highways

One federal interstate and two State highway facilities provide the primary access to the City of Ashland. These include:

- Interstate 5 (Pacific Highway);
- Highway 66 (Ashland Street, Green Springs Highway); and
- Highway 99 (North Main Street-Lithia Way-Siskiyou Boulevard, Rogue Valley Highway).

Interstate 5 is one of the major north-south highways in Oregon, linking many of the communities along the western part of the State, including Salem and Portland, and providing connections south to California and north to Washington. Interstate 5 generally lies outside of the Ashland City limits. Access from the freeway to the surface street system is provided at the South Ashland Interchange on Ashland Street near the east side of the City.

Highway 66, or Ashland Street, serves as one of the primary east-west boulevards within Ashland. The western terminus of Ashland Street intersects with Siskiyou Boulevard (Highway 99). Within Ashland, Ashland Street operates as a five-lane facility between Siskiyou Boulevard and the western approaches to Interstate 5. West of these approaches, Ashland Street becomes a two-lane facility, with the exception of approximately 600 feet to the east of the eastern Interstate 5 ramps, which contains an additional center turn lane. Throughout Ashland, particularly between Siskiyou and the western Interstate 5 ramps, Highway 66 provides immediate access to retail businesses as well as connection to avenues, neighborhood collectors, and neighborhood streets. Ashland Street carries between 6,000 and 16,000 vehicles per day, falling into the lower range of motor vehicle usage expected on a boulevard.

Highway 99, or North Main Street-Lithia Way-Siskiyou Boulevard, provides access between Ashland and other Rogue Valley communities, including Talent and Medford. Highway 99 also links Ashland to Interstate 5 north of the Ashland City limits, via Valley View Road. Within Ashland, North Main Street operates as a four lane facility (five lanes at the intersection of Pacific Way and surrounding the Maple Street intersection) from the north City limit to just west of Helman Street.

At this point, North Main Street splits into a two-way couplet. The southbound lanes continue through Ashland’s traditional downtown core as a two lane facility, becoming three lanes where Winburn Way traffic enters North Main Street. North Main Street (southbound) rejoins the northbound lanes at East Main Street. Vehicles traveling on the northbound segment, Lithia Way, branch into the couplet at East Main Street, and continue on a two-lane facility through the downtown area until merging with the southbound facility near Helman Street.

South of East Main Street, Highway 66 becomes Siskiyou Boulevard. Between East Main Street and Ashland Street, Siskiyou Boulevard is a four-lane facility with a wide turn lane/median. In this segment, Siskiyou Boulevard provides access to Southern Oregon State College facilities, as well as numerous retail businesses. South of Ashland Street, Siskiyou Boulevard becomes a four-lane facility until Walker Street, where it is reduced to two travel lanes. Throughout this segment, both retail businesses and residential developments directly access Siskiyou Boulevard.

Siskiyou Boulevard carries approximately 6,000 to 26,000 vehicles per day. Traffic is heaviest between Mountain Avenue and Ashland Street and on the couplet, and lightest south of Clay Street.

Other Roadways

In addition to State-maintained facilities, one other boulevard and several avenues and neighborhood collectors within Ashland also serve as key access routes for automobile, pedestrian and bicycle traffic. These facilities are primarily owned and maintained by the City of Ashland. Those roadway segments owned by Jackson County are listed in Table B-1 (Appendix B). Table B-2 (Appendix B) displays the functional classification and physical characteristics of the boulevard, avenue and neighborhood collector streets in Ashland.

Figure 4-4 (hard copy)

Figure 4-4 (hard copy)

Figure 4-4 (hard copy)

Existing Traffic Control

The locations of all of the signalized intersections within the City of Ashland are described in Table B-3 (Appendix B) and in Figure 4-5. As depicted in the figure, all of the traffic signals are located on State maintained facilities. In addition, a fire signal exists at the East Main Street/Siskiyou Boulevard intersection, and a blinking yellow signal exists at the intersection of Tolman Creek Road and Siskiyou Boulevard. Additional control devices regulate traffic at the majority of railroad intersections, as described in Table B-4 (Appendix B). The remainder of the major street intersections in the urban area are controlled with stop signs.

Traffic Operations

Manual turning movement counts were conducted at several study area intersections during the weekday p.m. peak hour in February 1997 and in May 1995. The p.m. peak hour traffic counts were examined for reasonable accuracy, and were also compared to previous traffic counts conducted in the area as gleaned from previous traffic studies. A summary of level of service (LOS) analyses conducted at major intersections in the Ashland urban area is provided in Appendix C. All study area intersections currently operate at an acceptable LOS "D" or better during the p.m. peak hour.

Boulevard Access Conditions

Boulevards within Ashland serve a moderate to high volume of traffic at moderate speeds and are intended to provide reasonable and safe access to abutting property. However, as discussed in more detail in Chapter 5, with greater access provided to adjacent properties comes a greater number of potential points of vehicle conflict and a generally negative impact on traffic safety. Access points also create friction in traffic flow, detracting from the efficiency of the boulevard to move traffic between activity center. In order to establish an appropriate balance between access, safety and roadway efficiency, ODOT and the City of Ashland have set access spacing standards for private driveways (300 feet) and public roadways (1/4 mile) on North Main Street, Lithia Way, Siskiyou Boulevard and Ashland Street.

To determine whether Highway 66 (Ashland Street) and Highway 99 (North Main Street-Lithia Way-Siskiyou Boulevard) meet the standards set forth, access densities have been calculated for these roadways and are described in Table B-5 (Appendix B). As indicated in Table B-5, Highway 66, between Siskiyou Boulevard and the western Interstate 5 ramps, and Highway 99, between the City Limit and East Main Street, both exceed the private driveway access standards. The entire State highway system within Ashland exceeds public roadway standards.

Traffic Safety

A summary of the reported accidents on State highway facilities in the study area over a five-year period (January 1991 to December 1995) was assembled from ODOT records and is presented in Table B-6 and Table B-7 (Appendix B). The accidents reported for intersections and roadway segments are listed by severity (property damage only, injury, or fatality) and type (angle, head-on, rear-end, sideswipe, turning, fixed object, pedestrian and other).

Using this data, analyses were performed to determine the accident rates at intersections and roadway segments on State highways within Ashland. In 1994, the City of Ashland performed a similar analysis for a wider range of intersections, including those not on State highways, using accident data recorded from 1983 to 1993. The results of these analyses are shown in Figure 4-6.

For State highway **intersections**, the accident rate is given in terms of accidents per million vehicles entering an intersection vehicles (ACC/MEV), and is calculated by dividing the average number of accidents per year by the total entering volume for the year. Intersection analyses performed by the City of Ashland report the accident rate in terms of accidents per million vehicles (ACC/MV). An accident rate of less than 0.85 accidents per million entering vehicles generally indicates that there are no significant safety problems associated with the intersection. As shown in the Table A-6 and Table A-8, there are some intersections that have an accident rate more than 0.85. The TSP identifies street and traffic improvements to improve safety conditions at these intersections.

Along roadway **segments**, the total number of accidents is divided by the product of the roadway volume and segment length in miles, and then reported as accidents per million vehicle miles traveled (ACC/MVM). Average accident rates at similar locations in the State of Oregon are approximately 1.86 ACC/MVM for facilities such as US 66 and US 99.

The accident analysis indicated that there was one accident involving a fatality in the five-year period reviewed. That fatality occured at the intersection of Siskiyou Boulevard and Sherman Street when a pedestrian was struck by a driver (blood alcohol level at 0.8 to 0.14) making a wide turn with excessive speed.

As shown in Table B-7 (Appendix B), North Main Street-Lithia Way-Siskiyou Boulevard north of Walker Avenue, and Ashland Street between Siskiyou Boulevard and Clay Street, exceeded the average rates reported for similar facilities located throughout the State. The majority of accidents have occured at or around major street intersections and involve rear-end incidents or turning movements. Throughout Ashland, the State highways serve regional traffic as well as provide access to local businesses; therefore, the accidents may be attributable to the turning movements associated with vehicles entering and exiting the commercial development along the highways.

Figure 4-5 (hard copy)

Figure 4-5 (hard copy)

Figure 4-6 (hard copy)

Figure 4-6 (hard copy)

4.5 PUBLIC SCHOOL BUS TRANSPORTATION

The Ashland School District provides direct school bus service to the Ashland Elementary, middle, and senior high schools.

4.6 RAIL SERVICE

Rail cargo service is provided to a limited number of industrial users in the Ashland urban area via the Union Pacific Railroad (UPRR) spur line. The spur line also connects Medford, Grants Pass and Roseburg, with eventual connection north to the UPRR mainline in Eugene, Oregon.

4.7 AIR TRANSPORTATION

The Medford-Jackson County International Airport, located in Medford, provides air passenger and cargo service for Ashland residents. Direct passenger service is provided by at least two commercial airlines to Portland, Seattle and northern California. Air freight service is available through a number of private carriers, but is relatively low at the Medford-Jackson County Airport when compared to truck and rail freight hauling services in the region.

The City of Ashland owns and operates the Ashland Municipal Airport. The airport is identified in the March 1997 Oregon Continuous Aviation System Plan as a Level 3 airport designed to serve small General Aviation (single engine aircraft and some light twin engine aircraft). According to the System Plan, no change in use is anticipated.

4.8 WATER

The Tolman, Lithia and Bear Creek waterways are too shallow and narrow to allow for effective water transportation. Water transportation is limited to recreational use adjacent to the creeks within the Ashland UGB.

4.9 PIPELINE

Pipeline transportation in and throughout the study area includes transmission lines for electricity, cable television and telephone services, as well as pipeline transport of water, sanitary sewer, and transmission lines for natural gas. The Ashland area is also served with infrastructure that provides linkages for electronic communication.

4.10 ENVIRONMENTAL CONSTRAINTS

The following is a general summary of the naturally occurring constraints to transportation system development in Ashland. The discussion includes wildfire lands, creeks and flood plains and topography. Generally, the combination of creeks, flood plains and topography can also suggest the presence of wetlands. A map summarizing the environmental constraints in the Ashland UGB is provided in Figure 4-7.

Wildfire Lands

Ashland has a history of wildfires, given that it lies in a dry, forested region. The City has mapped these areas, some of which may present a concern to the construction of new transportation corridors. The mapped wildfire area is in the hills along the southern and western City limits. The area bordering Wrights Creek on the west is included, as is the section of Ashland Creek south of Lantern Hill Drive. Much of this area is residential in nature and topographically constrained, and is therefore unlikely to develop with new roadway facilities other than neighborhood streets.

Flood Areas and Wetlands

According to the Flood Insurance Rate Maps (FIRM) for Ashland, Ashland Creek has fairly narrow 100- and 500-year flood plains, which include parts of Water Street and Winburn Way, as well as approximately 400 feet of East Hersey Street. Sections of South Pioneer Street, including the segment near the intersection of Granite Street, are also identified as being within Ashland Creek's 100-year boundary, along with segments of Granite Street, south of the Pioneer Street intersection.

Bear Creek has a much wider 100-year floodplain that includes approximately 800 feet of North Mountain Avenue and 800 feet of East Nevada Street.

Clay Creek includes about 800 feet of 100-year flood boundary on Siskiyou Boulevard, as well as smaller sections on two private roads that intersect with Clay Street. A significant expanse of ponds comprise the flood plain in the vicinity of Clay Street and Wingspread Drive, north of the UPRR.

The Hamilton Creek floodplain includes about 800 feet of Tolman Creek Road, 300 feet of Mistletoe Road and a small segment of Green Springs Highway.

Wetland concerns are found in several areas:

- The triangle formed by Interstate 5, North Mountain Avenue and East Main Street;
- The Interstate 5, Tolman Creek Road, UPRR area, especially in the northeast quadrant of Tolman Creek Road and Green Springs Highway; and
- Valley View Road, Oak Street, Interstate 5 and the UPRR.

Generally, these potential wetland areas are associated with the existing creeks and topographic low spots. Railroad rights-of-way are also areas of wetland concern, because of the process by which the railbeds have been created. This process has historically led to water entrapment and to the creation, over time, of wetland areas which then become subject to regulation.

Topographic Constraints

Topographic constraints to roadway construction, both new construction and upgrades, occur primarily in the southwest section of the City, where numerous small creeks have created gulches that would require structures to cross. These areas are generally the same ones constrained by potential wildfires, including areas southwest of Siskiyou Boulevard. On the Northeast side of Interstate 5, slopes are gradual and present some opportunity for the creation of neighborhood streets and possibly neighborhood collectors, as well as pedestrian facilities.

Figure 4-7

Figure 4-7

Chapter 5

Recommended Design Standards

Chapter 5

RECOMMENDED DESIGN STANDARDS

The TPR requires local jurisdictions to adopt ordinances and regulations to protect transportation facilities. This chapter includes a summary of street functional classification standards and policies that, together, form Ashland's Access Management Plan.

5.1 FUNCTIONAL CLASSIFICATION

Streets should be classified according to their function. Such classification provides for consistency in construction, operation and maintenance standards for each separate classification. Street classification also promotes an understanding by the pubic of the importance of specific facilities, and their associated improvements within the system. The Transportation Planning Rule, described in Chapter 3, also requires cities to classify streets according to their function. The classifications must be consistent with State and regional transportation plans for continuity among adjacent or overlapping jurisdictions, and must be based on each street's actual use. The functional classification hierarchy of streets provides:

- Grouping of streets by the service they provide;
- Facility definitions to handle different desired levels of access and mobility;
- An understanding of how a street is being used;
- Guidelines on how streets are to be designed;

Roadways provide two functions: mobility and access. From a design perspective, these functions can be incompatible; high or continuous speeds are desirable for mobility, while low speeds are more desirable for access. The logical spacing of a grid arterial and collector street system allows traffic to access all areas of the City without diverting excessive traffic through local streets. Non-local traffic intrusion is greatest on neighborhood streets where such spacing has not been achieved. Local streets within the grid can follow any pattern which does not promote through traffic. Figure 5-1 shows the relationship of the functional classification to access and mobility. Figure 5-2 shows the existing functional classification of streets.

As a general guideline, the design of all Ashland streets should achieve volumes and speeds at the appropriate range for each street classification as described in Table 5-1 (following Figure 5-2).

Figure 5-1

Figure 5-2

Figure 5-2

Table 5-1
FUNCTIONAL CLASSIFICATION
GENERAL TRAFFIC VOLUME AND SPEED GUIDE

	Average Daily	Managed
Roadway Type	Vehicles	Speed (mph)
Boulevard	8,000 - 30,000	30-40 mph
Avenue	3,000 - 10,000	25 mph
Neighborhood Collector	1,500 - 5,000	25 mph
Neighborhood Street	< 1,000	25 mph

Interstate 5 serves as the primary gateway into Ashland and carries the majority all the vehicle trips entering, leaving, or passing through the Ashland area. This element is critical to the Ashland street network, because it generally serves the highest traffic volumes and longest trips. Access control is critical on this type of facility to ensure that it operates safely and efficiently.

Boulevards, sometimes referred to as arterial streets, connect to Interstate 5, and link major, high concentration commercial, residential, industrial, and institutional areas. Boulevard streets are typically spaced to assure accessibility and to reduce the traffic flow on avenues, neighborhood collectors, or neighborhood streets. Many of these routes connect outward from Ashland into the surrounding areas of Jackson County. Boulevards within the Ashland UGB include: Ashland Street, Main Street-Siskiyou Boulevard, East Main Street, and Lithia Way.

Avenues, otherwise called major collectors, provide both access and circulation within residential neighborhoods and commercial/industrial areas. Avenues differ from boulevards in two ways:

- Controlled access may not be required for all avenues; and
- Avenues penetrate neighborhoods, distributing trips from the boulevards through the area to their ultimate destinations.

The standard avenue is characterized by a wider range of use that typically results in a greater intensity of development along its route and at major intersections with other collectors or arterials. Land uses such as low to medium-high density, mixed residential, commercial, or industrial, and their associated traffic volumes are examples of this kind of development intensity.

Neighborhood Collector: Neighborhood collectors, or minor collectors, are similar in function to avenues because controlled access is generally unnecessary. Also similar to avenues, they penetrate neighborhoods and distribute trips from the boulevards through the area to their ultimate destinations. In the case of a neighborhood collector, however, land use along its route is generally low to medium density residential in nature. The intensity of development at intersections along its route, however is generally less intense than might occur with avenues. Traffic calming techniques such as traffic circles, bulbed intersections, or speed humps are to be expected as a typical means of controlling traffic speeds on neighborhood collectors. The purpose of the neighborhood collector is to minimize the impact of traffic to adjacent land uses, while recognizing that collector roadways are still necessary to serve less intense residential areas. Identified traffic calming techniques (bulbed intersections, etc.) are to be constructed at the time of development.

Neighborhood Streets have the primary function of providing access to immediately adjacent land. Although through-traffic movement on new neighborhood streets usually is deliberately discouraged, this may not be practical for particular neighborhoods. Neighborhood streets should be designed to minimize the impact of traffic (primarily traffic speed) on adjacent development which is primarily residential. At volumes generally associated with local streets, the greatest impact and the source of the greatest number of complaints is traffic speed. Identified traffic calming techniques (bulbed intersections, etc.) are to be constructed at the time of development.

Alleys, a classification largely unique to Ashland, provide rear access to residential properties. These areas are not considered routes, but rather serve primarily as delivery or parking facilities. Specifications have not been developed for alleys at this time.

In addition to the standard automobile-oriented street classifications, Ashland also recognizes **multi-use paths**, which are off-street facilities used mainly for pedestrian and bicycle traffic. Like alleys, multi-use paths do not have construction specifications.

Ashland's current street design standards have been described in Chapter 3, Table 3-1, according to the City of Ashland Street Design Standards and the City of Ashland Resolution 91:39 Street Capacity Standard (October 1991). These tables are based on documents that predate the 1996 Transportation Element of the Ashland Comprehensive Plan, and therefore use traditional classification nomenclature such as "arterial" or "collector" street.

The Ashland TSP proposes a revised set of parameters that defines the Functional Classification System for boulevard and arterial roadways[1]. As summarized in Table 5-2, these parameters will guide planning and development of new street improvements.

Traffic volumes on different streets vary depending on their classification and number of traffic lanes. Table 5-2 also provides general parameters for speed and volume for the various street classifications. **Volumes indicated are not intended to be absolute maximums or minimums**. The function of the street within the roadway system, and the types and intensities of land use along their routes are other important factors contributing toward their appropriate designation.

1 Parameters for Neighborhood Collector and Neighborhood Streets are detailed in the Ashland's Local Streets Plan.

Table 5-2
PROPOSED FUNCTIONAL CLASSIFICATION SYSTEM

	Boulevard	Avenue
Auto amenities (lane widths)[12]	2-4 lanes (11 ft.)	2 lanes (10-10.5 ft.)
Bike amenities[4]	2 lanes (6 ft.)	2 lanes (6 ft.)
Pedestrian amenities	2 sidewalks (5 ft.[5]), median pedestrian islands	2 Sidewalks (5 ft.[4])

---

2 Lane widths shown are the preferred construction standards that apply to existing routes adjacent to areas of new development, and to newly constructed routes. On arterial and collector roadways, an absolute minimum for safety concerns is 10 ft. Such minimums are expected to occur only in locations where existing development along an established sub-standard route or other severe physical constraints preclude construction of the preferred facility width.

3 Lane widths shown are the preferred construction standards that apply to existing routes adjacent to areas of new development, and to newly constructed routes. On arterial and collector roadways, an absolute minimum for safety concerns is 10 ft. Such minimums are expected to occur only in locations where existing development along an established sub-standard route or other severe physical constraints preclude construction of the preferred facility width.

4 An absolute minimum width for safety concerns is 5 ft. on boulevards and 4 ft. on avenues and neighborhood collectors, which is expected to occur only in locations where existing development along an established sub-standard route or other severe physical constraints preclude construction of the preferred facility width. Parallel multi-use paths in lieu of bike lanes are not appropriate along the arterial-collector system due to the multiple conflicts created for bicycles at driveway and sidewalk intersections. In rare instances, separated (but not adjacent) facilities may provide a proper function.

5 Sidewalks should be 8-15 feet wide in commercial areas.

Transit	Typical	Typical
Managed speed[6]	30 mph - 40 mph	25 mph
Curb-to-curb width[7] (two way)		
No on-street parking	46-68 ft..	32-44.5 ft.
Parking one side	NA	NA
Parking both sides	NA	NA
Traffic calming	NO	Permissible/not typical
Preferred adjacent land use	High intensity	Medium to high
Access control (See Table 5-3)	YES	SOME
Turn lanes/center landscape median	Continuous and/or medians/pedestrian islands (12 ft.)	Typical at intersections with boulevards (11.5 ft.)
Park rows	Two - 6-8 ft.	Two - 6-8 ft.
Through-traffic connectivity	Primary function	Typical function
Maximum grade	7%	7%

6 Boulevard speeds in the central business or other commercial districts in urban areas may be 20-25 mph. Traffic calming techniques, signal timing, and other efforts will be used to keep traffic within the desired managed speed ranges for each Functional Class. Design of a corridor's vertical and horizontal alignment will focus on providing an enhanced degree of safety for the managed speed.

7 Street design for each development shall provide for emergency and fire vehicle access. Street widths of less than 28 feet shall be applied as a development condition through the subdivision and/or planned development process. The condition may require the developer to make the choice between improving the street to the 28 ft. standard or constructing the narrower streets with parking bays placed intermittently along the street length. The condition may require fire-suppressive sprinkler systems for any dwelling unit more than 150 feet from a secondary access point.

NOTE: When minimum right-of-way is not available for construction of a street, improvements shall be deleted in order of 1) center landscape median; 2) park rows; and 3) auto parking lanes.

5.2 STREET STANDARDS

Suggested Street design standards for access on the City of Ashland roadway system have been developed to maximize the safety and efficiency of the entire transportation system. Suggested boulevard and avenue street design standards are described in Table 5-3.[8]

The suggested roadway design standards are to be used as a guideline for the development of future roadway facilities within Ashland. As Ashland continues to develop, there may be a need to provide some flexibility in the City's road design standard, especially on neighborhood streets, assuming that the boulevard/avenue/neighborhood collector system is functioning properly. The purpose of a flexible design standard is to accommodate development needs within the City of Ashland in a consistent manner, while allowing for individual consideration of unique issues such as, but not limited to, land access, non-auto travel modes, right-of-way constraint(s), terrain, vegetation, and building orientation.

8 Parameters for Neighborhood Collector and Neighborhood Streets are detailed in the Ashland's Local Streets Plan.

Table 5-3
SUGGESTED STREET DESIGN STANDARDS

Functional Classification	System Spacing	Design / Managed Speed (MPH)	Horizontal Alignment	Vertical Alignment	Traf Cont
Boulevard	1 mile	40\30-40	Minimum centerline radius: 650 ft	Maximum grade: 7% Minimum sight distance: 350 ft	1. Placement of traffic cor devices as w by MUTCD 2. Minimum spacing: 1/4
Avenue	1/4 mile	25\ 25	Minimum centerline radius: 560 ft	Maximum grade: 7% Minimum sight distance: 300 ft	Placement/d traffic contrc as warranted MUTCD

Chapter 6

Identification of System Problems

Chapter 6

IDENTIFICATION OF SYSTEM PROBLEMS

The identification of transportation system problems is essentially two-fold. First, based on the inventory of the street, bicycle and pedestrian transportation systems (see Chapter 4 - Existing Conditions and Constraints) and the recommended design standards (Chapter 5), an assessment and determination was made for all boulevards and avenues. Specific street sections that do not currently meet the recommended design standards are identified in this chapter. Additional bicycle and pedestrian system improvement needs are identified in Chapter 7, Pedestrian/Bicycle Amenities.

Second, further analysis of future land development and growth within the Ashland UGB, and travel growth between Ashland and its neighbors (like Medford, Phoenix, etc.) was conducted and tested using Ashland's travel demand model to forecast and assess future traffic conditions on the boulevard/avenue street system. Coupled with the assessment of major pedestrian and bicycle corridors, these future traffic forecasts were used to determine where traffic congestion will occur in the future, as compared to today's recognized constraints (see Chapter 4). From these future travel forecasts and corridor analyses, future transportation system *capacity* improvements are identified (as distinguished from street standard upgrades).

6.1 IDENTIFICATION OF SUBSTANDARD STREET SECTIONS

The suggested street standards identified in Chapter 5, incorporate the type and size of urban street amenities necessary to safely and efficiently accommodate all modes of travel in Ashland. These standards were compared to the current street conditions (as identified in Chapter 4) to determine which street sections do not currently comply[1]. Where currently substandard streets will not be improved as part of adjacent land development (or redevelopment), they become candidates for street improvement upgrades (see Chapter 9), perhaps even within the 20-year planning horizon.

Figure 6-1 illustrates all Ashland boulevard and avenue street sections, and whether they meet the street standards as identified in Chapter 5.

[1] Particular attention was given to the existing curb to curb street width standard for boulevards and avenues, since minor re-striping does not constitute substandard conditions.

6.2 FUTURE POPULATION AND EMPLOYMENT GROWTH

Note: Full description to follow working discussion with City staff to update type, intensity and location of expected and planned land use development consistent with Comprehensive Plan.

