APPENDIX C

Willamina to Salem Corridor - OR 22 - Interim Corridor Strategy

The Interim Corridor Strategy consists of goals and objectives that serve to guide the work of ODOT, cities, counties, and the Salem-Keizer Metropolitan Planning Organization in transportation planning and development of future transportation facilities in the corridor. This document established ODOT's official recommendation to advance the work now being completed with this Facility Plan.

Willamina to Salem Corridor
Oregon Highway Route 22

Highway 18 Interchange
to the Salem Eastern Urban Growth Boundary,
Deer Park (Gaffin Road) Interchange

Interim Corridor Strategy

January 1996

Willamina to Salem Corridor
Oregon Highway Route 22

Highway 18 Interchange
to the Salem Eastern Urban Growth Boundary,
Deer Park (Gaffin Road) Interchange

Interim Corridor Strategy

January 1996

Prepared by:
Oregon Department of Transportation
W&H Pacific
Jeanne Lawson Associates

Implementation of this corridor strategy and plan is dependent upon the availability of funding. Endorsement or adoption of the Plan by the Oregon Transportation Commission does not guarantee adequate financial resources to carry out the projects and programs contained in the Plan, nor can the Commission commit the financial resources of other agencies or public bodies.

Table of Contents

Appendices

APPENDIX A	Summary of Public Involvement Program
APPENDIX B	Citizen Advisory Group Membership Roster
APPENDIX C	Summary of Comments and Issues From The Public Involvement Program
APPENDIX D	Overview of Oregon Highway Monitoring System
APPENDIX E	Applicable Statewide Plans
APPENDIX F	Applicable Regional and Local Plans
APPENDIX G	Description of Level of Service
APPENDIX H	ODOT Highway Access Management Program

Figures

EXECUTIVE SUMMARY

WHAT IS CORRIDOR PLANNING, AND WHY IS IT BEING DONE?

The Oregon Department of Transportation is developing plans for transportation corridors identified in the Oregon Transportation Plan (OTP) as being of statewide importance, urban area arterial roads, and interchange areas where development pressures have or are threatening operation.

A corridor plan is a long range plan for managing and improving transportation facilities and services to meet needs for moving people and goods. A key element of corridor planning is consideration of the interrelationship between land use and transportation.

Corridor plans follow and carry out the general policies and planning direction contained in the OTP and the adopted modal and program plans. Corridor plans assist in the development of transportation projects for implementation through the Statewide Transportation Improvement Plan (STIP).

Long-term planning in the Highway 22 Corridor is being performed in order to: a) resolve major planning issues; b) protect transportation investments; c) preserve transportation rights-of-way; and d) respond to federal and state planning requirements.

This document proposes a strategy for the operation, preservation and enhancement of transportation facilities within the Oregon Highway 22 Corridor. The corridor strategy covers a 20-year planning horizon, building upon federal, state and local transportation and land use policies and plans, together with a comprehensive consultation with stakeholders in the corridor. This strategy will guide development of the Corridor Plan and Corridor Refinement Plans for the specific areas and issues in the corridor, ensuring that the corridor is preserved