6.3 FUTURE TRAVEL DEMAND

The Ashland Travel Demand Model (originally constructed and calibrated in 1990-1991) was utilized as a basis for assessing future travel demand. The Ashland Model simulates future travel demand on the existing and planned boulevard/avenue street system, based on projected growth in residential and commercial/industrial lands within the Ashland UGB. The original Ashland Model was established with a 15-year planning horizon focusing on the afternoon-evening peak hour (typically 4:30-5:30 pm) traffic forecast for the year 2005. Those forecasts reflect stable and continued housing growth within the Ashland UGB, and sustained commercial growth within the downtown and Ashland Street corridors. Assuming a moderate annual growth rate ranging from 1-2%, the year 2005 traffic forecast estimates were adjusted to encompass the year 2017, providing a consistent 20-year planning horizon for the development and adoption of the Ashland TSP.

Two separate “year 2017" scenarios were developed and tested including:

- “Base Case” - just the existing boulevard and avenue sections; and,
- “Comprehensive Plan” - including the
  1) Normal Avenue extension to East Main Street;
  2) East Nevada Street extension from Bear Creek crossing to Mountain Avenue; and,
  3) Ashland Street Plan enhancements by reducing travel lanes from 5 to 3 between Siskiyou Boulevard and Clay Street.

Figure 6-2 illustrates the year 2017 peak hour traffic volumes on Ashland’s major street system under the Comprehensive Plan scenario. Figure 6-3 illustrates the shift in future peak hour traffic from the “Base Case” as a result of street improvements under the Comprehensive Plan scenario.

System-wide performance measures, summarizing the magnitude of traffic and general levels of delay or congestion on Ashland’s major streets during the evening peak hour, were developed and applied separately for each street functional class. These measures include vehicle miles of travel (VMT) to give a sense of travel magnitude, vehicle hours of travel (VHT) to give a sense of travel duration, and lane-miles of congestion categorized in three groups - “under,” “approaching” and “over” capacity conditions. “Over” capacity reflects conditions where traffic volume reaches or exceeds a street’s functional and practical capacity. These measures were systematically applied for each of the 1991, 2005 and 2017 years scenarios.

Figure 6-1

Figure 6-1

Figure 6-2

Figure 6-3

Tables 6-1, 6-2 and 6-3 summarize the VMT, VHT and lane-miles of congestion, respectively. Using 1991 as a baseline for comparison, VMT will grow in Ashland by nearly 35%, while VHT is expected to grow by over 41% by year 2017. The majority of that traffic growth is expected to occur on the avenue streets, not local streets. Across all street classes however, the length of roadway sections that exceed capacity will nearly triple by year 2017. These are all indications that the practical capacity of Ashland's street system will be reached within the 20-year planning horizon. The street improvements identified in the Comprehensive Plan will provide only a minor improvements to relieve overall forecasted travel conditions.

6.4 FUTURE TRAFFIC CONGESTION

By year 2017, growth will have a direct impact on Ashland's major street system. The base capacity of the roadway system will come under increased pressure, as indicated in the summary statistics above. In particular, some segments of Ashland's boulevard system will operate near or over capacity during peak hour conditions. They include:

- North Main Street the Wimer Street and Hersey Street intersection;
- Siskiyou Boulevard south of Lithia Way and between Mountain Avenue and Ashland;
- the Lithia Way/North Main Street one-way couplet;
- Pioneer Street crossing of the one-way couplet; and,
- Ashland Street between Siskiyou Boulevard and Clay Street, and at the I-5 interchange.

Focused congestion at major street intersections is also likely to occur, not only on Siskiyou Boulevard and North Main Street, but also on East Main Street and East Hersey Street. Some of these conditions are due to added growth, but are primarily due to the fact that each street also provides an alternative route to the congested downtown area and North Main Street, Siskiyou Boulevard, and Ashland Street corridors. Major street intersections in Ashland which might require traffic signalization (when warranted in the near future) include:

- Wimer Street and Hersey Street approaches to North Main Street;
- Siskiyou Boulevard/North Main Street/Lithia Way/East Main Street;
- Normal Avenue approaches to Siskiyou Boulevard and Ashland Street;
- Tolman Creek Road and Siskiyou Boulevard;
- East Main Street and Mountain Avenue; and,
- East Hersey Street and Oak Street.

Furthermore, the off-set street alignments of Wimer Street/Hersey Street at North Main Street, and the Wightman Street/Indiana Street and Normal Avenue approaches to Siskiyou Boulevard will further aggravate future traffic control measures. These intersections are good candidates for minor street re-alignment.

6.5 TRANSPORTATION SYSTEM MANAGEMENT (TSM) AND TRANSPORTATION DEMAND MANAGEMENT (TDM)

Previous analysis of future travel demands in Ashland, using the established Travel Demand Model, revealed that a combination of transportation system management (TSM) measures, particularly on Ashland's boulevard streets, as well as area-wide travel demand management (TDM) policy measures, would effectively yield an overall street system that operates within capacity by the year 2005. These measures include the following:

TSM	New traffic signals and signal coordination.
	Intersection approach enhancements (separate turn-lanes).
	Access management of private driveways and public streets
TDM	Improved pedestrian and bicycle system connectivity, access and circulation.
	Enhanced transit coverage and service.
	Employer-based transit subsidy (e.g. SOSC student pass program).
	Rideshare, carpool and vanpool programs.
	Mixed use land development.

TSM measures were found to effectively yield approximately 10% more capacity on Ashland's boulevard streets. TDM measures, when effectively combined with TSM, were found to effectively reduce vehicle trip-making by as much as 11%. By year 2017, these combined measures can result in overall system wide traffic performance within acceptable levels.

Table 6-1

VEHICLE MILES OF TRAVEL (VMT) IN ASHLAND UGB
(PM Peak Hour)

	Street Functional Classification			
Analysis Year/Scenario	Boulevard	Avenue	Local (1)	TOTAL
1991	11,680	2,670	1,810	16,160
2005	13,390	3,320	2,075	18,785
2017 - Base Case	15,220	4,115	2,405	21,740
2017 Comprehensive Plan	15,245	4,125	2,390	21,760

(1) Including Neighborhood Collector streets.

Table 6-2

VEHICLE HOURS OF TRAVEL (VHT) IN ASHLAND UGB
(PM Peak Hour)

	Street Functional Classification			
Analysis Year/Scenario	Boulevard	Avenue	Local (1)	TOTAL
1991	367	108	71	546
2005	424	135	81	640
2017 - Base Case	497	176	94	767
2017 Comprehensive Plan	500	175	95	770

(1) Including Neighborhood Collector streets.

Table 6-3

LANE-MILES OF CONGESTION SUMMARY (1)
(PM Peak Hour)

Analysis Year/Scenario	Below Capacity (0-.75)	At Capacity (.75-.95)	Over Capacity (.95+)
1991	272.9	1.2	.6
2005	271.5	2.0	1.1
2017 - Base Case	268.7	4.1	1.8
2017 Comprehensive Plan	270.0	4.0	1.8

(1) Including boulevard, avenue, neighborhood collector and local streets.
(.##) = volume-to-capacity ratio

I:\PROJECT\26586101\FINAL\CH6.WPD

Chapter 7

Pedestrian/Bicycle Amenities

Chapter 7

PEDESTRIAN AND BICYCLE AMENITIES

7.1 BACKGROUND

This chapter discusses several aspects of the multi-modal transportation system in Ashland, particularly those facets that encourage walking and bicycling. The particular scope of this chapter is to: "determine the feasibility and cost of providing city-wide bicycle and pedestrian amenities." The term amenities is used here to describe a range of improvements needed to make walking and bicycling not merely a possibility, but a preferable transportation option. Cost estimates and siting criteria are summarized at the end of this chapter. Recommended pedestrian and bicycle amenity projects are discussed in Chapter 9.

Changes in City codes and transportation planning efforts prompted by the Oregon Transportation Planning Rule and the Federal Intermodal Surface Transportation Efficiency Act have already done a lot to encourage the use of these alternative modes. The history of the City of Ashland's development has led to a high level of walking and bicycling, compared to other American cities. There is room for improvement, however, that can benefit all users of the transportation system and adjoining land uses.

This chapter considers three major aspects of these land use/transportation systems:

- Activity Centers which generate high levels of pedestrian and bicycle travel.
- Transportation Network Facility Features to accommodate pedestrian and bicycle travel.
- System Features that increase pedestrian and bicycle mode choice.

The consideration and accommodation of bicycles and pedestrians is assumed on all streets for two primary reasons: these streets serve all destinations in the City, and they are public rights-of-way, which all of the public has a right to travel, whether or not they can drive a car.

7.2 ACTIVITY CENTERS FOR PEDESTRIAN AND BICYCLE TRAVEL

Within Ashland there are several types of activity centers that can generate high levels of traffic and transportation demand for all modes. Some of these uses and activities can also generate a high level of pedestrian and bicycle traffic when appropriate facilities are available and include:

- Commercial Centers (downtown and others).
- High Density Residential Developments.
- Employment Centers (such as on Hersey Street).

- Public Schools.
- Southern Oregon campus (including museums).
- Ashland Community Hospital.
- Government agencies (City Hall and Civic Center).
- Parks and Recreation Facilities.

All modes of transportation may be needed to serve these centers including: automobile and truck travel lanes on streets, bus pullouts at major stops, pedestrian routes and sidewalks, bikeways, taxi and paratransit stops, park and ride facilities and bus stops. Other system aspects that contribute to safe and efficient travel include good modal connections and crossings.

7.3 TRANSPORTATION NETWORK FACILITY FEATURES

Walking and Pedestrian Facilities

Several aspects of the transportation system are particularly important to those who walk. Of importance throughout the City is the need for a network of sidewalks and pedestrian paths that provide routes to the destinations people want to walk to. This network needs to be primarily along street rights-of-way, and in a few cases a "shortcut" may provide a path for non-motorized travel.

In two major areas of Ashland walking and bicycling is the most common and viable for meeting transportation needs -- downtown and the Southern Oregon University (SOU) campus. The network of pedestrian facilities in these places is extensive, and facilities are generally wider and unobstructed. These areas are well suited with good pedestrian amenities such as pedestrian-scale street lighting, wide and contiguous sidewalks, street trees, benches and water fountains. These areas are also centers with high concentrations of business, commercial, school and residential activities.

The features of these areas, where walking (and to a lesser extent cycling) works best in Ashland, are the features that need to be expanded city-wide in order to increase the viability of walking as a mode of transportation. The characteristics of the area can also suggest general principles for prioritizing bicycle and pedestrian amenity projects in the City of Ashland.

7.4 SYSTEM FEATURES THAT INCREASE MODAL CHOICES

Pedestrian Factors

The Land Use Transportation Air Quality (LUTRAQ)[1] study in the Portland Metropolitan Area assessed the pedestrian environment and developed "Pedestrian Environment Factor" (PEF) scores to test the potential to influence one's choice of mode. Over 400 zones in Clackamas, Multnomah and Washington Counties were assessed on four factors: 1) ease of street crossings; 2) sidewalk continuity; 3) local street characteristics; and 4) topography. The highest ratings went to places where streets could readily be crossed by pedestrians of all ages with complete sidewalk networks along through- and side-streets, and in areas of relatively flat terrain.

The LUTRAQ study scored areas from 4 to 12. The areas with scores of 4 to 8 had very high levels of automobile use and little walking or bicycling or transit use due largely to a lack of facilities. The areas with good (PEF 9 or 10) and very good (PEF 11 or 12) scores had significantly higher levels of walking, bicycling and transit use, although they still had levels of automobile use at 75 to 80 percent travel. The core area of Ashland, including downtown and the older part of the Southern Oregon campus, would rate a score of 10, 11 or 12 in PEF factors.

Since this area also includes Ashland's largest employers, the high pedestrian environment factor exemplifies the claim that Ashland has the highest proportion of people walking to work (and working at home) of any city in Oregon.

The Pedestrian Corridor Map, shown in Figure 7-1 notes the location of pedestrian generators including schools, parks, the downtown core, other civic functions, and retail shopping and service areas. The main pedestrian corridors are also shown along with pedestrian amenities and barriers that are included in the TSP analysis. Especially on these corridors, an attractive street scape and buildings oriented to the street, foster a pedestrian-friendly environment. Major amenities are identified at bus stops and shelters, as well as traffic signals. The twelve railroad street crossings are shown in Figure 7-1, along with a number of problematic street sections, more difficult by the distance between designated street crossings exceeding one-quarter mile. Several of these difficult crossing points are also intersections with high accident history.

Bicycle Factors

The Oregon Bicycle and Pedestrian Plan contains a great deal of information on the design features desirable for bicycle and pedestrian facilities. Among the key areas are ease of crossings (railroads

[1] LUTRAQ, 1000 Friends of Oregon. Portland, Oregon (1993).

are particularly challenging), continuity of the network and provisions for bicycle parking and storage. Bicycles provide a somewhat greater travel (distance and time) range than walking. In Ashland there is less continuity between the downtown core area and SOU for bicyclists. Bicycle use in Ashland (per capita) is not the highest in Oregon, as is the case for walking. The more extensive networks of bike facilities found in Corvallis and Eugene are probably a significant factor in those cities having higher rates of bicycle use than Ashland.

The Bicycle Corridor Map, illustrated in Figure 7-2, notes the location of bicycle generators including schools, parks, downtown core, other civic functions, and retail shopping and service areas. The main bicycle corridors are also shown in Figure 7-2, along with bicycle amenities and barriers to be addressed. Travel destinations on these corridors are where bicycle parking and storage is most needed. Major amenities are identified at bus stops and shelters as well as traffic signals. The barriers at twelve railroad crossings are also shown.

Multimodal Considerations: Transit Stops

The Bicycle and Pedestrian Corridor Maps overlap to some degree with the transit corridors in Ashland. The activity centers that transit can most effectively serve are also bike and pedestrian traffic generators. Rogue Valley Transportation District (RVTD) selected activity centers in planning their transit trunk route (Main Street and Siskiyou Boulevard), in order to reinforce efforts to retain and rejuvenate existing urban centers; and because pedestrians are a major group of potential transit users. Route #10, from downtown Medford to downtown Ashland, serves as RVTD's current transit trunk route, connecting downtown activity centers for Transit Oriented Development (TOD) in Medford, Phoenix, Talent, and Ashland. The City of Ashland also considers SOU as an additional activity center that already fulfills the TOD function.

7.5 RECOMMENDED PEDESTRIAN AND BICYCLE AMENITIES

RVTD and the City of Ashland will likely continue planning efforts to increase and expand transit services in the Ashland area. In light of these efforts, the focus of the Ashland TSP with respect to pedestrian and bicycle amenities is placed on new, dual-purpose way sides. These amenities will directly serve current and growing travel demand by pedestrians and cyclists. They will also serve as new or future transit stops. Once in place, the new pedestrian and bicycle amenities will efficiently prepare the Ashland street system for an eventual expansion of bus transit service.

Major Transit Stops

The Rouge Valley Transportation District has established a hierarchy of transit stops. The highest level bus stop includes the most pedestrian amenities. The lowest level bus stop is signed and includes at least a bench. All stops would have a minimum standard of a good sidewalk to the stop and posted schedule information. The three main levels of bus stops are described as follows.

Major Bus Stop - The major stops will have the highest level of pedestrian amenities. Figure 7-3 shows how the stops could look. They will be located at nodes near the major pedestrian generators and activity centers and will have dedicated bus pullouts. The pedestrian amenities should include a deluxe shelter, an information kiosk, transit route and schedule signage, benches, shade trees with cast iron tree grates, bike parking and lockers, mail drop boxes, drinking fountains, trash receptacles, flower pots, double ornamental light poles and fixtures, and possibly, art sculptures. They should have enough open plaza area to accommodate street vendors like magazine or flower stands, espresso carts or other push cart businesses. The cost for a new major bus stop is approximately $48,000.

Urban Bus Stop - The urban stops will have a moderate level of amenities and could look similar to the facility illustrated in Figure 7-4. The urban stops will be located near the secondary pedestrian generators and at major intersections of bus routes. These stops should include a dedicated bus pullout, a small shelter, an outside bench, a trash receptacle, an ornamental light pole and fixture, a drinking fountain and ornamental trees with cast iron tree grates. Where the urban stops coincide with a major bicycle node, bicycle parking or lockers should be added. The cost for a new urban bus stop is approximately $42,000.

Neighborhood Bus Stop - Neighborhood stops are the most basic configuration, located frequently along all bus routes. Figure 7-5 illustrates the pedestrian amenities at a neighborhood bus stop. Neighborhood stops should provide paved access to the curb with an identifier sign and a bench. Other amenities, such as trash receptacles and newspaper boxes, could be added where appropriate. The cost for a new neighborhood bus stop is approximately $10,000.

Major, urban, and neighborhood transit stops should be included in street improvement standards for arterials and collectors. As new transit routes service is implemented in Ashland, all buses should be equipped with front-loading bicycle racks to accommodate and expedite intermodal travel.

Most-Effective Extensions of Modal Networks

When and where to extend pedestrian and bicycle amenity facilities is a policy question for the City. Based on PEF factors and maps, it will be most effective to build out from the core area to other activity centers, since it is much less effective to make isolated transportation improvements.
The following priorities assume the continuation of City policy and practice to include bicycle and

pedestrian facilities in all City street construction and reconstruction projects, as well as to require these facilities as new development occurs. They also assume that the City will proceed with all currently planned and programmed projects. Thus, according to these basic assumptions, the following priorities emphasize needs for the next twenty years.

1. Complete the pedestrian network by expanding from downtown and the SOU campus to other activity centers, especially to and from public schools and in places where short links (less than 50 feet) are missing.

2. Provide for secure bicycle parking including bike lockers or indoor bike storage in each activity centers.

3. Proceed with the program of transit stop improvements and associated bicycle and pedestrian amenities in cooperation with RVTD.

4. Provide unobstructed routes for bicycles and pedestrians as part of separate street or pedestrian/bicycle improvement projects.

Figure 7-1

Figure 7-1

Figure 7-2

Figure 7-2

Figure 7-3 Major Transit Stop

Figure 7-4 Urban Bus Stop

Figure 7-5: Neighborhood Bus Stop

Chapter 8

Access Management Plan

Chapter 8

ACCESS MANAGEMENT PLAN

This chapter of the Ashland TSP provides the City with recommendations for access management and neighborhood traffic control policies. These policies will serve to better manage and protect the intended function and capacity of the City's street system.

8.1 RECOMMENDED ACCESS MANAGEMENT POLICY

As the City of Ashland continues to develop, the boulevard/avenue/neighborhood collector street system will become more heavily used and relied upon for a variety of travel needs. As such, it will become increasingly important to manage access on the existing and future boulevard/avenue street system as new development occurs. Experience throughout the United States has shown that a well managed access plan for a street system can: 1) minimize the number of potential conflicts between all users of the street system, and hence provide safer and more efficient traffic operations; and 2) minimize local costs for transportation improvements needed to provide additional capacity and/or access improvements along unmanaged roadways.

One of the objectives of the Ashland Transportation System Plan is to develop an access management plan that maintains and enhances the integrity (capacity, safety, and level-of-service) of the area's highways and arterials. To accomplish this, an access management policy and implementation plan must be developed that will control access to and operation of these roadways. The Ashland Transportation System Plan will serve as the land use and transportation plan; including access management strategies and review policies and procedures, that will guide future development and growth within the City, and complement the overall plan. The plan defines how the highways and arterials will function in, and maintain or improve, the existing system over the next 20 years. The recommended access management plan is consistent with the current Oregon Highway Plan[1] and National Highway System (NHS). A sample ordinance to support the access management policy is provided in Appendix D.

[1] ODOT is currently updating the OHP to include revised highway classification schemes, traffic operation level of service standards, and access management standards. The City of Ashland should work closely with ODOT to revise the Ashland TSP access management standards once the OHP revisions are adopted.

The recommended access management plan for boulevards and highways within Ashland focuses on three specific areas:

1. future land use actions and review policy,
2. traffic impact study requirements,
3. Comprehensive Plan Land Use ordinance modifications.

Each of these specific strategies is discussed in greater detail in the remainder of this section. *It should be noted that existing developments and accesses on the area highways and boulevards will not be affected by the recommended Access Management Plan until either a land use action is proposed, a safety or capacity deficiency is identified that requires specific mitigation, or a major construction project is begun on the roadway.*

Future Land Use Actions and Review Policy

Future land use actions (zone changes, comprehensive plan amendments, redevelopment, and/or new development) will be required to meet the 1991 Oregon Highway Plan Level of Importance (LOI) and Access Management policies and standards. Within urban or urbanizing areas, a new development will need to maintain a 300-foot (*Category 5 highways and 3-lane arterials*)[1] spacing (centerline-to-centerline) between any existing private or public access points on both sides of the roadway and to either side of the proposed access point. Proposed land use actions that do not comply with the designated access spacing policy, will be required to apply for an access variance from the City of Ashland and/or ODOT. In addition, according to the 1991 OHP, the impact in traffic generation from proposed land uses must allow a LOS “D” to be maintained for *Category 5* segments within the development's influence area along the highway. The influence area is defined as the area in which the average daily traffic is increased by 10 percent or more by a single development, or 500 feet in each direction from the property-line of the development (whichever is greater). Suggested construction standards for access on all roadways within the City of Ashland roadway system are listed in Table 5-3.

Access variances may be provided to parcels whose frontage, topography, or location would otherwise preclude issuance of a conforming access point. Access variances will include a condition that requires the land owner to work in cooperation with adjacent land owners to provide either joint access points, front and rear crossover easements, or a rear-access upon future redevelopment. An approved access variance will provide the parcel with a *conditional access permit*. The conditional access permit will remain valid until a neighboring (adjacent or across the roadway) piece of property

[1] The City of Ashland currently includes Category 5 segments, but no Category 4 segments. Refer to Table 3-6 Access Management Category Designation City of Ashland Highways.

goes through a land use action or alternative access is provided. ODOT and/or the City of Ashland will then have the right to either relocate the conditional access driveway to align with an opposing driveway, eliminate the access and provide crossover access, or consolidate the access with an adjacent parcel. Using this process, all driveways and roadways along the highway/arterial will eventually comply with the access spacing policy set for that particular segment of roadway as development and redevelopment occurs in the study area. Figure 8-1 is an illustration of how the conditional access policy and process would bring existing and future accesses into access spacing compliance over time. Table 8-1 shows the sequence of land use actions and condition process by which the City of Ashland and ODOT can meet the access management guidelines set forth by the 1991 Oregon Highway Plan.

Not every parcel can or should be accessed through the process described in Figure 8-1 and Table 8-1. The topography of the parcel, type of proposed use or adjoining use, and/or frontage may preclude a development from using consolidated or crossover access points (i.e., consolidating access for a fast-food restaurant and a concrete pre-mix facility would be inappropriate).

Figure 8-1
ACCESS MANAGEMENT EXAMPLE

Table 8-1
ACCESS MANAGEMENT EXAMPLE

Step	Process
1	*EXISTING* - Currently Lots A,, B,, C,, and D have site-access driveways that neither meet the access spacing criteria of 500 feet nor align with driveways or access points on the opposite side of the roadway. *Under these conditions motorists are put into situations of potential conflict (conflicting left turns) with opposing traffic. Additionally,, the number of side-street (or site-access driveway) intersections decreases the operation and safety of the highway/arterial.*
2	*REDEVELOPMENT OF LOT B* - At the time that Lot B redevelops,, the local jurisdiction would review the proposed site plan and make recommendations to ensure that the site could promote future crossover or consolidated access. Next,, the local jurisdiction would issue conditional permits for the development to provide crossover easements with Lots A and C,, and the City of Ashland and/or ODOT would grant a conditional access permit to the lot. *After evaluating the land use action,, the participating jurisdiction would determine that Lot B does not have either alternative access,, nor can an access point be aligned with an opposing access point,, nor can the available lot frontage provide an access point that meets the access spacing criteria set forth for this segment of roadway.*
3	*REDEVELOPMENT OF LOT A* - At the time Lot A redevelops,, the City of Ashland and ODOT would undertake the same review process as with the redevelopment of Lot B (see Step 2); however,, under this scenario ODOT and the City of Ashland would use the previously obtained cross-over easement at LOT B to consolidate the access points of Lots A and B. ODOT and/or the City would then relocate the conditional access of Lot B to align with the opposing access point and provide safe and efficient access to both Lots A and B. *The consolidation of site-access driveways for Lots A and B will not only reduce the number of driveways accessing the roadway,, but will also eliminate the conflicting left-turn movements on the highway/arterial by the alignment with the opposing access point.*
4	*REDEVELOPMENT OF LOT D* - The redevelopment of Lot D will be handled in the same manner as the redevelopment of Lot B (see Step 2).
5	*REDEVELOPMENT OF LOT C* - The redevelopment of Lot C will be reviewed once again to ensure that the site will accommodate cross-over and/or consolidated access. Using the crossover agreements with Lots B and D,, Lot C would share a consolidated access point with Lot D and will also have alternative frontage access via the shared site-access driveway of Lots A and B. *By using the crossover agreement and conditional access permit process,, the City of Ashland and ODOT will be able to eliminate another access point and provide the alignment with the opposing access points.*
6	*COMPLETE* - After Lots A,, B,, C,, and D redevelop over time,, the number of access points will be reduced and aligned,, and the remaining access points will meet the appropriate access management standard.

Review Policy and Procedure

To provide an efficient process for implementing the recommended access management plan, a detailed review procedure is recommended, as described below.

All land use actions that either propose direct or indirect access to a State highway or a boulevard will need to provide the appropriate governing jurisdiction (*City of Ashland)* with the information outlined below. The governing jurisdiction will then inform ODOT of the intended land use action and provide pertinent review material. These guidelines are intended to ensure that developments do not negatively impact the operation and/or safety of the roadway.

A) Applicants must submit a preliminary site plan for review to the appropriate jurisdiction (*City of Ashland*), prior to receiving an access or zoning permit. At a minimum, the site plan shall illustrate:

1) The location of existing access point(s) on both sides of the road within 500 feet in each direction for *Category 4* segments or *5-lane boulevards,* and 300 feet for *Category 5* segments and *3-lane arterials;*
2) Distances to neighboring constructed public access points, median openings, traffic signals, intersections, and other transportation features on both sides of the property (*this should include the section of roadway between the nearest upstream and downstream collector*);
3) Number and direction of site-access driveway lanes to be constructed, as well as an internal signing and striping plan;
4) All planned transportation features on the State highway/boulevard (such as auxiliary lanes, signals, etc.);
5) Trip generation data or appropriate traffic studies (See the following section for the state's traffic impact study requirement thresholds.);
6) Parking and internal circulation plan;
7) Plat map showing property lines, right-of-way, and ownership of abutting properties;
8) A detailed description and justification of any requested access variances;

B) Proposed land use actions, new developments, and/or redevelopment accessing a State highway/boulevard, directly or indirectly (via collector or local streets), will need to provide traffic impact studies to the respective local reviewing jurisdiction(s) and ODOT, if the proposed land use meets one or more of the following traffic impact study thresholds. *A traffic impact study will not be required of a development that does not exceed the stated thresholds.*

- Trip Generation Threshold - 50 newly generated vehicle trips (inbound and outbound) during the adjacent street peak hour;

- Mitigation Threshold - installation of any traffic control device and/or construction of any geometric improvements that will affect the progression or operation of traffic traveling on, entering, or exiting the highway;
- Heavy Vehicle Trip Generation Threshold - 20 newly generated heavy vehicle trips (inbound and outbound) during the day;

All traffic impact studies will need to be prepared by a registered professional engineer in accordance with ODOT's development review guidelines, described in the following section.

Jurisdiction Review Items

To provide a thorough land use application review, it is recommended that each jurisdiction use the following criteria in reviewing an application.

A) Subdivision and site plan review shall address the following access considerations:
   1) Is the road system designed to meet the projected traffic demand at full build-out and are the functional roadway classification standard consistent with the proposed use?
   2) Is access properly placed in relation to sight distance (i.e., does the driveway location meet both intersection and stopping sight distance requirements), driveway spacing, and other related considerations, including opportunities for joint or crossover access? Are entry roads clearly visible from the adjacent highway/arterial?
   3) Is the frontage for dwelling units on interior residential access streets rather than major roadways?
   4) Is traffic movement within the site provided without having to use the peripheral road network?
   5) Does the road system provide adequate access to buildings for residents, visitors, deliveries, emergency vehicles, and garbage collection?
   6) Does the pedestrian path system link buildings with parking areas, entrances to the development, open space, and recreational and other community facilities (i.e., address the requirements of the Transportation Planning Rule)?
   7) Does the site plan provide for potential future crossover or consolidated access, and/or alternative access?

Standards for Reviewing Access Variances

Access variances will be reviewed by the City of Ashland and/or ODOT for proposed driveways that do not meet the recommended access spacing criteria. Variances may be allowed under the following conditions:

A) The parcel's highway frontage, topography, or location would otherwise preclude issuance of a conforming access point.

B) Alternative access (crossover easement, shared, side-street, and/or rear access) is not available to a parcel.

An approved access variance will provide the parcel with a *conditional access permit*. The conditional access permit will remain valid until a neighboring (adjacent or across the highway/arterial) piece of property goes through land use action or alternative access is provided. ODOT and/or the City will then have the right to either relocate the conditional access driveway to align with an opposing driveway, eliminate the access and provide crossover access, or consolidate the access with an adjacent parcel.

Recommended Conditions of Approval and Necessary Improvements to Evaluate

As part of every land use action, the City of Ashland and ODOT will be required to evaluate the potential need of conditioning a development with the following items in order to maintain the existing operation and safety of existing facilities and provide the necessary right-of-way and improvements to develop the future planned transportation system.

A) *Crossover easement agreements* will be required on all compatible parcels (topography, access, and land use) to facilitate future access between adjoining parcels.

B) *Conditional access permits* will be issued on new developments which have proposed access points that do not meet the designated access spacing policy and/or have the ability to align with opposing access driveways.

C) *Right-of-way dedications* will be required to facilitate the future planned roadway system in the vicinity of the proposed development

D) *Half-street improvements* (sidewalks, curb and gutter, bike lanes/paths, and/or travel lanes) should be provided along site frontages which do not have full build-out improvements in place at the time of development.

Traffic Impact Study Requirements

The following is a summary of the Oregon State Highway minimum requirements for a traffic report. ODOT views the following requirements as the minimum considerations to be dealt with by Professional Traffic Engineering Consultants in their analysis of traffic impacts resulting from new developments adjacent to State highways.

A) The analysis shall include alternates other than what the developer originally submits as a proposal for access to state highways, city streets, and county roads.

B) The analysis of alternate access proposals shall include:
1) Existing daily and appropriate design peak hour counts by traffic movements, at intersections which would be affected by traffic generated by the development (use traffic flow diagrams).
2) Projected daily and appropriate design peak hour volumes for these same intersections, and at the proposed access points after completion of the development. If the development is to be constructed in phases, projected traffic volumes at the completion of each phase should be determined.
3) Trip Generation shall be calculated using the Institute of Transportation Engineers' manual "TRIP GENERATION - 5th Edition" or other, more current, and/or applicable information.
4) A determination of the need for a traffic signal based on warrants in the "Manual on Uniform Traffic Control Devices."

C) The recommendations made in the report should be specific and shall be based on a minimum level of service "D" when the development is in full service. As an example, if a traffic signal is recommended, the recommendations should include the type of traffic signal control and what movements should be signalized. If a storage lane for right turns or left turns is needed, the recommendations should include the amount of storage needed. If several intersections are involved for signalization, and an interconnect system is considered, specific analysis should be made concerning progression of traffic between intersections.

D) The internal circulation of parking lots must be analyzed to the extent that it can be determined whether the points of access will operate properly.

E) The report shall include an analysis of the impacts to neighboring driveway access points and adjacent streets affected by the proposed new development driveways.

F) The report should include a discussion of bike and pedestrian usage and the availability of mass transit to serve the development.

8.2 NEIGHBORHOOD TRAFFIC CONTROL

If local traffic conditions arise that conflict with adopted roadway design and policies, the City should review ongoing research regarding roadway design and adopt new or improved design features when available, and if applicable to local Ashland standards. Furthermore, there are provisions which could be added to the Ashland development code to provide the desired flexibility. For example, the City of Portland[1] has established and adopted traffic control measures to identify and deal with problems related to safety, travel speed and travel volume on local streets. These measures are generally policy-oriented, but they allow the City to test and implement traffic control devices to achieve stated goals and policies (i.e., routing through-traffic from local streets onto arterials) through such measures as speed "humps" and turning circles.

Furthermore, research and implementation of traffic calming devices used to control traffic on local streets have shown some success outside the United States[2]. As a minimum source of reference, there are four important references that should be used to assist in road design. These include:

Roadside Design Guide by the American Association of State Highway Transportation Officials (AASHTO).

A Policy on Geometric Design of Highways and Streets by AASHTO.

Residential Streets - Second Edition by the American Society of Civil Engineers, National Association of Home Builders and the Urban Land Institute.

Residential Street Design and Traffic Control by the Institute of Transportation Engineers.

Structural Traffic Control

Structural traffic control measures alter the physical street and driving environment to encourage or require a desired driving action. This can involve altering where people go, how they get there, or at what speed. Many of the techniques listed below are known as traffic calming devices. These efforts can be used to reduce speeds to those posted or below, as desired.

1 Neighborhood Traffic Management, City of Portland, Oregon 1988.

2 Local Area Traffic Management - Guide to Traffic Engineering Practice, National Association of Australian State Road Authorities, Sydney 1988.

1) Speed Humps

Speed humps may become a valuable traffic control device in the public right-of-way. They have been studied for many years and have shown positive results. A speed hump differs from a speed bump by its size. A **speed hump** is 12 to 14 feet long and three to four inches high, while a **speed bump** may be only two to three feet long and three to four inches high. A properly designed speed hump will not cause a speeding vehicle to loose control, while a speed bump causes a sudden, potentially dangerous jar to the vehicle. Properly designed speed humps have mild effects that tend to slow drivers down without losing control when crossing a hump. Raised crosswalks or intersections can be designed to have similar effects.

The use of speed humps, however, is evolving. The City of Portland is currently testing a 12 foot long by three inch high speed hump on several neighborhood streets and plans to use them as a standard speed control device if found to be effective.

Speed humps are much cheaper than traffic circles and may prove to be as effective. Guidelines should be established for the testing and evaluation of speed humps on local neighborhood streets where speed appears to be a problem. If speed humps prove beneficial and economical, Ashland should broaden their use in such neighborhoods. A consensus within the affected neighborhood should be reached before using this traffic control device.

2) Traffic Circles

Traffic circles reduce vehicle speeds and slow down fast moving vehicles on local residential streets. Traffic circles do not divert local traffic and do not restrict access to adjacent streets or land uses. They are usually installed in a series of two or more adjacent intersections to create a reduced-speed corridor. Traffic circles are commonly used in European countries, particularly in Great Britain, instead of four way stop signs or traffic signals.[1] Traffic circles are also used locally in Portland and Seattle. Traffic circles reduce speed, while maintaining a high level of service and capacity.

A traffic circle may cost as much as $10,000 to construct. Development of a plan for the use of traffic circles in a particular neighborhood (public meetings, testing, traffic engineering evaluation of testing and final design) may also cost as much as $10,000. Traffic circles generally have landscaped interiors, requiring ongoing irrigation and maintenance.

---

[1] Brilon, W. (editor), Intersections Without Traffic Signals II, Springer Verlag, 1988

Because of traffic circle expense, speed humps should be evaluated before uniform standards for traffic circles are developed. Specific attention should be given to warrants and to provisions when testing and evaluating alternatives to develop standards. A consensus within the affected neighborhood should be reached before using this traffic control device.

3) Diverters, Forced-Turn Channelization and Cul-de-sacs

Diagonal diverters involve the installation of a diagonal barrier in the intersection. This forces vehicles to make a 90-degree turn. These devices permit better circulation than cul-de-sacs and can be designed to allow the passage of emergency vehicles. Certain maintenance aspects, such as manhole cover access, should be considered when applying this type of device.

Semi-diverters limit access to a street by blocking one direction of travel at an intersection. Semi-diverters reduce traffic volumes and retain easy access for emergency vehicles. However, because half of the street is still open to traffic, the violation rate can be high.

Forced-turn channelization generally involves the installation of traffic islands to prohibit certain movements. For example, to force right turns at an intersection, an island could be installed to make left or through movement difficult. This installation can increase safety at an intersection by discouraging unsafe movements.

Cul-de-sacs involve closure of a street, either midblock or adjacent to an intersection. Their purpose is to fully block access to the adjacent street. Cul-de-sacs can have the largest negative impact on emergency vehicle access time. Use of cul-de-sacs reduces the permeability of the street network and forces drivers to use a limited number routes to reach their destinations. In effect, the traffic removed from a cul-de-sac is forced on to other streets, potentially causing traffic problems in these locations.

All of these traffic control devices force changes in the flow of traffic and create obstacles for emergency service vehicles. They should be considered only where a significant traffic problem could be greatly reduced or eliminated and adequate access for emergency service can be maintained. They should be considered on a case-by-case basis and used only with a consensus of the affected residents.

4) Chokers

Chokers, also called curb extensions, narrow the street by widening the sidewalk area or landscaping to provide safer pedestrian crossings. Additionally, the narrowed street reminds drivers that they are not on a major thoroughfare.

Chokers may effectively reduce speeds on local streets in neighborhoods or commercial areas, while increasing pedestrian safety. Ashland should experiment with chokers in the public right-of-way. Guidelines should be established for the testing and evaluation of chokers on local neighborhood streets.

Summary

Many methods can play a role in structural traffic control. Narrowing streets or making them feel narrower with placement of parking or planting of trees along the sides or in median strips can slow traffic. Building discontinuity into a grid with T-intersections or chicanes is also effective. Below is a summary of proposed actions regarding structural traffic control.

- Standards for uniform application of traffic control devices are important.
- Standards for Traffic Signals, Stop Signs and Yield Signs are contained in the MUTCD and should be adhered to.
- Standards for the application of **stop sign plans** should be developed for Ashland.
- Standards should be developed for the uniform application of Intersection Control Flashing Beacons and Crosswalks in Ashland.
- Speed zones are established by the State Traffic Engineer and should be reevaluated as conditions change.
- Speed humps and similar design techniques should be tested and evaluated in Ashland.
- Traffic circles are effective at reducing speed and are expensive. Their use should be considered after speed humps have been evaluated, because speed humps are potentially more economical.
- Diverters, force-turn channelization and cul-de-sacs should be considered only where a significant problem could be greatly reduced or eliminated by their use and adequate access for emergency services can be maintained.
- Chokers should be tested and evaluated in Ashland.
- A consensus within an affected neighborhood should be reached before implementing stop sign plans, or installing traffic circles, speed humps, diverters, forced-turn channelization, cul-de-sacs, and chokers.

Chapter 9

Needed Transportation System Improvements

Chapter 9

NEEDED TRANSPORTATION IMPROVEMENTS

Transportation system improvements in the Ashland TSP have been identified to best meet the City's existing and future transportation needs. In keeping with the City's wish to support the increased use of nonmotorized traffic, the majority of TSP projects serve multi-modal needs. This chapter summarizes the needed transportation improvements within the Ashland urban area by mode. A general description of the *type*, and estimate of *cost and timing* is provided for each modal improvement. These estimates are used in Chapters 10 and 11 to evaluate project costs and priorities.

The estimated timing of needed transportation improvements was based on a general but stratified approach. Those transportation projects already listed in the States's STIP and City's CIP were defined as needed improvements within 1-5 years of the TSP, as were other street and pedestrian/bicycle projects that addressed existing capacity and safety problems. Those pedestrian and bicycle projects that provide critical neighborhood-to-school linkages were also identified as needed improvements within 1-5 years of the TSP.

Boulevard and avenue street and traffic signal improvements that improve future capacity problems (and also add needed sidewalks and bicycle facilities) were identified as needed improvements within 6-10 years of the TSP. Various pedestrian and bicycle improvements located along existing and planned transit routes were also identified as needed improvements within 6-10 years of the TSP.

With few exceptions, the upgrading of Ashland's substandard boulevards and avenues, and those streets which would likely serve developing areas, were generally defined as system improvements needed in the latter ten years of the TSP. The future expansion of fixed-route bus service in Ashland was assumed within the 11-20 year TSP time frame. The remaining pedestrian and bicycle improvements that comprise the final segments to the overall network were identified as needs in the final 10 years of the TSP.

9.1 STREET IMPROVEMENTS

Street improvements address a number of **capacity** or **safety** needs or **upgrade** existing streets. Generally, **capacity** projects have been identified wherever the capacity on existing streets is inadequate to meet the projected future demand. For example, to accommodate future vehicle traffic demand, North Main Street would need to be widened north of Helman Street to five travel lanes and would include new bicycle lanes and replacement sidewalks. The widening would require extensive right-of-way acquisition and would severely impact neighboring businesses and residents. As an alternative mitigation measure, the TSP recommends a combination of other modal improvements including new bus route service and a parallel bicycle path project in the North Main Street corridor. Combined, these measures counteract the need to widen North Main Street.

Safety analysis for the City of Ashland street system was discussed in Chapter 4. On State highways, most accidents occur near intersections, although only a few intersections appear to have unreasonably high accident rates. Certain projects, involving intersection and traffic control (signal) improvements, have been identified to address multi-modal **safety** in Ashland.

The majority of avenue and boulevard projects in the TSP involve the **upgrade** of existing streets to urban standards. Substandard streets are generally improved by the addition of sidewalks, curbs, gutters, and storm drains. Although the streets planned for upgrade do not currently exhibit high accident rates, upgrading does improve roadway safety by giving pedestrians and vehicles separate travel space. Similarly, some street upgrade projects also provide for improved bicycle lanes.

The following section describes the roadway system needs that are illustrated in Figure 9-1. Planning-level projected cost estimates and the estimated time frames within the 20-year planning period are also described.

North Main Street (Rogue Valley Highway to Fox Street) - This upgrade calls for the installation of curbs, gutters, and sidewalks along a 0.1 mile segment, benefiting motorized and pedestrian traffic. The project is needed in the latter ten years of the plan, and will cost an estimated $150,000**.**

Ashland Mine Road (City Limits to 0.5 miles west) - The upgrade of Ashland Mine Road includes the installation of curbs, gutters, and sidewalks. This street upgrade will provide needed safety improvements, and is needed in the latter ten year period of the TSP. The estimated cost of the upgrade is $700,000**.**

Glenn Street, North Laurel Street, Oak Street and Helman Street (Railroad Crossings) - Each of these at-grade railroad crossings lack adequate control devices. These four safety projects entail roadway crossing reconstruction and the installation of crossing gates. Each of these projects are needed in the second five years of the TSP. The estimated total cost of these four projects is $1,000,000.

Beach Street (Siskiyou Boulevard Approach) - Because Beach Street functions as a main access to Siskiyou Boulevard from the SOU campus area and Lincoln Grade School, the Siskiyou Boulevard approach will be upgraded for better traffic operations and safety. The upgrade is needed in the second five years of the TSP at an estimated cost of $92,000.

Figure 9-1

figure 9-1

Siskiyou Boulevard (Fourth Street to Crowson Road) - Identified in the 1996-1998 STIP, this project will first widen a 1.3 mile segment of Siskiyou Boulevard from Fourth Street to Walker Avenue to include bicycle lanes. The majority of bicyclists on this roadway segment currently ride on the sidewalk. Therefore, the project improves bicycle capacity, as well as bicycle and pedestrian safety, and is needed in the first five years of the plan. On the 1.6 mile segment between Walker Avenue and Mistletoe Road and between Mistletoe Road and Crowson Road, Siskiyou Boulevard will be upgraded to include bicycle lanes and sidewalks. The former section includes roadway surface reconstruction. The latter section includes only curb, gutter and sidewalk improvements and is needed in the latter ten years of the TSP. Estimated costs are as follows:

- $376,000 for the redesign of the segment between Fourth Street and Walker Road;
- $884,000 for construction of the segment between Fourth Street and Walker Road;
- $4,284,000 for construction of the segment between Walker Road and Mistletoe Road; and
- $960,000 for construction of the segment between Mistletoe Road and Crowson Road.

East Nevada Street (just west of Bear Creek to North Mountain Avenue) - The extension of East Nevada Street provides needed capacity improvement in North Ashland. The project involves construction of a new 0.3 mile paved roadway which links the existing terminus of East Nevada Street with North Mountain Avenue, providing an additional route for local, multi-modal east-west travel. The new street, which will require construction of a bridge over Bear Creek, will contain bicycle lanes and sidewalks. At an estimated cost of $1,198,000, this project is needed within the first five years of the TSP.

East Hersey Street (***Ann Street to North Mountain Avenue***) - The addition of bicycle lanes on this 0.1 mile segment will complete the bicycle lane network along East and West Hersey Street. The upgraded section will also include new sidewalks. The project is estimated to cost $322,000, and will be needed in the second five years period of the TSP.

Fourth Street Extension (East Hersey Street to A Street) - The extension of Fourth Street, (0.2 miles) across the railroad tracks north of A Street provides a safe north-south route to and from the downtown area for both automobiles and pedestrians. This capacity improvement will relieve some traffic now using Oak Street and North Mountain Avenue and, with its new sidewalks, will provide pedestrians a more direct route from East Hersey Street. The project is needed in the second five years of the TSP at an estimated cost of $756,000.

North Mountain Avenue (Village Green Drive to East Nevada Street) - Comprised of three individual projects, the entire 0.8 mile segment of road will be improved to include bicycle lanes, thereby providing sufficient bicycle accessibility and capacity. The project also includes new sidewalks and is needed in the first five years of the TSP. Estimated costs for the project are as follows:

- $460,000 for the segment between Village Green Drive and East Hersey Street;
- $993,000 for the segment between East Hersey Street and Nepenthe Road; and
- $782,000 for the segment between Nepenthe Road and East Nevada Street.

Tolman Creek Road (Greenmeadows Way to East Main Street) - Tolman Creek Road will be upgraded to urban standards between Greenmeadows Way and Siskiyou Boulevard (0.5 miles). Between Siskiyou Boulevard and East Main Street, Tolman Creek Road serves as a north-south artery connecting all three boulevards in eastern Ashland. This roadway will require adequate pedestrian, bicycle, and travel lanes to meet projected long-term vehicle, bicycle, and pedestrian demand. Improvements between Greenmeadows Way and Siskiyou Boulevard will occur in the latter ten years of the TSP, while capacity improvements between Siskiyou Boulevard and East Main Street are needed in the latter 10-year period of the TSP. Estimated costs for the project are as follows:

- $1,053,000 for the segment between Greenmeadows Way and Siskiyou Boulevard; and
- $2,308,000 for the segment between Siskiyou Boulevard and East Main Street.

East Main Street (City Limit to Ashland Street) - Capacity constraints on the existing 0.2 miles of East Main Street between the City Limit and the Normal Avenue Extension have created the need for a capacity improvement. East Main Street between the Normal Avenue Extension and Ashland Street requires a 1.5 mile upgrade to meet boulevard design standards. In addition, the intersection of Tolman Creek Road and East Main Street will be realigned so that Tolman Creek Road and East Main Street to the west form a continuous roadway, with East Main Street to the east teeing into the intersection. Throughout all project areas, the widened East Main Street will include bicycle lanes and new sidewalks, thereby serving multiple travel modes. The capacity improvement between the City Limit and the Normal Avenue Extension, the Tolman Creek Road realignment, and the upgrades will be needed during years 11 to 20. Estimated costs are as follows:

- $544,000 for the City Limit to Normal Avenue Extension segment;
- $6,383,000 for the segment from the Normal Avenue Extension to Ashland Street; including a bridge over a Bear Creek tributary; and
- $272,000 for the realignment at Tolman Creek Road.

Crowson Road (Siskiyou Boulevard to Green Springs Highway) - Crowson Road is currently substandard and serves a mix of vehicle, bicycle and pedestrian traffic moving between Green Springs Highway and Siskiyou Boulevard. Over its 0.7 mile length, the Crowson Road upgrade will be needed in the TSP's latter 10 years to better meet urban needs. The estimated cost of the Crowson Road upgrade is $1,970,000.

Normal Avenue Extension (Normal Avenue to East Main Street) - The existing Normal Avenue extends north from Ashland Street and ends at the UPRR. Constructing the Normal Avenue extension will provide needed circulation and capacity for vehicle, bicycle and pedestrian traffic between Ashland Street and East Main Street. This capacity improvement is needed in years 6-10, and will cost an estimated $1,262,000.

Ashland Street (Siskiyou Boulevard to East Main Street) - Ashland Street between Siskiyou Boulevard and the Interstate 5 overcrossing will need to be upgraded within the next 20 years, the specifics of which will be determined through a design study that will be conducted within the first five years of the TSP. At this time, it is assumed that the 0.7 miles of Ashland Street between Siskiyou Boulevard and the west end of the UPRR overpass will be upgraded to boulevard design standards and will include a new signal at Normal Avenue, while the UPRR overpass and Ashland Street east to the Interstate 5 overcrossing (0.5 miles) will be upgraded to a boulevard facility without landscape medians. Both projects will be needed within the first 10-year period of the TSP. The Ashland Street overcrossing of Interstate 5 is currently substandard for vehicle, bicycle and pedestrian travel. The absence of a center turn lane for vehicle movement, particularly heavy vehicles, may result in deteriorating safety conditions. Furthermore, the projected travel demand exceeds the existing capacity of the overcrossing. Widening the overcrossing will provide drivers with a left turn lane to the Interstate 5 on-ramps, thereby increasing carrying capacity and reducing the number of vehicles stopped in through-travel lanes. The overcrossing should be improved within 6 to 10 years. East of the overcrossing, an additional 0.2 miles of Ashland Street should be widened to provide separate bicycle lanes and new sidewalks. This segment will also be realigned to meet East Main Street at less of an angle, making it easier and safer for drivers to turn north from Ashland Street. The estimated costs are as follows:

- $1,831,000 for the segment between Siskiyou Boulevard and the UPRR Overpass;
- $1,492,000 for the segment between the UPRR Overpass the Interstate 5 overcrossing;
- $5,000,000 for the Interstate 5 overcrossing; and
- $544,000 for the segment between Interstate 5 and East Main Street.

Green Springs Highway (Ashland Street to Crowson Road) - This 0.7 mile section of Green Springs Highway is currently substandard and should be upgraded in the latter ten years of the TSP to urban standards. The project will result in better link circulation for local and regional traffic to Ashland Street and East Main Street, including bicycles and pedestrians. The section north of Dead Indian Memorial Road requires street surface reconstruction, while the southern section does not. All sections will be provided with new curbs, gutters and sidewalks. The total project is expected to cost $2,045,000.

Clay Street (Siskiyou Boulevard to East Main Street) - Like other north-south routes spaced evenly throughout eastern Ashland, Clay Street serves local traffic moving between Siskiyou Boulevard, Ashland Street and East Main Street. The 1.2 mile upgrade of Clay Street will improve travel conditions to the avenue level of function for vehicles, bicycles and pedestrians. The project, should be completed within ten years, and will cost an estimated $2,806,000.

Mistletoe Road (Siskiyou Boulevard to Tolman Creek Road) - Misteltoe Road currently supports a limited amount of development. As more development occurs, however, the street should be upgraded to urban standards (estimated in the latter ten years of the TSP). The estimated total cost of the project is $1,656,000.

Dead Indian Memorial Road (Green Springs Highway Approach) - Dead Indian Memorial Road provides access to Ashland's airport, but the approach to Green Springs Highway is currently substandard. During years 11 to 20, this approach should be upgraded to provide better bicycle and pedestrian accessibility through the intersection. The project is expected to cost $92,000.

9.2 SIGNAL IMPROVEMENTS

The installation or replacement of traffic signals normally improves traffic operation at an intersection, particularly at locations with significant entering traffic on all approaches. Traffic signals can also increase the overall carrying capacity of an intersection by allowing side street traffic to move through at regular intervals. In a coordinated system, multiple traffic signals work together to move vehicles along a street in groups, so that regular gaps in the traffic flow provide side-street accessibility. In addition, traffic signals can improve intersection safety by reducing many factors that contribute to accidents. Signals installed at regular distance intervals also create a regulated driving environment along a street, so that drivers may be more attentive to the starting and stopping movements of vehicles around them.

Every signal improvement, described below and in Figure 9-1, improves traffic operations and safety, and provides needed capacity improvements. It is assumed that new signals will be installed when warranted and will be coordinated and timed to provide maximum benefit to the overall transportation system.

East Main Street/Helman Street, East Main Street/Pioneer Street and East Main Street/Second Street, *Lithia Way/Pioneer Street, Lithia Way/Second Street* - Each of these signals will be replaced (per the 1998-2001 STIP) within the next five years. The total cost of these replacements is estimated at $550,000.

North Main Street/West Hersey Avenue - North Main Street currently has signals at Maple Street and Helman Street. The addition of a signal at West Hersey Street would better control traffic flow between those routes as well as support the avenue function of West Hersey Street, which has been identified as a link in Ashland's pedestrian and bicycle corridors, explained in *Pedestrian Improvements* and *Bicycle Improvements*, below. A new signal would also create regular gaps in traffic for vehicles on North Main Street making left turns, potentially reducing the risk of rear-end and sideswipe accidents. Signal warrants and installation is expected within six to ten years. The signal installation is expected to cost $175,000.

Oak Street/Hersey Street - Identified by the City of Ashland as a high-accident rate location, safety at this intersection would improve with the installation of a new traffic signal within five years. The signal will also increase the vehicle capacity through the intersection by controlling vehicle flow. The estimated cost of the signal installation is $175,000.

Siskiyou Boulevard/Normal Avenue - When the Normal Avenue Extension is built, Normal Avenue will see a significant increase in traffic moving between East Main Street, Ashland Street and Siskiyou Boulevard. Traffic along Normal Avenue, which will serve a portion of the vehicles, bicycles and pedestrians that would otherwise use Walker Avenue or Clay Street, will benefit from a new signal at Siskiyou Boulevard. Signal installation will occur at the time of the construction of the Normal Avenue Extension and will cost an estimated $175,000.

Siskiyou Boulevard/Tolman Creek Road - In order to meet the needs of future traffic demand, replacement of the existing yellow blinking signal with a new signal at this intersection will improve operation and increase capacity. The project will likely be needed within six to ten years and will cost an estimated $175,000.

Ashland Street/Interstate 5 - Northbound and Southbound Ramps - Signals at these two locations should be installed in conjunction with the Interstate 5 overcrossing project to improve both operation and safety for vehicles, bicycles and pedestrians. The street project calls for widening the overcrossing to provide drivers with a left turn lane to the Interstate 5 on-ramps. Because the overcrossing will experience a significant level of use and a higher percentage of truck traffic than on typical City streets, signals will be necessary to maintain an acceptable flow of vehicles onto and off of the ramps, while allowing through traffic adequate movement. The added left-turn lanes will provide safer travel conditions for all modes of travel through the interchange area. As with the street improvement project, signals should be installed within six to ten years. The installation is expected to cost $350,000.

9.3 PEDESTRIAN IMPROVEMENTS

Ashland currently has a network of sidewalks and paths that serve pedestrians in the City. This network is not continuous, however, particularly outside of the downtown core. Therefore, a systematic approach has been used to identify the routes most used by pedestrians, that provide system-wide access, circulation and continuity, and hence, are most in need of sidewalks or other facilities. In order to identify these routes (as described previously in Chapter 7), the pedestrian generators, destinations or origins likely to promote pedestrian use were first identified. Figure 9-2 illustrates the major pedestrian corridors and trip generators. Generators include schools (elementary, secondary, SOU), parks, civic attractions and services (e.e., libraries, museums), the downtown core and retail, shopping and service areas.

Bus stops and shelters also generate pedestrian use. In addition to the majority of avenues and boulevards within City limits, routes connecting generators to each other and providing access from nearby residential areas were classified as pedestrian corridors. Certain avenues were removed from the corridor classification because other facilities served the same foot traffic or because the avenue was not in an area where many people walked. For example, Granite Street was not identified as a corridor because pedestrians could use an existing parallel path through Lithia Park. Ashland Mine Road within the City limits was not identified as a corridor because it did not serve a large population and sees relatively low vehicle traffic. The project did not enhance system circulation, connectivity or access.

Pedestrian projects have been identified wherever adequate sidewalks do not exist on both sides of the street in a pedestrian corridor. Projects associated with street improvements will be constructed in conjunction with their associated street projects. The remaining pedestrian projects will be constructed in the order that best meets Ashland's needs. Sidewalks serving grade schools, middle schools and high schools will be constructed first (years 1-5), to better protect students. As routes of high pedestrian use, sidewalks along existing and future transit routes will be installed next (years 6-10), followed by all remaining projects (years 11-20).

figure 9-2

figure 9-2

In addition to routes identified as pedestrian corridors, some street projects call for the installation of sidewalks on streets that are not as critical to pedestrian movement, but that will enhance pedestrian safety and create a friendlier pedestrian environment. These sidewalks will be constructed in conjunction with the overall street project.

A discussion of sidewalk improvements by geographic district (as illustrated in Figure 9-3) is given below. Figure 9-4 summarizes the Ashland Pedestrian Plan.

Southwest District

The pedestrian corridors in this region link neighborhoods to North Main Street, Briscoe Grade School, Ashland Community Hospital, and Winburn Way/Lithia Park**.** A total of 0.6 miles of sidewalk will be added along Ashland Mine Road and part of North Main Street as part of previously identified street projects. Pedestrian facilities that are independent of other projects, including sidewalks on portions of Maple Street, North Main Street, Chestnut Street, Wimer Street, Scenic Drive, Grandview Drive, High Street, and Nutley Street as well as a foot bridge on High Street between Granite Street and Winburn Way, constitute an additional 4.3 miles of pedestrian facilities. The cost of these independent projects is estimated to be $450,000.

Northwest District

Pedestrians in the northwest district most need north-south routes to move between neighborhoods and Helman Grade School in the northern portion and retail/services and the downtown core in the southern portion. The sidewalk network should also provide connections to other districts. There are no street projects recommended in this area on the pedestrian corridor, save for the rail crossing improvements on Glenn Street, North Laurel Street, and Helman Street.

Therefore, the 5.5 miles of necessary sidewalk on segments of North Laurel Street, Helman Street, Oak Street, West/East Nevada Street, Otis Street, Randy Street, West/East Hersey Street, B Street and Van Ness Avenue must be funded separately at an estimated $686,000.

South Central District

The corridor in this region serves an extensive network of routes between SOU, Lincoln Grade School, Lithia Park and several smaller parks, neighborhoods, and part of the downtown core and civic buildings. Sidewalks in this area are needed to remove pedestrians from streets on frequently used routes and to give foot traffic an efficient transportation system. Existing sidewalks on Beach Street near Siskiyou Boulevard and on Siskiyou Boulevard between Ashland Street and Walker Avenue will be replaced when those street segments are upgraded. A total of 5.9 miles of new sidewalks on portions of Gresham Street, Beach Street, Guthrie Street, Iowa Street, Morton Street, Holly Street, Ashland Street, Roca Street, South Mountain Avenue, Indiana Street, Walker Avenue, Henry Street, Madrone Street, and Oregon Street will provide a continuous, safe and efficient pedestrian facilities network in, to, and from the district. These new sidewalks will cost an estimated $618,000.

North Central District

The North Central District contains numerous pedestrian generators in the form of parks, downtown and civic areas, a high school, and retail/service businesses. This district also contains the longest sidewalk network in Ashland, particularly in the downtown area. To complement the existing system, a total of 1.8 new miles of sidewalk will be added to parts of East Hersey Street, East Nevada Street, North Mountain Avenue and the Fourth Street Extension, and the Oak Street rail crossing will be improved, through previously defined street projects. Additional sidewalk projects will cost an estimated $756,000, and will add another 5.6 miles to the pedestrian network on segments on Fourth Street, Eighth Street, North Pioneer Street, East Nevada Street, East Hersey Street, Sherman Street, Morse Avenue, B Street, A Street, East Main Street, Iowa Street, South/North Mountain Avenue, Wightman Street, Walker Avenue, Munson Drive and Village Park Drive.

Southeast District

Relatively few generators exist in this district (a park and some retail/service businesses), because the area is heavily residential. Residents of the Southeast District need connections to the main thoroughfare, Siskiyou Boulevard, and to other districts. Also, due to steep north-south topography in the area, an east-west route for travel within the district will allow pedestrians to move along level land contours. Very few sidewalks currently service pedestrians in the area, although several previously defined street projects involve the installation of new sidewalks. These projects, on Siskiyou Boulevard and Tolman Creek Road, will increase the sidewalk network by 2.9 miles. The majority of new pedestrian facilities, 2.4 miles, will cost an estimated $256,000 and will be installed on portions of Hillview Drive, Beswick Way, Park Street, Linda Avenue, Mary Jane Avenue, Clay Street, Ross Lane, Hope Street, Nezla Street and Mohawk Street.

Figure 9-3

figure 903

figure 9-4

figure 9-4

Northeast District
Like the North Central District, the Northeast contains many pedestrian generators including Walker Grade School, Ashland Middle School, parks, civic areas, and retail/service businesses. Both existing transit routes provide service extensively throughout this area, as will future routes described below in *Transit Improvements*. Therefore, pedestrian facilities should adequately link generators and transit stops. The majority of new sidewalks that will be installed to form these links come from previously defined street projects. These facilities, on segments of East Main Street, Clay Street, Tolman Creek Road, the Normal Avenue Extension, Ashland Street, Green Springs Highway, Dead Indian Memorial Road, Crowson Road and Mistletoe Road, will add 12.2 miles of new sidewalks. Other necessary pedestrian facilities, totaling 1.7 miles, will be added to portions of Normal Avenue, Homes Avenue and Diane Street at an estimated cost of $278,000.

9.4 BICYCLE IMPROVEMENTS

Prior to the TSP, the City of Ashland created an independent bicycle plan which identified components of the existing and future bicycle facility network. For the TSP, a separate assessment was conducted (described in Chapter 7) to identify additional bicycle corridors, as summarized in Figure 9-5. A modification of the original City bicycle plan to include many of the areas identified as bicycle corridors resulted in the TSP list of recommended bicycle facility projects. Those routes identified as bicycle corridors, such as along North Main Street and in the downtown area, which required extensive and expensive roadway widening projects or that resulted in redundant bicycle system improvements were excluded. Conversely, routes which that require railroad crossings have been included in the current TSP project list, although these railroad crossings should be individually reevaluated for their feasibility closer to the time of project design.

The following section identifies future bicycle system needs by geographic district. Figure 9-6 illustrates these projects. Only independent costs not associated with other street projects are listed.

Southwest District
No projects have been identified in this corridor for consideration as part of the TSP. Due to location and constraints in terrain, projects in the Southwest District would be limited almost entirely to recreational, as opposed to capacity-related, use. Such projects, which might involve the construction of paths along Wrights Creek and the T.I.D. irrigation facility, should be addressed in a separate parks and recreation plan.

Northwest District
This district serves bicyclists riding into and out of the City, as well as local residents accessing North Main Street and the downtown core. The recreational path along Bear Creek that parallels Eagle Mill Road, that lies outside the Ashland City limits should be

completed in years 6-10. In the southern portion of the district, the City will use the UPRR rail bed to create another path to parallel North Main Street. The UPRR parallel path, scheduled for years 1-5, will give bicyclists an alternative to sharing a travel lane on a relatively high volume road. Otis Street and West Nevada Street connections to the UPRR path will require rail crossing improvements. Altogether, the paths will contribute 3.2 miles of bicycle facilities and will cost an estimated $1,658,000. The West Nevada Street connection should be completed in years 1-5 and the Otis Street connection in years 11-20.

South Central District

This district experiences most of its recreational bicycle traffic near Lithia Park. A path connecting Terrace Street with the shared roadway leading to the Granite Street Reservoir and Lithia Park will support recreational use in the area, and will provide bicyclists with a scenic route to those destinations. Facility construction costs for this low priority project have been estimated at $245,000 and should be completed in years 11-20. The South Central District sees heavy commuter and local bicycle usage along Siskiyou Boulevard. STIP street project will add bicycle lanes to Siskiyou Boulevard in the next five years (between East Main Street and Walker Avenue), thereby enhancing the only boulevard segment in Ashland without existing bicycle facilities.

North Central District

Projects in this area provide additional connectivity and circulation to the existing bicycle network. The western leg of the Bear Creek Path starts here, and the UPRR path continues from Eighth Street. A spur path will link Williamson Way to the UPRR path, while another path will connect Munson Drive and a park on North Mountain Avenue. All paths should be completed in the latter ten years of the TSP, with the exception of the Bear Creek Path, and will cost an estimated total of $2,116,000. In addition, new bicycle lanes will be installed or striped on portions of North Mountain Avenue and East Nevada Street as part of previously defined street projects. North Mountain Avenue, between the UPRR and East Main Street, will be re-striped as part of Ashland's existing street maintenance program to include bicycle lanes at no significant addition cost. From these projects, the designated bicycle system will increase by 7.4 miles.

Southeast District

No projects have been identified in this district. The terrain becomes very steep moving south from Siskiyou Boulevard. Facilities in this district would not contribute significantly to system-wide connectivity, circulation or access.

Figure 9-5

figure 9-5

figure 9-6

figure 9-6

Northeast District

Approximately 5.6 additional miles of designated bicycle facilities will result from projects in this district. Bicycle lanes will be installed through street projects on the Normal Avenue Extension and portions of Tolman Creek Road and East Main Street and will support commuter cyclists and recreational cyclists who wish to access the popular Dead Indian Memorial Road. In conjunction with the Normal Avenue Extension, a bicycle path should be constructed (years 11-20) to link the new roadway with Walker Avenue, thereby serving Ashland Middle School. Local residents will benefit from additional paths along Clover Lane and paralleling Ashland Street near the YMCA, and from the UPRR path, which finally terminates at Benson Way. Not including the bicycle lanes, these projects are estimated to cost $1,061,000.

9.5 SPECIAL IMPROVEMENTS

Several locations that do not fit neatly into any of the categories already discussed have been identified as needing some sort of improvement. These locations are either difficult intersections for pedestrians to cross or involve broader issues that require a more detailed study before specific recommendations regarding improvements can be made.

Intersections included in this section are problematic for pedestrians, not because sidewalks are lacking, but because the roadways themselves are too wide or have poor pedestrian visibility. At these situations, which occur primarily along the downtown North Main Street-Lithia Way one-way couplet, curb extensions and pavement treatments (e.g., textured crosswalks) will create a safer, more comfortable pedestrian and driver environment. Pedestrian enhancements in Ashland are expected to cost $285,000 and should be installed at intervals throughout the 20-year TSP time frame.

Special consideration is also required for the intersection of East Main Street and Siskiyou Boulevard. This intersection should be redesigned to safely and efficiently accommodate existing and future travel demand. A study should be conducted within the first five years of the TSP to examine possible redesign alternatives, including a roundabout. After the study is completed, the recommended alternative will be constructed.

9.6 ASHLAND PUBLIC TRANSPORTATION NEEDS

The two current bus routes servicing Ashland are the most utilized routes in the Rogue Valley Transit District (RVTD) regional system. RVTD has just finished a Ten-Year Community Plan (June, 1996). In November of 1996, as a recommendation from RVTD's plan, a new tax levy was presented to the regional voters seeking approval for more stable funding. With stabilized funding RVTD would streamline transit services and focus on operations in high-utility corridors. The levy failed, and as a result, RVTD has cut back service in many areas. The City of Ashland has worked with RVTD to ensure that bus service operations are maintained on the two Ashland routes. The City's long-range plans have indicated the desire to greatly expand local bus service in Ashland to better serve local residents and guide urban development.

These recent events and trends present a difficult dilemma for Ashland - the City is very interested in bus service expansion, but RVTD is limited in the resources and equipment it can directly provide. Hence, Ashland will need to provide local support to secure those resources and equipment to expand bus service in the City; working in partnership with RVTD for support in operations, maintenance, administration, and Federal/State funding.

Defining Need

RVTD currently operates half-hourly, weekday bus service on two routes in Ashland. Where routes overlap on Siskiyou Boulevard and Ashland Street the RVTD system effectively provides fifteen-minute service. RVTD does not operate on Saturdays, Sundays or holidays. As mentioned in Chapter 4, RVTD also operates the Valley Lift Program and Valley Commute Program, which offer an array of flexible public transportation services to the disadvantaged. The Ashland TSP assumes that RVTD will continue providing general, but flexible public transportation services to the disadvantaged through existing or even expanded dial-a-ride programs. The focus of the TSP is to identify needed enhancements to the current fixed-route bus system, hereafter defined as "transit" system needs. Ashland's future transit plan can then be determined based on this needs assessment.

Transit can play an increasingly important and expanded role in the City of Ashland over the next twenty years by providing the full range of travel options to Ashland's residents and visitors, and as a complimentary policy and project tool to help shape transportation-efficient land uses as a fundamental component of Ashland's Comprehensive Plan.

To enhance transit in Ashland, the City can choose either to expand the current route system by adding buses and increasing route frequency, or to replace the current route system with more local routes and more frequent service. As such, defining Ashland's future transit system needs can be described both by the *coverage* area and by the *frequency* and quality of service. Each of these are described below. As an underlying goal, the local bus coverage in Ashland should focus service in areas where the ridership potential is maximized and balanced with the cost of delivery. The utility of Ashland's transit system will require appropriate amenities which are also defined in the TSP.

Area Coverage

RVTD currently provides two-way, fifteen-minute service on North Main Street, the Downtown one-way couplet, Siskiyou Boulevard (north of Ashland Street) and Ashland Street. Weekday service hours begin by 5:00 or 7:00 a.m. and end by 6:00 p.m.. No service is currently provided on Saturdays, Sundays or holidays.

As illustrated in Figure 9-7, RVTD's local Route #5 can be replaced with five new local routes serving greater Ashland. These new routes, if accompanied by an appropriate level of transit support amenities (described below), will significantly increase accessibility and service to potential transit ridership in Ashland. These new routes should also be coordinated with continued commuter service to Medford on RVTD's Route #10. This route should be relocated to the Interstate 5 corridor, either terminating in the South Ashland interchange area at a new Park-and-Ride facility or continuing along Ashland Street and Siskiyou Boulevard into Downtown Ashland. Transfers can be made to all other local routes at these locations.

The new local routes greatly expand the geographic coverage of two-way, fixed-route bus service within Ashland, and also provide more direct connection and service to new transit riders. All but one of the new routes will converge at a new central transfer point provided by a Downtown transit center (located either in the Plaza area or along the one-way couplet). Furthermore, each route will intersect at least one other bus route with timed transfers. These additional transfer points will provide expanded service area coverage to the multitude of travel destinations in Ashland.

For the purposes of the Ashland TSP, it was assumed that all new local routes would continue half-hourly local bus service. More detailed discussion of service frequency is provided below. Appendix E summarizes initial run-time estimates for each route. Based on conservative travel speed and future traffic congestion levels, a minimum of half-hourly frequencies were assigned to each route to determine bus fleet size requirements. Where new routes overlap on Siskiyou Boulevard, Ashland Street and Mountain Avenue, bus trip frequencies effectively provide fifteen-minute service. Upon completion of a transit development plan for expanded local service in Ashland, twenty- or even fifteen-minute frequencies might be accommodated with the same number of buses. Each of the local Ashland routes are described in the following.

<u>Route #1 - Hersey/Mountain</u>
The Hersey/Mountain route will provide half-hourly service on Hersey Street and Mountain Avenue. Route #1 links North Ashland residents to school (Lincoln Grade School, Ashland High School and SOU), medical (Ashland Community Hospital) and employment (industry along Hersey Street and Mountain Avenue) destinations. Together with Route #5, fifteen-minute bus service is provided on Mountain Avenue between Siskiyou Boulevard and East Main Street. Timed transfers would be coordinated with Routes #2, #3, #4 and #5.

Route #2 - East Main/Walker Avenue

The East Main/Walker route will provide half-hourly service on East Main Street, Walker Avenue, Ashland Street and Oak Street. Route #2 links East Ashland residents to civic (Natural Science Museum, City Services), school (Ashland High School, Walker Grade School, Ashland Junior High School and Bellview Grade School), and commercial centers (Tolman Creek Shopping Center and Downtown Ashland). Timed transfers would be coordinated with Routes #1, #3, #4 and #5 along the routes and at the Ashland Transit Center. The overlap of Routes #2 and #3 provide fifteen-minute service along Ashland Street east of Walker Avenue.

Route #3 - Ashland Street

The Ashland route will provide half-hourly service on Ashland Street and Siskiyou Boulevard. Route #3 links East Ashland residents to SOU and Downtown Ashland, and also links the Ashland Street commercial corridor (motels and restaurants) with Downtown Ashland and the Shakespearean Festival. Together with Route #4, fifteen-minute bus service is provided on Siskiyou Boulevard between Lithia Way and the Ashland Street split. The overlap of Routes #2 and #3 provide fifteen-minute service along Ashland Street east of Walker Avenue. Timed transfers would be coordinated with Routes #1, #2, #4 and #5 along the routes and at the Ashland Transit Center.

Route #4 - North Main/Siskiyou Boulevard

The North Main/Siskiyou route will provide half-hourly service on Siskiyou Boulevard and North Main Street. Route #4 links South and North Ashland residents to Downtown Ashland, SOU and the Ashland Community Hospital. Together with Route #3, fifteen-minute bus service is provided on Siskiyou Boulevard between Lithia Way and the Ashland Street split. Timed transfers would be coordinated with Routes #1, #2, #3 and #5 along the routes and at the Ashland Transit Center.

Route #5 - Helman/Mountain/Iowa

The new route #5 will provide half-hourly service on Helman Street, Nevada Avenue, Mountain Avenue and Iowa Street. Route #5 links South and North Ashland residents to Downtown Ashland, SOU, Ashland High School, Lincoln Grade School and Helman Grade School. Together with Route #1, fifteen-minute bus service is provided on Mountain Avenue between Siskiyou Boulevard and East Main Street. Timed transfers would be coordinated with Routes #1, #2, #3 and #4 along the routes and at the Ashland Transit Center.

Route #10 - Medford Commuter

Half-hourly, commuter service between Ashland and Medford will be provided on Route #10 during the morning and evening commute periods. Hourly service will be provided during the off-peak. Route #10 can link all of the Ashland local routes with timed transfers via local routes at the Downtown Transit Center or at the Ashland Park-and-Ride center in the South Ashland Interchange area.

figure 9-7

figure 9-7

Service Frequency

The quality of bus service can best be described in terms of frequency along Ashland's local bus routes. More frequent service can affect overall ridership potential, but will require a larger bus fleet and longer operating hours resulting in higher capital and operating expenses. Individual bus passenger capacity is also a determinant in the overall system capacity and quality of service. Thirty-passenger buses, however, are more expensive than twenty-passenger buses. Hence, a number of local bus service options in Ashland were considered. For each option, it was assumed that RVTD would continue to provide half-hourly, commuter service on weekdays to Medford. It was also assumed that two separate bus service plans would be implemented in Ashland. One would operate during the peak summer season with expanded hours serving the Shakespearean Festival and related activities and tourism trips. A second service plan would operate during the off-peak season, predominantly serving local residential, school, and work trips. Both capital and operating cost projections were estimated for the following local bus service options considered:

1. Half-hourly service on all routes during peak periods, with a combination of thirty- and twenty-passenger buses;
2. Hourly service on all routes during peak periods, with a combination of thirty- and twenty-passenger buses; and,
3. Half-hourly service on all routes all day long, with only twenty-passenger buses.

Table 9-1 summarizes the capital and operating cost projections for each of the local Ashland bus service options. Detailed cost estimates are provided in Appendix F. These costs are estimated in 1997 dollars and do not include system administrative costs or inflation/amortization of the cost of the bus fleet over its life cycle.

Table 9-1
Local Ashland Transit
Capital and Operating Cost Projections

Option	Number Buses	Cost Projections	
		Capital Expense	Annual Operating Expense
1. Half-Hourly Service, Mixed Fleet	11	$2,307,475	$1,188,683
2. Hourly Service, Mixed Fleet	6	$1,267,785	$ 962,165
3. Half-Hourly Service, Small Buses	11	$1,400,410	$1,924,331

Transit Amenities

Transit amenities, discussed previously in Chapter 6, are essential links between the pedestrian and transit components of Ashland's future transportation system. They include bus stops, bus shelters, transit centers and Park-and-Ride facilities. The siting of the Downtown Ashland Transit Center and Park-and-Ride facility is best completed in more detail as part of a transit development plan (TDP) effort (see below). The TDP should include the identification of optional sites and costs associated with development of the Ashland Transit Center.

<u>Ashland Transit Center</u>

An expanded local transit system, as illustrated in Figure 9-7, will require a centrally-located transit center where all routes can be coordinated in the Downtown area. Three options have been identified for further consideration in a follow-up to the Ashland TSP. In general, each option should include architectural amenities (consistent with downtown Ashland) and facilities that both support and encourage transit usage. The Ashland Transit Center options considered include:

1. Utilization of the Ashland Plaza area, which might include reorientation and usage of current parking spaces and construction of transit center amenities (curbing, shelters, kiosks);

2. Relocation and reuse of the Downtown Fire Station, which will require acquisition of a suitable site for emergency response. Optional sites and the cost to construct a new fire station have not been identified as part of the TSP; and,

3. Redevelopment of one or a combination of existing lots and uses, located on either Lithia Way or North Main Street. No details have been identified as part of the Ashland TSP.

<u>Bus Shelters/Stops</u>
It is generally assumed that "call stops" can be made anywhere along the identified bus routes. However, well-marked bus stops should be regularly spaced (approximately 600 feet apart) along all routes and at major pedestrian generators. Bus stops should be posted with route markers and should include sufficient pedestrian connections and facilities to accommodate foot traffic between the bus stop and transit generator. (These issues are addressed more specifically in Chapter 7 - Pedestrian and Bicycle Amenities Report.) The location of existing and new bus stops are illustrated in Figure 9-7.

Bus shelters should be located where major bus routes intersect and at major transit generators. The cost for a new bus shelter is estimated at $4,000 and is based on recent project design and planned

construction projects. Figure 9-7 illustrates the general location for bus shelters along the local Ashland bus routes.
Table 9-2 summarizes the needed new bus stops and shelters along each local route. For the purposes of the Ashland TSP, only the cost for new bus shelters have been identified. The table also differentiates where new shelters are needed on either existing or new bus routes.

Table 9-2
Local Ashland Transit
Bus Stop and Shelter Amenities

Local Bus Route	**Transit Amenities**		
	New Stops	**New Shelters**	**Cost Projection**
1. Hersey/Mountain	25	4	$16,000
2. East Main/Walker/Ashland/Tolman	18	6	$24,000
3. Ashland	10	6	$24,000
4. N Main/Siskiyou	8	10	$40,000
5. Helman/Nevada/Iowa	23	3	$12,000
TOTAL	**84**	**29**	**$116,000**

Note: Shaded cells indicate needed transit amenities along existing bus routes.

Summary

Based on the assessment of local transit system capital and operating system options, the following transit system needs have been identified:

- local bus service expansion in years 6-10 (timing to be validated or modified by the findings of the Ashland Transit Development Plan) to accommodate five new local routes, requiring acquisition of eleven new 20-passenger buses to replace local bus service in Ashland;
- operation of two bus service plans for peak- and off-peak bus operations; and
- installation of twenty-six new bus shelters to better accommodate patrons.

The costs to purchase and operate new buses (and shelters) in Ashland are addressed in the Financial Plan section of the TSP (Chapter 10).

Ashland Transit Development Plan (TDP)

The City of Ashland and RVTD should conduct a more detailed TDP for local service in Ashland that identifies and confirms short- and long-term system improvements; and a local, regional, State and Federal funding program for capital and transit operations expansion. The TDP can also outline options for the City and RVTD to coordinate local transit operations and administration. The culmination of the TDP should define an intergovernmental agreement with RVTD to provide an administrative/management program of the expanded local transit service. This agreement should also identify the responsibilities for capital program expenditures, and future operations and administration of local transit service in Ashland.

9.7 PARKING FACILITIES

Parking needs and future development are addressed in the City of Ashland Downtown Plan (July, 1988).

Chapter 10

Financial Plan

Chapter 10

FINANCIAL PLAN

This chapter is based on a review of the City's Street Fund, the City's Capital Improvement Plan, ODOT's Draft Statewide Transportation Improvement Program 1998–2001, and the TSP project cost estimates (see Appendix F). Confirmation of the draft Chapter conclusions followed a discussion of the financial planning analysis with City of Ashland staff, including planners and financial officers. This chapter describes existing sources of transportation funding in Ashland, the outlook for revenue from those funding sources, and potential sources of additional transportation revenue. The chapter is concluded with a summary analysis of short- and long-range funding to meet the local transportation project needs identified in the TSP (Chapter 9).

10.1 EXISTING TRANSPORTATION FUNDING IN ASHLAND

Federal, State, and local revenue sources contribute funding for transportation improvements in Ashland. These funds are tracked in budgets and documents at the State and local level. The Ashland Street Fund tracks funds that flow through the City of Ashland from local, State, and Federal sources. These funds are spent to maintain and improve the City's transportation and storm drain system. The City's Capital Improvement Plan is used to show funding for capital improvements from Federal, State, and local sources. These funds are expended by the City or directly by ODOT (which distributes State and Federal transportation funding). The *Statewide Transportation Improvement Program* is used to estimate State and Federal funding for projects that will be expended in the Ashland area by ODOT.

10.2 STREET FUND

Revenues

Table 10-1 shows revenues and expenditures in the City's Street Fund for the current year and the previous four years, with beginning and ending balances shown separately. The Street Fund includes revenues and expenditures for transportation and storm drain systems. Total annual revenue in the Street Fund has increased from $1.5 to $1.9 million over the period shown in Table 10-1. Based on the 1996–97 proposed budget, the major sources of revenue in the Street Fund are the:

- *State Highway Fund* (45% of current revenue), which are gas tax and weight-mile fee revenues that are distributed by ODOT to cities and counties based on population and vehicle registrations. Revenue from this source increased by almost $155,000 between 1992–93 and 1996–97.

- *Utility Fees* (26%), which are fees paid by households in Ashland for transportation and storm drain service. The fees vary by type of housing unit, based on the estimated average demand generated by housing type. In the 1996–97 proposed budget, 15% of current revenue comes from the transportation utility fee and 11% from the storm drain utility fee. Revenue from utility fees increased by over $160,000; an increase in the transportation utility fee in 1996–97 will contribute $37,000 of this increase.

- *Franchise Fees* (18%), which are annual fees paid by TV cable, electric, and telephone utilities for use of City right-of-way. Revenue from this source declined by almost $45,000 between 1992–93 and 1996–97.

Table 10-1
CITY OF ASHLAND STREET FUND (in current dollars)

	1992-1993 Actual	1993-1994 Actual	1994-1995 Actual	1995-1996 Actual	1996-1997 Proposed
Beginning Fund Balance	213,929	160,032	397,308	700,858	724,681
TOTAL CURRENT REVENUE	1,515,004	1,684,846	1,824,197	1,876,691	1,861,000
State Highway Fund	731,221	781,312	863,391	814,249	844,000
Storm Drain Utility Fee	167,813	186,022	205,718	189,135	207,000
Transportation Utility Fee	159,962	174,378	229,582	234,828	282,000
Franchise Fees	385,995	422,481	394,535	3412,726	342,000
SDC - Transportation	-	29,326	33,414	41,135	48,000
SDC - Storm Drain	15,081	39,769	30,136	49,100	40,000
Pedestrian/Bicycle/Handicap	24,615	26,634	34,941	36,034	38,000
Public Works Services	-	1,700	11,565	10,071	8,000
SBA * EPA Grants	-	2,492	-	-	12,000
Interest & Miscellaneous	30,317	20,732	20,915	160,413	40,000
TOTAL CURRENT EXPENDITURES	1,568,630	1,447,840	1,520,647	1,852,867	2,185,500
Personnel Services	476,771	512,479	517,367	540,658	598,000
Materials & Services	963,340	841,984	954,301	1,038,234	1,086,500
Capital Outlay	93,516	48,935	35,488	240,859	369,000
Debt Service	15,003	14,267	13,531	3,116	3,000
Operating Transfers Out	20,000	30,175	-	30,000	129,000
Ending Fund Balance	160,303	397,308	700,858	724,681	400,181

Source: City of Ashland budget.

- *System Development Charges* (SDCs), are the fees paid by new development, as part of the permitting process, to cover the incremental need for future improvements to the transportation system that the new development generates. SDCs contributed 5% of current revenue in 1996–97; 3% from the transportation SDC and 2% from the storm drain SDC. This revenue is dedicated by Oregon law to funding improvements that increase the capacity of the system for which the fee was paid. Revenue from SDCs increased by almost $75,000 in the five years shown in Table 10-1, with more than ½ of this increase from the implementation of the transportation SDC in 1993–94. SDC revenue varies with the level of new development in Ashland.

Together, these four revenue sources contributed 94% of current revenue in the 1996–97 proposed Street Fund budget.

Expenditures

Expenditures for Personnel Services and Materials and Services constitute 77% of the City's expenditures from the Street Fund in 1996–97. These expenditures are primarily for street maintenance and administration. Capital Outlay expenditures show a significant increase in the last two years as seen in Table 10-1, composing 13% of 1995–96 expenditures and 17% of 1996–97 expenditures. Major capital expenditures in 1995–96 were for the North Main/Maple Signal and Storm Drains; and in 1996–97 expenditures were for the Fordyce/Wightman storm drain and realignment of Indiana with Siskiyou. (Expenditures for capital improvements are described in more detail in the following section.) Remaining Street Fund expenditures are for Debt Service and Transfers to the Capital Improvement and Sidewalk LID funds.

10.3 CAPITAL IMPROVEMENT PLAN

Funding for capital improvements are defined in more detail in the City's *Capital Improvements Financing Plan* (CIP) for 1996–97 to 2001–02. The CIP shows planned funding for improvements from local, State, and Federal sources. Funding for capital improvements is summarized in Table 10-2. Over the six-year period, funding for capital improvements will total just over $3 million or $500,000 per year (in 1997 dollars). The revenue sources in Table 10-2 and their planned uses are described in more detail below.

- *Local Improvement District* (LID) revenue is from assessments paid by property owners to fund improvements that benefit the district area. LIDs are the largest funding source primarily because the City of Ashland plans to use LIDs to fund 75% of sidewalk construction costs in neighborhoods throughout the City, with the remainder paid from SDC funds. An LID is also expected to contribute funds for the redesign of Ashland Street.

- Federal *ISTEA* funds in Ashland's CIP appear to be primarily funds that are set aside for projects that enhance the cultural or environmental value of the transportation system. In Ashland, this funding will be used to construct the Bear Creek Bike Path and for the redesign of Ashland Street.
- *Federal State Exchange* is Federal funding through the Surface Transportation Program that is exchanged with ODOT for State funds that have fewer restrictions on their use. This funding will be used primarily to reconstruct streets and install traffic signals.

Table 10-2
SUMMARY OF CAPITAL IMPROVEMENT FUNDING IN ASHLAND
1996-97 TO 2001-02 (1997 dollars)

Funding Source	Six-Year Total	Annual Average	Share	Use
Local Improvement District	861,000	144,000	28%	Sidewalks & Street Design
ISTEA	779,000	130,000	26%	Bikepaths & Street Redesign
Federal State Exchange	576,000	96,000	19%	Signal & Reconstruction
Transportation Utility Fee	353,000	59,000	12%	Sidewalks, Bikepaths, & Intersection Realignment
Transportation SDC	192,000	32,000	6%	Sidewalk LID & Bikepath
Community Development Block Grant	111,000	19,000	4%	Sidewalk construction
Southern Oregon State	86,000	14,000	3%	Siskiyou Blvd. Improvements
ODOT	50,000	8,000	2%	Realign Intersection.
TOTAL	3,008,000	502,000	100%	
Undetermined	901,622	150,000		Street Redesign & Traffic Signal

Source: City of Ashland, *Capital Improvement Financing Plan 1996–97 Through 2001–02*; summary and analysis by ECONorthwest.
Note: Current dollars converted to 1997 dollars assuming an annual inflation rate of 3%.

- The *Transportation Utility Fee* is revenue generated by fees paid by households in Ashland. The Street Fund shows Transportation Utility Fee revenue of $282,000 in 1996–97; apparently less than 1/4 of this revenue will be spent on capital improvements, with the remainder spent for maintenance. This revenue will primarily be used to fund sidewalk and bikepath improvements, and the realignment of an intersection.
- *Transportation SDC* revenue from fees paid by new development and *Community Development Block Grant* revenue from the Federal government will be used to fund sidewalk and bikepath construction.
- Funding from *Southern Oregon State College* and *ODOT* will be for improvements to Siskiyou Boulevard near the college.

Over $900,000 of project costs are unfunded at this time; unfunded costs are portions of total costs for street redesign projects and new traffic signals. Since funding from the State Highway Fund and Franchise Fees does not appear in the CIP, this implies that those funding sources are used for maintenance and administration expenditures.

Projects that would primarily enhance pedestrian and bicycle facilities compose about 86% of total expenditures in Table 10-2. The remaining 14% is for reconstruction of streets, a traffic signal, and realignment of an intersection.

10.4 STATE FUNDING FOR IMPROVEMENTS

In addition to the funding shown in the City's budget and Capital Improvement Plan, projects in Ashland may be funded directly by ODOT through the *Statewide Transportation Improvement Program* (STIP). Projects in the Draft 1998–2001 STIP in the Ashland area are all on Highway 99: an overlay from Valley View Rd. to 4th St. (about $940,000 in 1997 dollars), signal replacements at Helman St. and 2nd St. ($620,000), and widening between 4th St. and Walker Ave. to provide bike lanes ($170,000). These projects total about $1.7 million over the four-year period, or $430,000 per year (in 1997 dollars). The Draft STIP, however, is not financially constrained. Nevertheless, ODOT expects to cut funding for 20% of project costs in the Draft STIP in an attempt to constrain the statewide plan. Future State funding for projects in the Ashland area should be about 20% less than the total in the Draft STIP, or roughly $350,000 per year through 2001.

10.5 OUTLOOK FOR REVENUE FROM EXISTING SOURCES

The outlook for revenue to fund future Ashland projects identified in the TSP was based on a more cursory review of existing and possible new funding sources. As part of the general financial analysis of a TSP, it is difficult to accurately project future funding levels without detailed examinations of: (1) projections of future population, employment, households, or development in Ashland for the 20-year planning period, (2) the methodology and schedule of fees for the transportation utility fee and System Development Charge, (3) the City's municipal code that pertains to the formation of Local Improvement Districts, (4) the City's municipal or land use code that requires new development to provide or fund on-site or off-site improvements, and (5) an estimate of the level of funding needed to maintain street surfaces to achieve maximum pavement life.

Relative to most cities in Oregon, the City of Ashland has a diverse set of transportation funding sources. This diversity will help stabilize the City's future stream of transportation revenue. ODOT's published revenue forecast[1] was used to examine the key variables that affect the level of revenue generated by a funding source to assess the outlook for major funding sources in Ashland:

[1] Oregon Department of Transportation. 1995. *Financial Assumptions for the Development of Metropolitan Transportation Plans*. Salem: ODOT Transportation Development Branch, Policy Section. March.

- ODOT's official forecast for the State Highway Fund indicates total revenue is expected to grow by 3% annually through 2000 and then level off through 2015 in real (inflation-adjusted) dollars. This forecast assumed increases in the State gas tax that have not occurred, but this assumption may be reasonable for a long-run projection. The Governor is pushing for greater and more diversified State funding for transportation; but it is still unclear if the legislature will enact any changes soon. An honest assessment is that no one can predict what will happen exactly, but history suggests that the level of State funding for highways is unlikely to decrease, and more likely to increase (in nominal terms) than to remain the same. State Highway Fund revenue shared with Ashland should continue at about the same rate.
- Revenue from Utility Fees is based on the number of households in the City and the fee set by the City. This revenue will grow with population and future rate increases.
- Franchise Fee revenue is based on utilities' use of City right-of-way and the fee set by the City. This revenue should also grow with population, but at a slower rate. Increased fees would also increase revenue.
- Systems Development Charges will vary with the level of new development in Ashland and fee increases by the City.
- Revenue from Local Improvement Districts will depend on the City's success at forming the districts to fund improvements, which in turn depends on the value of the project to property owners and their propensity to pay. Ashland, however, has an advantage over many cities in Oregon in that it has firmly established LIDs as a way of doing business.
- Federal State Exchange revenue depends on reauthorization of ISTEA at the Federal level. ODOT's revenue forecast assumes ISTEA programs will be reauthorized at least their historic levels and with similar criteria. With this assumption, ISTEA funding would grow through 2015 at the same rate as in the period from 1984–1997, which was positive in real dollars.
- Until recently, ODOT funding for highway modernization was expected to grow rapidly through 2005, and then decline through 2020 (in real dollars). Modernization funds in 2015 were expected to be slightly more than the 1998 level, and about 1/3 of the 1998 level by 2020. The Governor and the Director of ODOT have initiated significant curtailment to most highway modernization projects and funding, by revising the STIP to focus on preservation and maintenance. These revisions are due to the legislature's recent inability to enhance statewide transportation funding.
- Funding from Federal and State grants will depend on how well projects in Ashland compete with other projects for available funding. The City will probably continue to receive grant funding for transportation projects. State and Federal grants should remain steady or grow through 2015 in real dollars.

It is assumed that Ashland's population will grow along with that of Oregon as a whole. Population growth in Ashland and projected growth in the State Highway Fund revenue and may allow the City's Street Fund to grow 1–2% annually in real dollars through 2015.

Funding for local projects included in the TSP, however, will depend on the outlook for funding sources for capital improvements shown in Table 10-2. Funding from Local Improvement Districts is highly variable, depending on the number that are successfully established.

Revenue from Utility Fees and Systems Development Charges should grow with population growth in Ashland. Federal State Exchange and ISTEA revenue should grow faster than inflation, if ISTEA is reauthorized at or above historic levels. These funding sources are expected to contribute about $320,000 per year for transportation improvements in Ashland. If we assume that revenue from these sources does not grow in real terms over the 20-year planning period for this TSP, these sources will generate $6.4 million of total revenue by 2017.

The level of local funding allocated to capital improvements will depend on the City's future maintenance needs as well. Funding from Utility Fees and the Federal State Exchange can be used for maintenance as well as capital improvements. If future maintenance needs grow faster than revenue, funding for capital expenditures could be reduced. The City's stated policy is to maintain street surfaces to achieve maximum pavement life.[2] If the City follows this policy, there should not be significant amounts of deferred maintenance that will dramatically increase future maintenance costs.

10.6 POTENTIAL SOURCES OF ADDITIONAL REVENUE

The City of Ashland may need to raise additional revenue to fund the improvements included in the TSP. When project costs in the TSP are identified, ECONorthwest will identify funding shortfalls (if any), and potential sources of revenue to address those shortfalls. Potential funding sources are typically judged by standard criteria, including legal authority, financial capacity, stability, administrative feasibility, equity, and political acceptability.

In practice, the two most important criteria are the interrelated issues of equity and political acceptability. A consideration of "who pays" is central to both of these criteria. Federal and State grants are always the most politically acceptable funding source, because they are perceived to cost local residents nothing. If local funding is necessary, accepted principles of fairness suggest that people should pay, based on either the costs they impose or the benefits they receive; unless they belong to a group that deserves special treatment. The public is much more likely to support

ıcific (1997). *City of Ashland Transportation System Plan Draft*, Appendix A: City of Ashland Comprehensive Plan
n Element Goals and Policies.

programs such as systems development charges or assessments that place the financial burden on those who benefit most from an improvement.

The City can increase revenue from three sources by increasing the: Utility Fees, Franchise Fees, and Systems Development Charges (SDCs). Utility and Franchise Fees generate substantially more revenue than SDCs. Small increases (say 10%) in the Utility or Franchise Fees could result in increased revenue of $35,000–40,000 per year. This funding would be relatively stable, but increased Utility Fees may be politically unpopular. Low revenue from SDCs suggests the fee may be set too low, creating the potential for a substantial increase in fees and revenue. If increases in SDCs can be justified technically (i.e., that the impacts of development on the transportation system can be shown to require more money than the SDCs charge) they have some potential advantages. While Street Utility Fees charge all residents, SDCs charge developers who (1) in some cases are not residents, and (2) generally pass the costs of the SDC on to the purchasers of new homes (some of which are not residents). Future revenue from an SDC increase would vary with the level of new development, and substantial increases in SDCs could discourage new development in Ashland.

The City of Ashland could also seek to implement new funding sources for transportation improvements. A wide variety of funding sources may be legal under Oregon law, but the most common sources used by local jurisdictions are the local option gas tax, vehicle registration fees, and property tax levies.

A local option gas tax would add a local tax to State and Federal taxes on motor fuel sold in Ashland. Local gas taxes typically range from $.01 to $.03 per gallon (compared to $0.183 per gallon Federal and $0.24 State). Revenues from a gas tax are typically substantial and relatively stable. Local option gas taxes require county wide voter approval under current State statutes. These taxes are often strongly opposed by area gasoline retailers who fear the tax will reduce sales. Most local option gas taxes proposed in Oregon have not been approved by voters.

In Oregon, counties (but not cities) can implement a local vehicle registration fee. The fee would operate similar to the State vehicle registration fee, and could possibly be collected by the State. A portion of the County fee could be allocated to local jurisdictions. A modest registration fee ($10) could generate substantial revenue and be a relatively equitable way to fund transportation improvements.

Local property taxes could be used to fund transportation. Most counties and cities in Oregon avoid using general property tax revenues to fund transportation maintenance, but occasionally use property tax revenue to fund capital improvements for transportation. Capital improvements are typically funded by a serial levy that implements additional property taxes for a set period of time, often for a specified set of projects. Serial levies must be approved by voters. In Oregon, Washington County has been relatively successful with serial levies for specific transportation improvements (in contrast to other jurisdictions that have been unsuccessful with levies for unspecified projects).

Property taxes can also be used to support a General Obligation bond to finance transportation improvements. Property tax funding for transportation will probably be affected by the Oregon Legislature's implementation of Measures 47/50.

10.7 SUMMARY: TSP PROJECT NEEDS vs. PROJECTED REVENUE

Table 10-3 summarizes costs and funding for Street, Sidewalk, Bikeway, and Traffic signal projects in the Ashland TSP. The project "phasing" is based on the preliminary prioritization of projects *without* financial constraint. The estimated level of future funding includes the major sources currently used to fund transportation projects in Ashland: ODOT funding through the STIP, Federal and State grants, and local Transportation Utility Fee and SDC revenues. The forecast with NEXTEA and HB 3163 assumptions also includes funding from the State Highway Fund. At the writing of this document HB 3163 failed passage in the Oregon 1997 Legislature, as did all other new, statewide transportation funding proposals. Hence, a conservative estimate of future funding in Ashland should utilize the ODOT Forecast Assumptions summarized in Table 10-3.

Table 10-3
FUNDING FOR STREET, SIDEWALK, BIKEWAY, AND TRAFFIC SIGNAL PROJECTS IN THE ASHLAND TSP (1997 dollars)

	Project Phase (years)			
System	1-5	6-10	11-20	Total
Street, Pedestrian & Bicycle Costs	$7,009,000	$32,207,600	$13,893,500	$53,110,100
Future Funding				
ODOT Forecast Assumptions	$4,209,800	$5,469,400	$7,496,600	$17,175,800
With NEXTEA & HB 3163	$7,029,600	$8,435,600	$16,999,600	$32,464,800
Remaining Costs				
ODOT Forecast Scenario	$2,799,200	$26,738,900	$6,423,900	$35,934,300
NEXTEA & HB 3163	-$20,600	$23,772,000	-$3,106,100	$20,645,300

Source: ECONorthwest

Other local revenue that could fund remaining costs in Table 10-3 include Local Improvement Districts and other sources used in the City's Street Fund or Capital improvement Plan. Historic levels of funding from these sources indicates they cannot fund a significant share or the remaining costs in Table 10-3.

Table 10-4
ESTIMATED REVENUE FROM ADDITIONAL SOURCES OF FUNDING (1997 dollars)

	Additional Revenue

Funding Source	Rate	Annual	5-Year
Transportation Utility Fee	100% increase[3]	$280,000	$1,400,000
Transportation SDC	300% increase	$96,000	$480,000
Local Option Gas Tax	$0.01/gallon	$110,000	$550,000
Local Vehicle Registration Fee	$10/two years	$130,000	$650,000
Total		**$616,000**	**$3,080,000**

Source: ECONorthwest

The increase revenue in Table 10-4 will not cover the remaining costs in Table 10-3 for years 6-10 ($23.7 million) or 11-20 ($3.3 million). The only funding source with the financial capacity to generate sufficient revenue is a property tax levy for transportation.

Based on pre-Measure 50 methods of property assessment and taxation, a $0.50 levy would generate about $540,000/year, which could be used to support a $3.8 million bond issue repaid over 10 years at 7% interest.

Table 10-5 summarized costs and funding for Transit capital projects and operations in the Ashland TSP. The estimated level of Federal Transit Administration (FTA) funding is from Section 3 and Section 9 programs, which typically fund 80% of project costs with a required 20% local match. The remaining costs in Table 10-5 reflect the level of the required local match for Transit projects in the TSP.

[3] The Ashland City Council recently raised the Transportation Utility Fee by 50%, with the new revenues dedicated for RVTD local bus service operations

Table 10-5
FUNDING FOR TRANSIT PROJECTS IN THE ASHLAND TSP (1997 dollars)

	Project Phase (years)			
	1-5	6-10	11-20	Total
Transit Capital Costs			$1,516,410	$1,516,410
FTA Funding			$1,213,128	$1,213,128
Remaining Costs			$303,282	$303,282
Transit Operating Costs (10 years)			$19,242,308	$19,243,308
FTA Funding			$15,394,646	$15,394,646
Remaining Costs			$3,848,662	$3,848,662

Source: ECONorthwest

Summary

Together, the additional local funding measures noted above would yield approximately $16 million over the 20-year TSP planning period, meeting approximately half of the projected shortfall based on the ODOT forecast scenario. The City of Ashland will either have to identify additional revenues or defer some of the street, sidewalk, bicycle and transit projects as needed beyond the 20-year planning horizon. (Appendix F summarizes the total TSP project costs, revenues and projected shortfall. Appendix F is also a summary of further project prioritization to achieve a 10-year, Fiscally-Constrained TSP project list, described in greater detail in Chapters 11 and 12.)

Chapter 11

Alternatives Evaluation and Project Prioritization

Chapter 11

ALTERNATIVES EVALUATION AND PROJECT PRIORITIZATION

11.1 FRAMEWORK FOR EVALUATING ALTERNATIVE TRANSPORTATION PLANS

The criteria one chooses to evaluate a transportation system plan depend on one's view of the proper way to handle many issues about theory, measurement, and methods that inevitably arise during such evaluations. The principles used in this project include:

- *Focus on evaluating a full range of realistic system alternatives.* A full range of system alternatives would vary with the available resources devoted to roadway maintenance, roadway expansion, improved signalization, travel demand management, increased transit service, and the distribution of housing and employment. A full range of alternatives would include things like road pricing, investments in rail transit, and other "possible" alternatives. But the evaluation of alternatives takes time and resources: they should not be spent on evaluating alternatives that have no chance of being adopted and do not provide critical information about how to design alternatives that do. Thus, the alternatives should probably be cost constrained: perhaps not to existing levels, but to increases that might be reasonably hoped for (e.g., a TSP that requires annual expenditures that are double what is spent annually (on average) now, would not be a realistic alternative), especially in the wake of Measure 47 and a general sentiment for less government and less tax. It makes more sense to evaluate alternative plans that roughly meet a financial constraint, than to evaluate alternative plans that meet some "level of service" target.

- *Get the changes in transportation performance measured first.* The largest and most direct benefits and costs of any transportation system plan stem from the performance of the transportation system and the costs of the improvements that allow that performance. Most of those effects are measurable using Ashland's EMME/2 travel demand models (e.g., changes in travel time by route, LOS, hours of delay, etc.) that could be compared across alternative plans.

- *Evaluate all significant costs and benefits.* It is very often the case that important costs and benefits get ignored. For example, planners might wish to reduce land consumption, trips, and public facility costs by directing more growth toward higher-density housing types. But if people prefer lower-density housing types, they are giving something up to get the cost reductions that planners desire. The key question is whether, individually and collectively, they prefer the new arrangements after evaluating the tradeoffs.

- *Pay attention to double-counts*. It is easy to count the same benefits or costs more than once. One way to reduce double counts is to distinguish between means and ends objectives. The ends are the fundamental objectives (e.g., net social welfare, which might be subdivided into objectives about economic effects, environmental effects, social effects, and political effects, each of which could be further subdivided by type of effect and type of group affected). Means objectives are more detailed and describe the ways in which fundamental objectives can be achieved (e.g., control of sprawl, consistency with comprehensive plan policies, reduction of vehicle miles traveled). As one moves from fundamental to means objectives, one introduces double counting that can distort the evaluation.

- *Pay attention to the timing of benefits and costs.* Because benefits and costs are unevenly distributed over time, and because future benefits and costs are worth less than present ones, one needs a method to summarize all those benefits and costs. Discounting to a present value at a social discounting rate (e.g., an interest rate) is the method accepted by transportation economists, but we may not have the data in this project to use that technique formally.

- *Marginal analysis: focus on differences among alternatives.* For many effects it may not be necessary to measure them in total; it may be enough to measure how they perform relative to some base case. Where alternatives cannot be distinguished from one another on a particular criterion, that criterion is irrelevant to policy choice and can be ignored.

- *Perspective: benefits and costs from whose point of view?* The distribution of effects is important and must be considered in addition to the aggregate benefits and costs.

- *Looking at the long run; flexibility in the face of uncertainty.* Long-term planning makes sense: transportation investments are long-lived and can strongly influence the location of commercial and residential structures. Since most of these structures will last at least thirty years, planners need to consider the long-term effects of today's policies and investments. But that long-term future is very hard to predict. An area's socioeconomic profile, individuals' preferences, and transportation and communication technology will all change over time. While avoiding the pitfalls of "short-term" thinking, planners also must be careful about committing large amounts of resources to accommodate an assumed future that may never exist. In some past work, ECO has used the term "integrated transportation planning" to describe a planning process that integrates long-term system planning with near-term decision making, and incorporates flexibility to respond to changing future conditions. Uncertainty can never be eliminated entirely from the evaluation of different alternatives, but by strategically selecting projects and evaluating their performance, planners can reduce the amount of uncertainty before making final decisions.

Weighting: what is the relative importance of each criterion? Even in the ideal case where a comprehensive list of mutually exclusive and significant benefits and costs can be identified and quantified, the problem of scoring and weighting remains. Measures of impacts will be in different units (e.g., vehicle-miles traveled, parts per million of pollutants, changes in land uses or densities). Unless one alternative dominates all others on every criterion (an unlikely event), ultimately a judgment must be made about the relative importance of the impacts (i.e., what *weight* should each criterion be given in the decision making?)

11.2 SUGGESTED CRITERIA FOR EVALUATING THE TRANSPORTATION SYSTEM PLAN: CATEGORIES AND MEASUREMENTS

Though most TSP's or planning projects that evaluate transportation projects use similar criteria, there is no universally accepted organization for these criteria. The one that follows has the advantages of organizing effects in a way that is logical, explainable, reduces or clarifies double-counts, and would lend itself to the weighting of criteria farther along in the process.

The criteria are organized into four categories

- Performance of the Transportation System
- Secondary and indirect effects
- Distributional (Equity) effects
- Political feasibility

The following section describes what those categories include, and how they would be measured. It should be stressed, however, that (1) there are many possible measurements in each category, (2) it takes time to make them, (3) they overlap, and (4) they can be hard to interpret and add up. Those points suggest that the evaluation of alternatives will likely be conducted at a relatively high level of aggregation: in other words, at the level of the four criterion categories.

Criterion Category 1: Performance of the Transportation System

Does the transportation system plan work efficiently toward providing transportation services?

Types of effects addressed and possible measurements to summarize some of the general points:

- Improvements in transportation should be a primary goal of any transportation improvement: in other words, a necessary condition for making any transportation investment or adopting any transportation policy is that the performance of the transportation system be *better* than it would have been without the improvement.
- Measuring *better* requires an evaluation of both performance benefits and the costs of achieving those benefits.
- Cost reductions to drivers (in terms of travel time and vehicle operation) are the most important direct benefits of a transportation improvement; the costs of building and operating the improvement (and the vehicles that ride on it) are its most significant costs.
- As a first pass, costs should be defined as and limited to the direct costs of facilities and equipment for a new transportation system plan. Then, under the assumption that the implementation is in place, other effects should be measured as benefits or dis-benefits (costs) depending on whether they make performance better or worse for the groups of interest. For example, savings in travel time are benefits; increases in travel times are costs.
- Most of the measures of expected system performance are estimated via travel demand models (like EMME/2). The specific measurements of travel performance that could be used in this evaluation include changes in the variables listed below.

Recommendation:

The Ashland TSP should include the following measures of the transportation system:

- Direct costs of developing and maintaining new improvements or programs
- Travel time

Not included in this list are two categories of measurements that are typical: costs of operation for users and services providers, and safety. These have been excluded because it is unlikely that Ashland will be able either to measure the effects at all, or to say much about the *relative differences* in effects across alternatives. The absence of these measurements, and the inability to calculate costs and benefits (the direct effects) link by link for the entire system for all alternatives[1] requires an examination based on a partial estimate of benefits and costs. Thus, the methods in the Ashland TSP will use assumptions and make approximations to come to a conclusion about the optimal

[1]*It is possible to make adjustments to parameters in the EMME/2 model to convert its output to something that can be used more readily to estimate benefits and costs, but such adjustments are time consuming.*

transportation system However, these methods should provide a good sense of the relative performance of transportation alternatives.

Criterion Category 2: Secondary and Indirect Effects

Are the other effects of the transportation system plan on net and in the aggregate, positive?

Types of effects addressed, and possible measurements to summarize some of the general points include:

- Though transportation performance should be a primary goal of any transportation improvement, it is clear that such improvements have effects on more than transportation performance.
- Some of these effects are significant. For some people, they are more important than the direct effects on transportation performance.
- Though some of these effects are clearly in addition to the effects on transportation performance (e.g., changes in air quality from changes in emissions), others are potentially double counts of those changes in transportation performance (e.g., changes in land prices and land use as a result of changes in travel time).
- Not only are the magnitudes of some of the double counts difficult to sort out analytically, but the evidence from experiences with environmental impact statements and public decision making on public facilities and policies is that the public and decision makers are less concerned about a pure analytical framework than what they consider to be all the effects that people care about.
- For this project, the criteria and the analysis should (1) be as clear as possible about potential double counts, and try to focus on measurements of transportation improvements and the related effects of those improvements that are not double counts, (2) quantify and estimate values of the secondary effects wherever possible, and (3) make sure that the weighting process does not result in strong preference given to certain effects because they happen to be measured in more than one way.

Recommendation:

Suggested measures for the Ashland TSP include:

- Land use and economic activity (non-transportation)
- Social/neighborhood effects

Missing from the list are methods that are either too hard to measure unless estimated as part of the modeling (air quality and energy consumption) or too small to worry about in a relative sense (noise). As a proxy for generic environmental disruption, one could report measures of the amount of construction under the base scenario (e.g., build new capacity to maintain LOS) and transportation system plan (e.g., measured as lane-miles or construction cost). In that case, however, the conclusions are clear: the less the transportation improvements, the less the environmental impact.

Most of the impacts of a transportation plan on land use patterns and economic activity occur as a result of changes in access, which are measured under Criterion Category 1 as changes in the full cost of travel by mode. With those measurements, one can describe in a general way how land uses and business activity might change. For land use, one can describe general effects on density and location patterns (suburbanization), and whether those effects are consistent with other State and regional policies and plans (as part of Criterion Category 4 below). For social effects, neither the professional literature, model output, nor new analysis that fits within the constraints of the Ashland TSP project will allow any defensible estimates of net impacts (e.g., for variables like community cohesion, sense of community, crime, poverty, etc.).

About all one will be able to do is make a qualitative statement about the impacts of new transportation facilities on surrounding neighborhood quality, though this is highly speculative and largely a double count on land use and environmental effects. There are unlikely to be clear-cut cases of neighborhood disruption (e.g., one alternative that eliminates houses and creates a barrier in an existing neighborhood to acquire and develop a new right-of-way).

Criterion Category 3: Distributional (Equity) effects

Is the distribution of the effects of the transportation system plan fair?

Types of effects addressed and possible measurements:

A distributional criterion is needed primarily because implementations that may generate net benefits and in the aggregate will not benefit everyone equally, and more important, may affect some groups negatively. The key sub-categories and measurements in this category are, in theory, the effects on:

- Auto trip makers compared to other trip makers
- Low income compared to other incomes
- Denser urban areas compared to suburban areas

The problems associated with gathering data to make measurements about these classes of citizens are substantial. It is generally not worth the effort to massage secondary data or to collect primary data. Rather, the equity analysis should be qualitative. Of concern is the question of whether one group receive better transportation performance that another group pays for but does not receive (e.g., a central City improvement costs central City residents but primarily benefits suburban commuters), and whether it comes at the expense of the travel performance of another group (e.g., auto drivers get reduced travel time while transit riders get increased travel time). When other types of effects are expected to be substantial and varied across alternatives, the evaluation should consider them.

Recommendation:

- *None*

The model for this project is not be detailed enough to perform detailed quantitative analysis. The best we will be able to do is to look at sub-areas of the City where congestion is increasing or decreasing, and to comment on the classes of people likely experience those changes in travel performance. That analysis may not occur alternative by alternative, but may be a single analysis discussing relative impacts across alternatives.

Criterion Category 4: Political feasibility

Is there enough support to implement the transportation system plan?

Types of effects addressed and possible measurements:

To a large extent, political feasibility is a function of the results of the measurements in Criterion Categories 1–3. If a transportation system plan, relative to other plans, is more efficient and fair, it should have greater political feasibility. Other considerations include consistency with other important or binding public policies and an assessment of how different stakeholders who can influence decisions (the public, the planners, and the decision makers) feel about the alternatives.

Recommendation:

Suggested measures include:

- Compatibility with other public policy (e.g., Ashland Comprehensive Plan)
- Qualitative assessment of acceptability to citizens, neighborhood groups, interest groups, and decision makers

All sub-criteria will be discussed qualitatively in the evaluation. Compatibility with other public policy will draw from both Criterion Category 1, Travel Performance (to discuss changes in vehicle miles traveled, mode split, etc.), and from Criterion Category 2, Secondary Effects (to discuss land use issues like the impact of a transportation system plan on decentralization and density, and the compatibility of those impacts with State, regional, and local land use policy). The overall assessment of political feasibility should be performed by Ashland staff, based on surveys, stakeholder meeting or other public meeting that may occur as part of this planning project, or on their professional opinions.

11.3 WEIGHTING CRITERIA AND MEASUREMENTS

If criteria are established and measures of performance made, one still must decide on the relative importance, or *weight*, of each criterion.. At least two important questions must be answered about weighting.

- When should weighting occur? Obviously, weighting cannot occur until after criteria are listed. But once listed, should it occur immediately (even as part of the process that develops the criteria), or after some, most, or all measurement of the criteria has been completed? There are arguments for either timing. The strongest argument for early (*ex ante*) weighting is that participants in the weighting can be more objective because they do not yet know how their preferred projects will perform—they may not even have any preferred projects. The strongest argument for later (*ex post*) weighting is that it is more realistic: (1) it is hard to know how important a criterion should be without having some notion of how big are the effects that it comprises, and (2) decision makers do and must consider more than the things that lend themselves to measurement when they make their decisions about preferred alternatives.

- How formal should the process be? Should it be implicit (e.g., decision makers look at measures of performance, debate them, and then vote on the implementations that seem best without ever assigning weights to the criteria), informal (e.g., a discussion and single vote from stakeholders on the relative importance of different criteria), or formal (e.g., math-based techniques that try to trick-out underlying weights statistically)?

Recommendations regarding weighting for this project include:

- In any weighting scheme, avoid giving weight to criteria or measurements that are largely counted elsewhere.

- In view of the inherent tradeoffs between *ex ante* and *ex post* weighting, and the problems of scoring for many criteria and of applying weights to criteria not easily scored, (1) have the consultants gather the best information available about each criterion (given the constraints of budget and schedule, and other considerations about the appropriate level of measurement at any point in the decision process), and (2) have a local group (e.g., staff, a steering committee, a planning commission, a City council) evaluate that technical information in a structured work session, during which it would discuss the importance of individual measurements as it came to conclusions about the best strategies to include in a preliminary preferred alternative.

- Use some form of *matrix display* as the evaluation framework. If Ashland wants to do scoring and weighting, it should be *ex post* and informal, and it should be structured in such a way that multiple *means objectives* are controlled to weights for *ends objectives*. For example, if there is a general agreement that distributional impacts should get 20–30% of the weight, they should not get more weight because one chooses to look at distributional impacts for 10 combinations of household types and locations, each of which receives a weight of 5% (for a total weight of 50%).

Chapter 12

Financially Constrained Plan

Chapter 12

FINANCIALLY CONSTRAINED PLAN

The transportation system improvements identified in Chapter 9 are intended to meet the City of Ashland' *vision* for long-range "modal equity." As Chapter 10 highlighted, the full costs of these improvements clearly exceeds the City's and State's current funding capacity. Additional sources will be needed to fund even a portion of the anticipated shortfall over the 20-year TSP planning period. Through review of the preliminary plan findings with City Staff, the TAC and the City Council/TPAC, it became clear that a rigorous prioritization of all the projects was needed to achieve a financially constrained plan, even for the first ten years of the TSP.

12.1 PROJECT PRIORITIZATION

A general application of the project evaluation and prioritization criteria, as outlined in Chapter 11, was made over all modal improvements identified in the Ashland TSP. Table 12-1 summarizes the resulting plan to constrain the Ashland TSP projects over the first ten years of the plan. The anticipated shortfall in the later ten years of the Ashland TSP planning period is expected to exceed $35 million, assuming no major support from additional Oregon (statewide) or NEXTEA sources.

Table 12-1
FUNDING FOR STREET, SIDEWALK, BIKEWAY,
AND TRAFFIC SIGNAL PROJECTS IN THE ASHLAND TSP (1997 dollars)
FINANCIALLY CONSTRAINED PLAN

	Project Phase (years)			
System	1-5	6-10	11-20	Total
Street, Pedestrian & Bicycle Costs	$4,818,000	$4,904,600	$43,387,500	$53,110,100
Future Funding				
ODOT Forecast Assumptions	$4,209,800	$5,469,400	$7,496,600	$17,175,800
With NEXTEA & HB 3163	$7,029,600	$8,435,600	$16,999,600	$32,464,800
Remaining Costs				
ODOT Forecast Scenario	$608,200	-$564,400	$35,890,900	$35,934,300
NEXTEA & HB 3163	-$2,211,600	-$3,531,000	$26,387,900	$20,645,300

Source: ECONorthwest/W&H Pacific, Inc.

12.2 SUMMARY

Table 12-2 lists each of the financially constrained projects within the first 10 years of the Ashland TSP, including street, sidewalk, bicycle facility and intersection improvements. Changes in local, state and federal funding policies will greatly impact Ashland's TSP and capital improvement programming, and there is full expectation that the TSP project list will need to be updated as new funding programs emerge and are implemented. The challenge ahead will be to match and combine Federal, State and local revenue programs to pay for needed improvements.

The Ashland urban area will continue to experience substantial growth over the next twenty years. The increasingly complex interaction of transportation and land use, and the need to find new and creative ways to fund public projects, will provide a challenge for policy makers as they make public infrastructure investment decisions. This TSP is intended to guide transportation investment discussions in a coordinated and comprehensive manner and to provide local decision-makers the standards by which the future transportation system will be improved to meet the community's vision.

Table 12-2
Financially Constrained (First 10 Years)
TSP Project List

Project	From	To	Jurisdiction	Cost
STREET IMPROVEMENTS				
1-5 Years				
Siskiyou Blvd	4th St	Walker Ave	ODOT	$376,000
Siskiyou Blvd	4th St	Walker Ave	ODOT	$1,260,000
E Nevada St	Bear Creek	N Mountain Ave	City	$1,198,000
6-10 Years				
N Mountain Ave	Village Green Dr	E Hersey St	City	$460,000
N Mountain Ave	E Hersey St	Nepenthe Rd	City	$993,000
Tolman Creek Rd	at Siskiyou Blvd		City	$184,000
SIDEWALK IMPROVEMENTS (one or both sides of street)				
1-5 Years				
High St	S Laurel St	Granite St	City	$32,000
N Laurel St	W Hersey St	Randy St	City	$78,000
Helman St	Van Ness St	W Nevada St	City	$98,000
Nevada St	Cambridge St	Oak St	City	$124,000
Randy St	N Laurel St	Holman Grade School	City	$6,000
Beach St	Ashland St	Henry St	City	$16,000
Henry St	Liberty St	S Mountain Ave	City	$26,000
Morse Ave	Siskiyou Blvd	E Main St	City	$44,000
E Nevada St	Oak St	Bear Creek	City	$32,000
Iowa St	S Mountain Ave	Wightman Ave	City	$40,000
Mountain Ave	Iowa St	Village Green Dr	City	$208,000
Walker Ave	Siskiyou Blvd	E Main St	City	$88,000
Homes Ave	Walker Ave	Normal Ave	City	$32,000
6-10 Years				
Maple St	Chestnut St	N Main St	City	$42,000
Hersey St	N Main St	Oak St	City	$88,000
E Main St	N Mountain Ave	UPRR	City	$38,000

Table 12-2
Financially Constrained (First 10 Years)
TSP Project List

Project	From	To	Jurisdiction	Cost
BIKEWAY IMPROVEMENTS				
1-5 Years				
UPRR Path	N Main St	Van Ness Ave	City	$445,000
W Nevada St Path	W Nevada St	UPRR Path	City	$81,000
6-10 Years				
Bear Creek Path	Valley View Rd	W Nevada St	ODOT	$1,093,000
Ashland St	I-5 Int.	E Main St	City	$175,000
INTERSECTION ENHANCEMENTS				
1-5 Years				
N Main St	Lithia Way One-Way Couplet		City	$275,000
Oak St/A Street Intersection			City	$10,000
6-10 Years				
Siskiyou Blvd/Lithia Way Intersection			City	$1,000,000
Pedestrian Waysides			City	$131,600
INTERSECTION ENHANCEMENTS				
1-5 Years				
Oak St/Hersey St			City	$175,000
6-10 Years				
N Main St/W Hersey St			ODOT	$175,000
Siskiyou Blvd/Tolman Creek Rd			ODOT	$175,000
Ashland St/I-5 NBND Ramps			ODOT	$175,000
Ashland St/I-5 SBND Ramps			ODOT	$175,000
TOTAL (Years 1-10)				**$9,722,600**

Appendix A

City of Ashland Comprehensive Plan

Appendix A

CITY OF ASHLAND
COMPREHENSIVE PLAN TRANSPORTATION ELEMENT
GOALS AND POLICIES

Street System Goals and Policies

Goal: To provide all citizens with safe and Convenient transportation while reinforcing the recognition of public rights-of-way as critical public spaces.

Policies:

1. Provide zoning that allows for a mix of land uses and traditional neighborhood development which promotes walking and bicycling.

2. Periodically review and revise street design standards. Incorporate traditional neighborhood design elements such as, but not limited to, planting strips, minimum necessary curb radii, alleys and skinny streets in standards. The street design standards shall incorporate the land use and design guidelines in the Street Classifications section of this element.

3. Design streets as critical public spaces where creating a comfortable and attractive place that encourages people to walk, bicycle and socialize is balanced with building an efficient travel corridor. Design streets with equal attention to all right-of-way users and to promote livability of neighborhoods.

4. Enhance the streetscape by code changes specifying placement of critical design elements such as, but not limited to, windows, doorways, signs and planting strips.

5. Reduce excessive street pavement width in order to facilitate convenient pedestrian and bicycle circulation, to facilitate convenient pedestrian and bicycle circulation, to reduce the costs of construction, to provide for more efficient use of land and to discourage excessive traffic volumes and speeds.

6. Encourage a connected street network pattern, as topography allows, to promote pedestrian and bicycle travel. Off-street pathways should be connected to the street network. Block perimeters should be 1,200 to 1,600 feet and the distance between streets should be a maximum of 300 to 400 feet.

7. Design the Land Use Ordinance to ensure Ashland Street is developed as a multi-modal corridor including attractive landscaping, sidewalks, bike lanes and controlled access. Development along Ashland Street shall be compatible with and support a multi-modal orientation.

8. Design the Land Use Ordinance to ensure that Siskiyou Boulevard is developed as a multi-modal corridor with sidewalk and bike lane facilities appropriate to the volume and speed of motor vehicle traffic.

9. Design the Land Use Ordinance to ensure that A Street and B Street are developed as multi-modal corridors. Development along A Street and B Street shall be compatible with and support a multi-modal orientation.

10. When designing and funding facilities, consider all the costs of automobile use compared with using other forms of transportation. These costs include social costs, and air, noise and water pollution.

11. Advocate regional land use patterns that support multi-modal transportation.

12. Encourage the use of all modes of travel that contribute to clean air and energy efficiency.

13. Integrate traffic calming techniques into city street design standards to reduce automobile speeds within new and existing neighborhoods.

14. Develop a process for traffic control management for the systematic treatment of traffic problems in the existing and future street network. Traffic control includes general laws and ordinances, traffic control devices and traffic calming techniques. The process should include a regular inventory of neighborhood traffic problems, at both intersection and other locations on the street, throughout Ashland, and standards to identify conditions which need attention.

15. Develop a process for identifying and addressing areas prone to traffic accidents.

16. Maintain carrying capacity, safety and pedestrian, bicycle, public transit and motor vehicle movement on boulevards, avenues and neighborhood collectors through driveway and curb cut consolidation or reduction.

17. Direct driveway access onto streets designated as boulevards and avenues should be discouraged whenever an alternative exists or can be made available.

18. Require design that combines multiple driveway accesses to a single point in residential and commercial development.

19. Develop a process for evaluating the consistency of curb cut requests with the Comprehensive Plan and Land Use Ordinance.

20. Maintain street surfaces to achieve maximum pavement life so that road conditions are good and pavement maintenance costs are minimized. Prioritize streets for repaving by factors such as the level of use, street classification and pavement condition.

21. Prohibit the formation of new unpaved roads.

22. Discourage development from occurring on unpaved streets.

23. Off-street parking for all land uses shall be adequate, but not excessive, and shall not interfere with multi-modal street uses.

24. Manage the supply, operations and demand for parking in the public right-of-way to encourage economic vitality, traffic safety and livability of neighborhoods. Parking in the right-of-way, in general, should serve land uses in the immediate area.

25. Reduce the number of automobile parking spaces required for new development, discouraging automobile use as the only source of access and encouraging use of alternative modes.

26. Consider environmental impacts when developing new street projects. Require new street projects to reduce impact on terrain and natural vegetation.

27. Acquire or control parcels of land that may be needed in the future for any transportation purpose when the opportunity arises through sale, donation or land use action.

28. Periodically assess future travel demand and corresponding capacity requirements of street network. Choose a comprehensive transportation system approach to address any capacity insufficiencies that is consistent with the goals, policies and philosophy of the Transportation Element of the Comprehensive Plan.

29. Coordinate land use planning with transportation planning. Integrate transportation-related functions that involve several City departments so that the goals, policies and philosophy of the Transportation Element of the Comprehensive Plan are consistently pursued in the transportation project development process.

30. Coordinate City transportation planning with County, regional, State and Federal plans.

31. Coordinate the transportation planning efforts of the adopted Ashland Downtown Plan with the goals and policies of the Transportation Element of the Comprehensive Plan, including the provision parking lots and parking structures.

32. Interconnections between residential neighborhoods shall be encouraged for automobile, pedestrians and bicycle traffic, but non-local traffic shall be discouraged through street design, except for boulevards, avenues and neighborhood collectors. Cul-de-sac or dead-end street designs shall be discouraged whenever an interconnection alternative exists. Development of a modified grid street pattern shall

be encouraged for connecting new and existing neighborhoods during subdivisions, partitions, and through the use of the Street Dedication map.

33. Plan for the full improvement of Hersey, Nevada and Mountain Avenue as alternative routes to the downtown area for north-south traffic.

34. Street dedications shall be required as a condition of land development. A future street dedication map shall be adopted and implemented as part of the Land Use Ordinance.

35. Re-evaluate parking space size requirements due to the increased use of smaller cars.

36. Encourage sharing of existing and future parking facilities by various nearby businesses.

37. Require effective landscaping throughout continuous paved parking areas to increase shading, screening and buffering aesthetics, and for percolation of water into the groundwater table.

Pedestrian and Bicycle Goals and Policies

Goal I: To raise the priority of convenient, safe, accessible and attractive walking and bicycling networks.

Policies:

1. Provide walkways and bikeways that are integrated into the transportation system.

2. Incorporate pedestrian and bicycle facility needs into all planning, design, construction and maintenance activities of the City of Ashland.

3. Provide walkways and bikeways in conjunction with all land divisions, street construction and reconstruction projects and all commercial, industrial and residential developments.

4. Require pedestrian and bicycle easements to provide neighborhood connectors and reduce vehicle trips. Modify street vacation process so pedestrian and bicyclist through access is maintained.

5. Target walkway and bikeway improvements that link neighborhoods, schools, retail and service areas, employment centers and recreation areas.

6. Use design standards that create convenient, safe, accessible and attractive walkways and bikeways.

7. Design walkways and bikeways for all types of users including people with disabilities, children and the elderly.

8. Require sidewalks and pedestrian access in all developments.

9. Require wide sidewalks in retail areas.

10. Require planting strips and street trees between the roadway and the sidewalk to buffer pedestrians from vehicles.

11. Require secure, sheltered bicycle parking in business developments, institutions, duplexes and multi-family developments.

12. Design street intersections to facilitate pedestrian and bicycle travel by using design features such as, but not limited to, raised medians and islands, curb extensions, colored, textured and/or raised crosswalks, minimum necessary curb radii, pedestrian crossing push buttons, left and right bike turn lanes, signal loop detectors in bike lanes and signal timing conducive to pedestrian and bicycle travel speeds.

13. Design intersections with equal attention to pedestrian, bicyclist and motorist safety. Identify existing intersections that are dangerous for pedestrians and bicyclists, and develop plan for redesign of unsafe areas.

14. Develop maintenance program to keep walkways and bikeways smooth, clean and free of obstructions.

15. Pedestrian Traffic should be separated from auto traffic on streets and in parking lots.

16. Encourage the establishment of a Community-owned Bicycle Program, allowing the provision of "loaner" bikes throughout the community for residents, commuters and tourists.

Goal II: To support and encourage increased levels of walking and bicycling.

Policies:

1. Promote decreased auto use and increased walking, bicycling, public transportation, ride sharing and other transportation demand management techniques.

2. Develop and implement a transportation safety education program.

3. Increase enforcement of pedestrian and bicycle traffic safety laws. Target motorists, pedestrians and bicyclists.

4. Increase neighborhood use of Sidewalk LID Program.

5. Encourage employer commuter programs to promote walking, bicycling, public transit, ride sharing and other transportation demand management techniques.

6. Encourage businesses to inform customers of available non-auto access to the business locations and to support customer use of non-auto access.

7. Establish aggressive but realistic performance targets for increasing walking and bicycling trips (for personal business, school, social and work).

Goal III: Emphasize environments which enhance pedestrian and bicycle.

Policies:

1. Maintain and improve Ashland's compact urban form to allow maximum pedestrian and bicycle travel.

2. Promote a mixed land use pattern, where appropriate, and pedestrian environment design that supports walking and bicycling trips.

3. Develop street design standards that outline street widths, curb radii and other pedestrian environment factors which facilitate walking and bicycling.

4. Use traffic calming tools to create a safe, convenient and attractive pedestrian and bicycle environment to slow speeds, reduce street widths and interrupt traffic as appropriate in each particular location.

5. Establish a street tree program to plant more trees on existing streets and to promote/monitor street tree care throughout Ashland.

6. Identify areas needing pedestrian and bicycle amenities, such as rest rooms, benches, pocket parks and drinking fountains, and develop installation and funding plan.

7. Encourage public art along multi-modal travel corridors.

Goal IV: To dedicate funding and staff support to implement the goals and policies of this section.

Policies:

1. Identify funding sources for walking and bicycling promotion, planning and facilities construction.

2. Investigate the creation of the role of transportation coordinator to facilitate a viable multi-modal transportation network and achieve Ashland's transportation goals.

3. Develop transportation program using a comprehensive approach with planning and engineering, education, enforcement and encouragement components.

4. Support participation by all City staff involved in creating the transportation network in educational programs covering transportation planning, design and engineering.

5. Consistently incorporate pedestrian and bicycle facilities in the City of Ashland Capital Improvement Plan.

Public Transit Goals and Policies

Goal: To create a public transportation system that is linked to pedestrian, bicycle and motor vehicle travel modes, and is as easy and efficient to use as driving a motor vehicle.

Policies:

1. Develop pedestrian and bicycle networks that are linked to the public transportation routes.

2. Zoning shall allow for residential densities and a mix of commercial businesses within walking distance (one-quarter to one-half mile) of existing and planned public transit services which support use of public transportation.

3. Work with the local public transit provider to provide service within one-fourth of a mile of every home in Ashland.

4. Promote and support express commuter service between cities in the Rogue Valley.

5. Incorporate needs of people who don't drive when developing transit routes and facilities.

6. Provide pleasant, clean, safe, comfortable shelters along transit lines.

7. Require residential and commercial development within one-quarter of a mile of existing or future public transit services to provide transit shelters, bus access and bus turnaround areas.

8. Install bike racks or lockers at transit stops.

9. Identify park and ride, bike and ride and walk and ride lots in Ashland to support ridesharing.

10. Develop a transportation center in Ashland.

11. Encourage promotional and educational activities that encourage people who own cars and school children to use public transit.

12. Work with the local public transit provider to address the specific public transportation needs of Ashland.

13. Participate and show leadership in interacting with counties, cities and other special governments in Southern Oregon to develop regional public transportation services to reduce the frequency and length of vehicular trips.

14. Establish aggressive but realistic performance targets for increasing public transit use for the short, medium and long run.

Commercial Freight and Passenger Transportation Goals and Policies

Goal: To provide efficient and effective movement of goods, services and passengers by air, rail, water, pipeline and highway freight transportation while maintaining the high quality of life of Ashland.

Policies:

1. Review development within the Airport Overlay Zone to ensure compatibility with the Ashland Municipal Airport.

2. Explore intracity commuter rail service on existing rail lines.

3. Mitigate railroad noise through the use of berming and landscaping in developments adjacent to the railroad and which are impacted by railroad noise.

4. Maintain boulevard and avenue street facilities adequate for truck travel within Ashland.

5. Coordinate with County, regional, State and Federal jurisdictions to maintain and develop intermodal hubs which allow goods and passengers to move from truck or automobile to rail to ship or plane.

6. Encourage the use of rail transport for the movement of goods and passengers as a means of conserving energy and reducing reliance on the automobile.

Appendix B

Inventory of Ashland Transportation System

Appendix B

INVENTORY OF ASHLAND URBAN AREA TRANSPORTATION SYSTEM

I. Street System

The following tables summarize the inventory of Ashland's street system within the UGB.

Table B-1
BOULEVARD, AVENUE AND NEIGHBORHOOD COLLECTOR STREETS WITHIN ASHLAND UNDER JACKSON COUNTY JURISDICTION

Roadway	Section	Classification
Clay Street	State frontage road south of Highway 66 - Siskiyou Boulevard	Avenue
Clay Street	State frontage road north of Highway 66	Avenue
Dead Indian Memorial Road	South of Siskiyou Boulevard, from end of pavement south	Avenue
East Main Street	Adjacent to airport	Boulevard
Peachey Road	All	Neighborhood Collector
Tolman Creek Road	Siskiyou Boulevard - 200' south of Greenmeadows Way (city limits)	Avenue

Table B-2
FUNCTIONAL CLASSIFICATION AND PHYSICAL CHARACTERISTICS OF ASHLAND BOULEVARD AND ARTERIAL STREET SYSTEM

Roadway	Section	Pavement Width	Travel Lanes	Bike Facilities[1]	Sidewalks
Boulevards					
Ashland Street	Siskiyou Boulevard to Interstate 5 Ramps	70'	4 - 5	Yes	Both Sides
	Interstate 5 Ramps and Overpass	30'	2	No	No
	Interstate 5 Ramps to 1,000' east	50'	2	Yes	Partial
	1,000' east of Interstate 5 Ramps to East Main Street	32'	2	Yes	No
East Main Street	Siskiyou Boulevard to Sherman Street	32'	2	Yes	Both Sides
	Sherman Street to Garfield Street	29' - 30'	2	Yes	Partial
	Garfield Street to California Street	37'	2	Yes	Both Sides
	California Street to Wightman Avenue	30'	2	Yes	No
	Wightman Avenue to Walker Avenue	37'	2	Yes	One Side
	Walker Avenue to Interstate 5 Overpass	31' - 32'	2	Yes	No
	Interstate 5 Overpass	22'	2	No	No
	Interstate 5 Overpass to 900' east	27'	2	Yes	No
	900' east of Interstate 5 Overpass to Ashland Street	32'	2	Yes	No
Green Spring Highway	Ashland Street to Neil Creek	32'	2	Yes	No
Lithia Way	North Main Street to Water Street	25'	2	No	Both Sides
	Water Street to East Main Street	41' - 42'	2	No	Both Sides
North Main Street	Pacific Way to 500' south of Grant Street	49'	4	No	Partial
Roadway	**Section**	**Pavement Width**	**Travel Lanes**	**Bike Facilities[1]**	**Sidewalks**

Bicycle facilities include bike lanes and shoulder lanes only.

Bicycle facilities include bike lanes and shoulder lanes only.

North Main Street	500' south of Grant Street to Maple Street	56'	5	No	Both Sides
	Maple Street to Coolidge Street	60'	5	No	Both Sides
	Coolidge Street to Lithia Way	48'	4	No	Both Sides
	Lithia Way to Water Street	39'	2	No	Both Sides
	Water Street to Winburn Way (northbound)	44'	2	No	Both Sides
	Winburn Way (northbound) to East Main Street	54'	3	No	Both Sides
Rogue Valley Highway	Valley View Road to 2300' east	78'	5	No	No
	2300' east of Valley View Road to 1200' east	48'	4	No	No
	3500' east of Valley View Road to Pacific Way	78'	5	No	No
Siskiyou Boulevard	East Main Street to Ashland Street	70'	5	No	Both Sides
	Ashland Street to Walker Avenue	67'	4	No	One Side
	Walker Avenue to Tolman Creek Road	38'	2	Yes	One Side
	Tolman Creek Road to City Limits	45'	2	Yes	Partial
	City Limits to Tolman Creek	32'	2	Yes	No
Avenues					
"A" Street	Oak Street to 300' east of Water Street	34'	2	No	No
	300' east of Water Street to Eighth Street	30'	2	No	Partial
Ashland Mine Road	Frank Hill Road to 3400' south	16'	2	No	No
	Frank Hill Road to City Limits	18'	2	No	No
	City Limits to Fox Street	31'	2	No	No
Roadway	**Section**	**Pavement Width**	**Travel Lanes**	**Bike Facilities[1]**	**Sidewalks**
Ashland Street	Guthrie Street to Long Way	33'	2	No	No

Bicycle facilities include bike lanes and shoulder lanes only.

	Long Way to Liberty Street	31'	2	No	No
	Liberty Street to Mountain Avenue	33'	2	No	Partial
“B” Street	Oak Street to First Street	35'	2	No	Partial
	First Street to Fifth Street	45'	2	No	Both Sides
	Fifth Street to Mountain Avenue	28' - 30'	2	No	Partial
Beach Street	Siskiyou Boulevard and Ashland Street	34'	2	No	Partial
Chestnut Street	Maple Street to Wimer Street	33'	2	No	Partial
Church Street	North Main Street to Scenic Drive	27'	2	No	Partial
Clay Street	East Main Street to 400' south	29'	2	No	One Side
	400' south of East Main Street to City Limits	19'	2	No	No
	City Limits to Ashland Street	24' - 25'	2	No	Partial
	Ashland Street to Siskiyou Boulevard	18"	2	No	No
	Siskiyou Boulevard to Canyon Park Drive	35'	2	No	Partial
Crowson Road	Entire	30'	2	No	Yes
Dead Indian Memorial Road	Green Springs Highway to 800' north of Emigrant Creek Road	32'	2	No	No
	800' north of Emigrant Creek Road north	24'	2	No	No
Eagle Mill Road	Valley View Road to Oak Street	23'	2	No	No
Fox Street	Ashland Mine Road to North Main Street/Pacific Way	33'	2	No	No
Glenn Street	North Main Street to Laurel Street	35'	2	No	Partial
	Laurel Street to Helman Street	27'	2	No	No
Roadway	**Section**	**Pavement Width**	**Travel Lanes**	**Bike Facilities[1]**	**Sidewalks**
Grandview Drive	Skycrest Drive to Scenic Drive	18' - 19'	2	No	No
Granite Street	North Main Street to Nutley Street	29' - 31'	2	No	Both Sides
	Nutley Street to Strawberry Lane	33'	2	No	One Side

Bicycle facilities include bike lanes and shoulder lanes only.

	Strawberry Lane to 400' south	27'	2	No	One Side
	400' south of Strawberry Lane to Pioneer Street	30' - 31'	2	No	Partial
Gresham Street	North Main Street to Pearl Street	27'	2	No	Partial
	Pearl Street to Holly Street	31'	2	No	Partial
Guthrie Street	Holly Street to Herbert Street	33'	2	No	Partial
	Herbert Street to Friendship Street	22'	2	No	No
	Friendship Street to Ashland Street	33'	2	No	No
Helman Street	Nevada Street to North Main Street	34' - 35'	2	No	Partial
Hersey Street	North Main Street to Helman Street	38'	2	Yes	Partial
	Helman Street to Oak Street	39'	2	Yes	Partial
	Oak Street to Ann Street	47'	2	Yes	One Side
	Ann Street to Mountain Avenue	30'	2	No	No
Iowa Street	Terrace Street to Fairview Street	32'	2	No	Partial
	Fairview Street to Siskiyou Boulevard	27'	2	No	Both Sides
	Mountain Avenue to Walker Avenue	35'	2	Partial	Partial
Laurel Street	Nevada Street to Hersey Street	35'	2	No	Partial
	Hersey Street to North Main Street	34'	2	No	Both Sides
Maple Street	Chestnut Street to Catalina Drive	43'	2	No	No
	Catalina Drive to North Main Street	31'	2	No	Partial
Mistletoe Road	Tolman Creek Road to 700' north of City Limits	24'	2	No	No
Roadway	**Section**	**Pavement Width**	**Travel Lanes**	**Bike Facilities**[1]	**Sidewalks**
Mistletoe Road	700' north of City Limits to City Limits	32'	2	No	Partial
	City Limits to Siskiyou Boulevard	24'	2	No	No
Morton Street	Iowa Street to Holly Street	28'	2	No	Both Sides
	Holly Street to Ashland Street	29'	2	No	Partial
Mountain Avenue	Nevada Street to Meadowlark Way	28'	2	No	No

Bicycle facilities include bike lanes and shoulder lanes only.

	Meadowlark Way to Nepenthe Road	30'	2	No	No
	Nepenthe Road to Hersey Street	25' - 26'	2	No	No
	Hersey Street to Village Green Drive	29'	2	No	No
	Village Green Drive to 200' north of East Main Street	36'	2	No	Partial
	200' north of East Main Street to East Main Street	34'	2	No	No
	East Main Street to 300' south	31'	2	No	No
	300' south of East Main Street to 200' north of Iowa Street	41'	2	No	Partial
	200' north of Iowa Street to Iowa Street	31'	2	No	Both Sides
	Iowa Street to Siskiyou Boulevard	37'	2	No	Both Sides
	Siskiyou Boulevard to Ashland Street	38'	2	No	Both Sides
	Ashland Street to Prospect Street	29'	2	No	Partial
Nevada Street	Cambridge Street to Ashland Creek	35'	2	No	Partial
	Ashland Creek to 200' west of Bear Creek	30'	2	No	No
Normal Avenue	Railroad to Siskiyou Boulevard	33'	2	No	No
North Main Street	Fox Street to Rogue Valley Highway	30'	2	No	No
Nutley Street	Alnutt Street to Granite Street	28'	2	No	Partial
	Granite Street to Winburn Way	22'	2	No	No
Roadway	**Section**	**Pavement Width**	**Travel Lanes**	**Bike Facilities[1]**	**Sidewalks**
Oak Knoll Drive	Ashland Street to Twin Pines Circle (southern intersection)	35'	2	No	No
	Twin Pines Circle (southern intersection) to St. Andrews Circle	23'	2	No	Both Sides
	St. Andrews Circle to Crowson Road	40'	2	No	Both Sides
Oak Street	Eagle Mill Road to Nevada Street	29'	2	No	No
	Nevada Street to Van Ness Avenue	39'	2	No	Partial
	Van Ness Avenue to Lithia Way	35'	2	No	Both Sides

Bicycle facilities include bike lanes and shoulder lanes only.

	Lithia Way to North Main Street	44'	2	No	Both Sides
Park Street	Siskiyou Boulevard to Crestview Drive	33'	2	No	No
Scenic Drive	Maple Street to Wimer Street	34'	2	No	Partial
	Wimer Street to Grandview Drive	30'	2	No	Partial
	Grandview Drive to Nutley Street	33'	2	No	Partial
Tolman Creek Road	East Main Street to 700' south	22'	2	No	No
	700' south of East Main Street to 700' north of Ashland Street	24'	2	Partial	One Side
	700' north of Ashland Street to Railroad	44'	2	Yes	Both Sides
	Railroad to 400' north of Siskiyou Boulevard	31'	2	Yes	No
	400' north of Siskiyou Boulevard to Siskiyou Boulevard	36'	2	Yes	Partial
	Siskiyou Boulevard to 400' south	29'	2	No	Partial
	400' south of Siskiyou Boulevard to Greenmeadows Way	20'	2	No	No
Walker Avenue	East Main Street to Parker Street	33'	2	Yes	One Side
	Parker Street to Siskiyou Boulevard	35'	2	Yes	Partial
Roadway	**Section**	**Pavement Width**	**Travel Lanes**	**Bike Facilities**[1]	**Sidewalks**
Walker Avenue	Siskiyou Boulevard to Peachey Road	35' - 36'	2	No	Partial
Wightman Street	East Main Street to Siskiyou Boulevard	35'	2	No	Partial
Wimer Street	Thornton Way to Chestnut Street	27' - 28'	2	No	No
	Chestnut Street to Rock Street	32'	2	No	No
	Rock Street to North Main Street	27'	2	No	Partial
Winburn Way	North Main Street to 400' south	35'	2	No	Both Sides
	400' south of North Main Street to Nutley Street	49'	2	No	Both Sides

Bicycle facilities include bike lanes and shoulder lanes only.

Neighborhood Collectors					
Alnutt Street	Entire	12'	2	No	No
Benson Way	Entire	39'	2	No	Partial
Crestview Drive	Bristol Street to Park Street	33'	2	No	No
Fordyce Street	Munson Drive to 100' north of Evan Lane	19'	2	No	Partial
	100' north of Evan Lane to Orchid Street	26'	2	No	Partial
	Orchid Street to East Main Street	19'	2	No	No
Hillview Drive	Siskiyou Boulevard to Bristol Street	33'	2	No	Partial
	Bristol Street to Crestview Drive	35'	2	No	No
Holly Street	Terrace Street to Harrison Street	32'	2	No	Partial
	Harrison Street to Morton Street	29'	2	No	No
Indiana Street	Siskiyou Boulevard to Woodland Drive	30'	2	No	Partial
Mountain Avenue	Prospect Street to Emma Street	33'	2	No	No
	Emma Street to Ivy Lane	27'	2	No	No
Peachey Road	Walker Avenue to Hillview Drive	18'	2	No	No
Scenic Drive	Nutley Street to Strawberry Lane	16'	2	No	No
Roadway	**Section**	**Pavement Width**	**Travel Lanes**	**Bike Facilities**[1]	**Sidewalks**
Strawberry Lane	Orchard Street to Granite Street	11'	1 - 2	No	No
Terrace Street	Summit Street to 200' south of Ridge Road	27' - 28'	2	No	No
	200' south of Ridge Road to 200' south of Irrigation Canal	30' - 31'	2	No	No
	200' south of Irrigation Canal to Ashland Loop Road	19'	2	No	No
Washington Street	Ashland Street to 200' west of Jefferson Avenue	20'	2	No	No
	200' west of Jefferson Avenue to 100' west of City Limits	45'	2	No	Partial

Bicycle facilities include bike lanes and shoulder lanes only.

	100' west of City Limits to end	19'	2	No	No
Wightman Street	Pond Road to East Main Street	29'	2	No	Both Sides

Table B-3
SIGNALIZED INTERSECTIONS WITHIN THE CITY OF ASHLAND

Boulevard	Intersecting Street
North Main Street	Maple Street
	Laurel Street
	Helman Street
	Pioneer Street
	Second Street
Lithia Way	Pioneer Street
	Second Street
Siskiyou Boulevard	East Main Street (fire signal)
	Morse Avenue
	Mountain Avenue
	Wightman Street
	Ashland Street
	Walker Avenue
	Tolman Creek Road (blinking yellow)
Ashland Street	Walker Avenue
	Tolman Creek Road

Table B-4
TRAFFIC CONTROL DEVICES AT
RAILROAD CROSSINGS IN ASHLAND

Intersecting Roadway	Safety/Control Device
Glenn Street	Stop signs
North Laurel Street	Stop signs
West Hersey Street	Crossing gates and flashing lights
Helman Street	Crossing gates and flashing lights
Oak Street	Flashing lights
North Mountain Avenue	Flashing lights
East Main Street	Crossing gates and flashing lights
Wightman Street	Stop signs
Walker Avenue	Crossing gates and flashing lights
Tolman Creek Road	Crossing gates and flashing lights
Crowson Road	Crossing gates and flashing lights

Table B-5 Access Densities (hard copy)

Table B-6 Accident Summary (hard copy)

Table B-6 Accident Summary (hard copy)

Table B-7 Accident Summary (hard copy)

II. Bicycle System

The following tables list existing bicycle facilities, by type, in the City of Ashland study area, as well as their widths and pavement conditions. All facilities are paved unless otherwise noted.

Table B-8
BICYCLE LANES

Route	Boundaries	Facility Width	Facility Condition
Hersey Street	Main Street to Oak Street[2]	2 - 5' lanes	good
	Oak Street to Ann Street	2 - 4' lanes	some gravel in lanes
East Main Street	Siskiyou Boulevard to Wightman Street	2 - 4' lanes	good, with at least one grate
	Wightman Street to Green Springs Highway, excluding bridge over Interstate 5	2 - 5' lanes	good
	bridge over Interstate 5	2 narrowing lanes on either side of bridge, no lanes on bridge	much gravel on shoulder and lanes, especially over bridge
Ashland Street	Siskiyou Boulevard to western approaches to Interstate 5	2 - 4-5' lanes	good, some grates
Siskiyou Boulevard	slightly east of Walker Road to Tolman Creek Road	2 - 6-7' lanes	good
Walker Avenue	East Main Street to Siskiyou Boulevard	2 - 4' lanes	good
Tolman Creek Road	1000' north of Ashland Street to Ashland Street	2 - 3' lanes	good
	Ashland Street to railroad	2 - 3-4' lanes	good
	railroad to Siskiyou Boulevard	2 - 4-5' lanes	good

Hersey Street over Ashland Creek sustained flood damage. Bicycle lanes have not yet been redesignated on this street segment.

Table B-9
SHOULDER LANES

Route	Boundaries	Facility Width	Facility Condition
Siskiyou Boulevard	east of Tolman Creek Road	2 - 4' shoulders	debris on shoulder
Crowson Road	entire	2 - 4' shoulders	gravel on shoulder
Green Springs Highway	south of East Main Street	2 - 4' shoulders	gravel on shoulder

Table B-10
SHARED LANES

Route	Boundaries	Facility Width	Facility Condition
Jackson Road	north of the Rogue Valley Highway	2 - 7-8' travel lanes	very rough pavement
Rogue Valley Highway	Jackson Road to Pacific Way	2 - 13' outside travel lanes	good
North Main Street	Pacific Way to Schofield Street	2 - 11' outside travel lanes	good
	Schofield Street to north of Maple Street intersections	2 - 9-10' outside travel lanes	good
	Maple Street intersection	2 - 12' outside travel lanes	good
	south of Maple Street intersection to Lithia Way	2 - 9-10' outside travel lanes	good
	Lithia Way to Pioneer Street	2 - 15' travel lanes	good
	Pioneer Street to 2nd Street	12' outside travel lane	good
	2nd Avenue to East Main Street	20' outside travel lane	good
Van Ness Avenue	Helman Street to Bear Creek	2 - 12' travel lanes[3]	good
Lithia Way	North Main Street to east of Water Street bridge	2 - 12' travel lanes	good
	east of Water Street bridge to 3rd Street	35' of pavement (includes 2 lanes and parking), assumed 11' travel lane width	good
	3rd Street to East Main Street	2 - 14' travel lanes	good
Nevada Street	Helman Street to Ashland Creek	35' of pavement (includes 2 lanes and parking), assumed 11' travel lane width	good
	Ashland Creek to Bear Creek	30' of pavement (includes 2 lanes and parking), assumed 8' travel lane width	good
Oak Street	Eagle Mill Road to Nevada Street	2 - 12' travel lanes	good
	Nevada Street to “A” Street	39' of pavement (includes 2 lanes and parking), assumed 12' travel lane width	good
	“A” Street to Lithia Way	35' of pavement (includes 2 lanes and parking), assumed 10' travel lane width	good
	Lithia Way to Main Street	2 - 13' travel lanes	good

Van Ness Avenue over Ashland Creek sustained flood damage. Roadway has not yet been refinished.

Route	Boundaries	Facility Width	Facility Condition
"A" Street	Oak Street to 1st Street	34' of pavement (includes 2 lanes and parking), assumed 12' travel lane width	good
	1st Street to 7th Street	30' of pavement (includes 2 lanes and parking), assumed 10' travel lane width	good
4th Street	East Main Street to "B" Street	36' of pavement (includes 2 lanes and parking), assumed 12' travel lane width	good
	"B" Street to "C" Street	49' of pavement (includes 2 lanes and parking, one side angled), assumed 12' travel lane width	good
Grandview Drive	end of road to Wrights Creek Drive	pavement narrows, becomes 12' gravel/dirt road	rough pavement, turning into gravel/dirt at end
	Wrights Creek Drive to Oakwood Drive	35' of pavement (includes 2 lanes and parking), assumed 11' travel lane width	good
	Oakwood Drive to Ditch Road	2 - 9-10' travel lanes	good
Granite Street	1500' south of Granite Street Reservoir to Reservoir	15' total width	gravel/dirt road
	Granite Street Reservoir to 1500' north	2 - 9-10' travel lanes	good
	1500' north of Granite Street Reservoir to Winburn Way	33' of pavement (includes 2 lanes and parking), assumed 11' travel lane width	good
Ditch Road	Grandview Drive to Strawberry Lane	9' single lane	USFS gravel/dirt road closed to unauthorized vehicles
Winburn Way	Granite Street to Main Street[4]	travel lane width vary, 11-17', 29' immediately north of Granite Street	good
Fordyce Street	East Main Street to Munson Drive	2 - 9-10' travel lanes	fair to good
Munson Drive	Fordyce Street to Village Park Drive	2 - 17' travel lanes	good
Clover Lane	Ashland Street south ~100'	2 - 12' travel lanes	good

Winburn Way has sustained significant flood damage at the Ashland Creek crossing. The bicycle facility on that road has not been determined at this time.

Route	Boundaries	Facility Width	Facility Condition
Mountain Avenue	Siskiyou Boulevard to ~200' north of Iowa Street	31' of pavement (includes 2 lanes and parking on 1 side), assumed 12' travel lane width	good
	~200' north of Iowa Street to East Main Street intersection	41' of pavement (includes 2 lanes and parking), assumed 11' travel lane width	good
	East Main Street intersection	31-34' of pavement (includes 2 lanes and various parking arrangements),	good
	East Main Street to ~300' north	36' of pavement (includes 3 lanes), assumed 12' travel lane width	good
	~300' north of East Main Street to railroad	36' of pavement (includes 2 lanes and parking), assumed 12' travel lane width	good
Bensen Way	Crowson Road to City limit	39' of pavement (includes 2 lanes and parking), assumed 14' travel lane width	good
Dead Indian Memorial Road	Green Springs Highway to City limit	2-12' travel lanes	good

Table B-11
BICYCLE PATHS

Route	Boundaries	Facility Width	Facility Condition
south of Southern Oregon State College	Siskiyou Boulevard to Ashland Street	unmeasured - area is posted private	
behind buildings on Winburn Way	south of Main street to Winburn Way at the Ashland Creek crossing	unmeasured	bicycle/pedestrian facility, obstacles sometimes present from businesses
along the City irrigation canal	southern Ashland, following mainly flat contour lines	unmeasured and unmapped[5]	

This path has not been established and is not recognized in this TSP as a public bicycle facility.

Appendix C

Intersection LOS and LOS Definitions

Appendix C

Table C-1
EXISTING PM PEAK HOUR (4:30-5:30)
INTERSECTION LEVEL OF SERVICE ANALYSIS

Signalized Intersection	Volume to Capacity Ratio (v/c)	Average Delay (sec)	Level of Service
Walker Avenue/Siskiyou Boulevard	0.42	18.2	C
Maple Street/Main Street	0.73	35.3	D
Mountain Avenue/Siskiyou Boulevard	*	*	*
Tolman Creek Road/Ashland Street	0.63	33.7	D
Ashland Street/Siskiyou Boulevard	0.57	15.5	C
Ashland Street/Walker Avenue	0.49	12.0	B
Unsignalized Intersection	Critical Approach	Average Delay (sec)	Level of Service
Ashland Street/Normal Avenue	EB	41.3	

* Signal timing information for this intersection is incomplete. Pending more complete data, the v/c ratio at this intersection is greater than one.

Description of LOS Methods and Criteria

LOS Concept

LOS is a concept developed to quantify the degree of comfort (including such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles) afforded to drivers as they travel through an intersection or roadway segment. Six grades are used to denote the various LOS from A to F.[1]

Signalized Intersections

The six LOS grades are described qualitatively for signalized intersections in Table C-2. Additionally, Table C-3 identifies the relationship between LOS and average stopped delay per vehicle. Using this definition, LOS D is generally considered to represent the minimum acceptable design standard.

LOS	Average Delay per Vehicle
A	Very low average stopped delay, less than five seconds per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Average stop delay is in the range of 5.1 to 15.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for a LOS A, causing higher levels of average delay.
C	Average stopped delay is in the range of 15.1 to 25.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Average stopped delays are in the range of 25.1 to 40.0 seconds per vehicle. The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle length, or high volume/capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Average stopped delays are in the range of 40.1 to 60.0 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume/capacity ratios. Individual cycle failures are frequent occurrences.
F	Average stop delay is in excess of 60 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation. It may also occur at high volume/capacity ratios below 1.00, with many individual cycle failures. Poor progression and long cycle lengths may also contribute to such high delay levels.

1. Most of the material in this appendix is adapted from the Transportation Research Board, *Highway Capacity Manual,* Special Report 209 (1994).

Unsignalized Intersections

LOS	Stopped Delay per Vehicle (Seconds)
A	≤5.0
B	5.1 to 15.0
C	15.1 to 25.0
D	25.1 to 40.0
E	40.1 to 60.0
F	≥ 60.0

Unsignalized intersections include two-way stop controlled (TWSC) and all-way stop controlled (AWSC) intersections. The *1994 Highway Capacity Manual*.
provides new models for estimating total vehicle delay at both TWSC and AWSC intersections. Unlike signalized intersections, where LOS is based on stopped delay, unsignalized intersections base LOS on total vehicle delay. A qualitative description of the various service levels associated with an unsignalized intersection is presented in Table C-4. A quantitative definition of LOS for unsignalized intersections is presented in Table C-5. Using this definition, LOS E is generally considered to represent the minimum acceptable design standard. It should be noted that the LOS criteria for unsignalized intersections are somewhat different than the criteria used for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, there are a number of driver behavior considerations that combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, while drivers on minor street approaches to TWSC intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections than signalized intersections. For these reasons, it is considered that the total delay threshold for any given LOS is less for an unsignalized intersection than for a signalized intersection. While overall intersection LOS is calculated for AWSC intersections, LOS is only calculated for the minor approaches and the major street left turn movements at TWSC intersections. No delay is assumed to the major street through movements. For TWSC intersections, the overall intersection LOS is defined by the movement having the worst LOS (typically a minor street left turn).

LOS	Average Delay per Vehicle to Minor Street
A	•Nearly all drivers find freedom of operation. •Very seldom is there more than one vehicle in the queue.
B	•Some drivers begin to consider the delay an inconvenience. •Occasionally there is more than one vehicle in the queue.
C	•Many times there is more than one vehicle in the queue. •Most drivers feel restricted, but not objectionably so.
D	•Often there is more than one vehicle in the queue. •Drivers feel quite restricted.
E	•Represents a condition in which the demand is near or equal to the probable maximum number of vehicles that can be accommodated by the movement. •There is almost always more than one vehicle in the queue. •Drivers find the delays approaching intolerable levels.
F	•Forced flow. •Represents an intersection failure condition that is caused by geometric and/or operational constraints external to the intersection.

LOS	Average Total Delay per Vehicle (Seconds)
A	≤5
B	5-10
C	10-20
D	20-30
E	30-45
F	≥ 45

Appendix D

Recommended Access Control Ordinances

Recommended Access Control Ordinances

The following policies and ordinance are recommended to support the access management standards.

Section 1. Intent and Purpose

The intent of this ordinance is to manage access to land development while preserving the flow of traffic in terms of safety, capacity, functional classification, and level of service. Major roadways, including highways and other arterials, serve as the primary network for moving people and goods. These transportation corridors also provide access to businesses and homes and have served as the focus for commercial and residential development. If accesses are not properly designed, these roadways will be unable to accommodate the access needs of development and retain their primary transportation function. This ordinance balances the right of reasonable access to private property with the right of the citizens of the City of Ashland and the State of Oregon to safe and efficient travel.

To achieve this policy intent, state and local roadways have been categorized by function and classified for access purposes based upon their level of importance, with highest priority on the Oregon Highway System and secondary priority on the primary network of regional arterials. Regulations have been applied to these roadways for the purpose of reducing traffic accidents, personal injury, and property damage attributable to poorly designed access systems, and to thereby improve the safety and operation of the roadway network. This will protect the substantial public investment in the existing transportation system and reduce the need for expensive remedial measures. These regulations also further the orderly layout and use of land, protect community character, and conserve natural resources by promoting well-designed road and access systems and discouraging the unplanned subdivision of land.

Section 2. Applicability

This ordinance shall apply to all arterials and collectors within the City of Ashland and to all properties that abut these roadways. The access classification system and standards of the Oregon Department of Transportation shall apply to all roadways on the State Highway System.

Section 3. Conformance with Plans, Regulations, and Statutes

This ordinance is adopted to implement the access management policies of the City of Ashland as set forth in the Transportation System Plan and the State Highway Access Management policies.

Section 4. Definitions

1. Access. A way or means of approach to provide vehicular entrance or exit to a property.

2. Access Classification. A ranking system for roadways used to determine the appropriate degree of access management. Factors considered include functional classification, the

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

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

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

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

6. Cross Access. A service drive providing vehicular access between two or more contiguous sites so the driver need not enter the public street system.

7. Easement. A grant of one or more property rights by a property owner to or for use by the public, or another person or entity.

8. Frontage Road. A public or private drive which generally parallels a public street between the right-of-way and the front building setback line. The frontage road provides access to private properties while separating them from the arterial street. (see also Service Roads)

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

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

11. Joint Access (or Shared Access). A driveway connecting two or more contiguous sites to the public street system.

12. Lot. A parcel, tract, or area of land whose boundaries have been established by some legal instrument, which is recognized as a separate legal entity for purposes of transfer of title, has frontage upon a public or private street, and complies with the dimensional requirements of this code.

13. Lot, Corner. Any lot having at least two (2) contiguous sides abutting upon one or more streets, provided that the interior angle at the intersection of such two sides is less than one hundred thirty-five (135) degrees.
14. Lot Depth. The average distance measured from the front lot line to the rear lot line.

15. Lot, Flag. A lot not meeting minimum frontage requirements and where access to the public road is by a narrow, private right-of-way line.

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

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

18. Nonconforming Access Features. Features of the property access that existed prior to the date of ordinance adopting and do not conform with the requirements of the code.

20. Parcel. A division of land comprised of one or more lots in contiguous ownership.

21. Plat. An exact and detailed map of the subdivision of land.

22. Private Road. Any roadway for vehicular travel which is privately owned and maintained and which provides the principal means of access to abutting properties.

23. Public Road. A road under the jurisdiction of a public body that provides the principal means of access to an abutting property.

24. Reasonable Access. The minimum number of access connections, direct or indirect, necessary to provide safe access to and from the roadway, as consistent with the purpose and intent of this code and any applicable plans and policies of the City of Ashland.

25. Right-of-Way. Land reserved, used, or to be used for a highway, street, alley, walkway, drainage facility, or other public purpose.

26. Significant Change in Trip Generation. A change in the use of the property, including land, structures or facilities, or an expansion of the size of the structures or facilities causing an increase in the trip generation of the property exceeding: (1) local - 10 percent more trip generation (either peak or daily) and 100 vehicles per day more than the

existing use for all roads under local jurisdiction; or (2) State - exceeding 25 percent more trip generation (either peak or daily) and 100 vehicles per day more than the existing use for all roads under state jurisdiction.

27. Stub-out (Stub-street). A portion of a street or cross access drive used as an extension to an abutting property that may be developed in the future.

28. Substantial Enlargements or Improvements. A 10 percent increase in existing square footage or 50 percentage increase in assessed valuation of the structure.

Section 5. Corner Clearance

1. Corner clearance for connections shall meet or exceed the minimum connection spacing requirements for that roadway.

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

3. Where no other alternatives exist, the (permitting department) may allow construction of an access connection along the property line farthest from the intersection. In such cases, directional connections (i.e. right in/out, right in only, or right out only) may be required.

Section 6. Joint and Cross Access

1. Adjacent commercial or office properties classified as major traffic generators (i.e. shopping plazas, office parks), shall provide a cross access drive and pedestrian access to allow circulation between sites.

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

    a. A continuous service drive or cross access corridor extending the entire length of each block served to provide for driveway separation consistent with the access management classification system and standards;

    b. A design speed of 10 mph and a maximum width of 22 feet to accommodate two-way travel aisles designated to accommodate automobiles, service vehicles, and loading vehicles;

    c. Stub-outs and other design features to make it visually obvious that the abutting properties may be tied to provide cross-access via a service drive;

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

3. Shared parking areas shall be permitted a reduction in required parking spaces if peak demands do not occur at the same time periods.

4. Pursuant to this section, property owners shall:

    a. Record an easement with the deed allowing cross access to and from other properties served by the joint use driveways and cross access or service drive;

    b. Record an agreement with the deed that remaining access rights along the roadway will be dedicated to the City of Ashland and pre-existing driveways will be closed and eliminated after construction of the joint-use driveway;

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

5. The City of Ashland may reduce required separation distance of access points where they

prove impractical, provided all of the following requirements are met:

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

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

c. The property owner shall enter a written agreement with the City of Ashland, recorded with the deed, that pre-existing connections on the site will be closed and eliminated after construction of each side of the joint use driveway.

6. The (permitting department) may modify or waive the requirements of this section where the characteristics or layout of abutting properties would make a development of a unified or shared access and circulation system impractical.

Section 7. Access Connection and Driveway Design

1. Driveway width shall meet the following guidelines:

a. If the driveway is a one way in or one way out drive, then the driveway shall be a minimum width of 10 feet and 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. If used, a median should be a minimum of 8 feet wide.

2. Driveway approaches must be designed and located to provide an exiting vehicle with an unobstructed view. Construction of driveways along acceleration or deceleration lanes and tapers shall be avoided due to the potential for vehicular weaving conflicts.

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

Section 8. Requirements for Phased Development Plans

1. In the interest of promoting unified access and circulation systems, development sites under the same ownership or consolidated for the purposes of development and comprised of more than one building site shall not be considered separate properties in relation to the access standards of this code. The number of connections permitted shall be the minimum number necessary to provide reasonable access to these properties, not the maximum available for that frontage. All necessary easements, agreements, and stipulations shall be met. This shall also apply to phased development plans. The owner and all lessees within the affected area are responsible for compliance with the requirements of this code and both shall be cited for any violation.

2. All access must be internalized using the shared circulation system of the principle development or retail center. Access to shall be designed to avoid excessive movement across parking aisles and queuing across surrounding parking and driving aisles.

Section 9. Emergency Access

1. In addition to minimum side, front, and rear yard setback and building spacing requirements specified in this code, all buildings and other development activities such as landscaping, shall be arranged on site so as to provide safe and convenient access for emergency vehicles.

Section 10. Transit Access

1. In commercial or office zoning districts where transit service is available or is planned to be available; provisions shall be made for adequate transit access. Suggested provisions include area for bus pullouts and shelters, and pedestrian access from the stop to adjacent land uses.

Section 11. Nonconforming Access Features

1. Permitted access connections in place as of (date of adoption) that do not conform with the standards herein shall be designated as nonconforming features and shall be brought into compliance with applicable standards under the following conditions:

   a. When new access connection permits are requested;

   b. Substantial enlargements or improvements;

   c. Significant change in trip generation; or

   d. As roadway improvements allow.

Section 12. Reverse Frontage

1. Access to double frontage lots shall be required on the street with the lower functional classification.

2. When a residential subdivision is proposed that would abut an arterial, it shall be designed to provide through lots along the arterial with access from a frontage road or interior local road. Access rights of these lots to the arterial shall be dedicated to the City of Ashland and recorded with the deed. A berm or buffer yard may be required at the rear of through lots to buffer residences from traffic on the arterial. The berm or buffer yard shall not be locate with the public right-of-way.

Section 13. Flag Lot Standards

1. Flag lots shall not be permitted when their effect would be to increase the number of properties requiring direct and individual access connections to the State Highway System or other arterials.

2. Flag lots may be permitted for residential development when necessary to achieve planning objectives, such as reducing direct access to roadways, providing internal platted lots with

   access to a residential street, or preserving natural or historic resources, under the following conditions:

   a. Flag lot driveways shall be separated by at least twice the minimum frontage requirement of that zoning district.

   b. The flag driveway shall have a minimum width of 10 feet and maximum width of 20 feet.

   c. In no instance shall flag lots constitute more than 10 percent of the total number of building sites in a recorded or unrecorded plat, or three lots or more, whichever is greater.

   d. The lot area occupied by the flag driveway shall not be counted as part of the required minimum lot area of that zoning district.

   e. No more than one flag lot shall be permitted per private right-of-way or access easement.

Section 14. Lot Width-to-Depth Ratios

1. To provide for proper site design and prevent the creation of irregularly shaped parcels, the depth of any lot or parcel shall not exceed 3 times its width (or 4 times its width in rural areas) unless there is a topographical or environmental constraint or an existing man-made feature such as a railroad line.

Section 15. Shared Access

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

2. New direct accesses to individual one and two family dwellings shall be prohibited on all but District-level State Highways.

Section 16. Connectivity

1. The street system of a proposed subdivision shall be designed to coordinate with existing, proposed, and planned streets outside of the subdivision as provided in this Section.

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

3. Minor collector and local residential access streets shall connect with surrounding streets to permit the convenient movement of traffic between residential neighborhoods or

facilitate emergency access and evacuation. Connections shall be designed to avoid or minimize through traffic on local streets. Appropriate design and traffic control such as four-way stops and traffic calming measures are the preferred means of discouraging through traffic.

Section 17. Subdivisions

1. A subdivision shall conform to the following standards:

   a. Each proposed lot must be buildable in conformance with the requirements of this Code and all other applicable regulations.

   b. Each lot shall abut a public or private street for the required minimum lot frontage for the zoning district where the lots are located.[1]

   c. If any lot abuts a street right-of-way that does not conform to the design specifications of this Code, the owner may be required to dedicate one-half the right-of-way width necessary to meet minimum design requirements.

2. Further subdivision of the property shall be prohibited unless applicants submit a plat or development plan in accordance with requirements in this Code.

3. The (approving Department) shall consider a proposed Subdivision upon the submittal of the following materials:

   a. An application form provided by the City of Ashland;

[1] Communities are encouraged to consider reducing lot widths and front yard setbacks to create a more pedestrian friendly street environment. These steps expand development options and can help to slow traffic on residential streets.

b. (_____) copies of the proposed Subdivision plat;[2]

c. A statement indicating that water and/or sanitary sewer service is available to the property; and

d. Land descriptions and acreage or square footage of the original and proposed lots and a scaled drawing showing the intended divisions and proposed street system shall be prepared by a professional land surveyor registered in the State of Oregon. In the event a lot contains any principal or accessory structures, a survey showing the structures on the lot shall accompany the application.

4. Review Procedure

a. The (approving official) shall transmit a copy of the proposed Subdivision to the appropriate (departments or officials) for review and comment.

b. If the proposed Subdivision meets the conditions of this section and otherwise complies with all applicable laws and ordinances, the (approving official) shall approve the Subdivision by signing the application form.

c. Upon approval of the Subdivision, the (approving official) shall record the plat on the appropriate maps and documents, and shall, at the applicant's expense, record the plat in the official county records.

Section 18. Site Plan Review Procedures for Access Management

1. Applicants shall submit a preliminary site plan for review by (name of department responsible for conducting review). At a minimum, the site plan shall show:

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

---

2 The number of copies required should be based on number of entities that will review the plan under adopted procedures.

applicable;

b. Distances to neighboring constructed access points, median openings (where applicable), traffic signals (where applicable), intersections, and other transportation features on both sides of the property;

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

d. All planned transportation features (such as sidewalks, bikeways, auxiliary lanes, signals, etc.);

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

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

2. Subdivision and site plan review shall address the following access criteria:

a. All proposed roads shall follow the natural topography and preserve natural features of the site as much as possible. Alignments shall be planned to minimize grading.

b. Access shall be properly placed in relation to sight distance, driveway spacing, and other related considerations, including opportunities for joint and cross access.

c. Residential units shall front on local streets and minor collectors rather than major roadways.

d. The road system shall provide adequate access to buildings for residents, visitors, deliveries, emergency vehicles, and garbage collection.

e. An internal pedestrian system of sidewalks or paths shall provide connections to parking areas, entrances to the development, and open space, recreational, and other community facilities associated with the development. Streets shall have sidewalks on both sides. Pedestrian linkages shall also be provided to the peripheral street system.

f. The access shall be consistent with the access management standards adopted in the Transportation System Plan.

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

Section 19. Variance Standards for City/County Facilities

1. The granting of the variation shall be in harmony with the purpose and intent of these regulations and shall not be considered until every feasible option for meeting access standards is explored.

2. Applicants for a variance from these standards must provide proof of unique or special conditions that make strict application of the provisions impractical. Applicants shall include proof that:

   a. Indirect or restricted access cannot be obtained;

   b. No engineering or construction solutions can be applied to mitigate the condition; and

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

3. No variance shall be granted where such hardship is self-created.

Appendix E

Proposed Bus Route Run-Time Estimates

APPENDIX E

PROPOSED BUS ROUTE RUN-TIME ESTIMATES

(page left intentionally blank)

(Hard Copy)

Appendix F

TSP Project Cost Estimates

APPENDIX F

TSP PROJECT COST ESTIMATES

(page left intentionally blank)

(Hard Copy)

Appendix G

Technical Advisory Committee Agenda and Minutes

APPENDIX G

TECHNICAL ADVISORY COMMITTEE (TAC) MEETING AGENDA and MINUTES

(page left intentionally blank)

(Hard Copy)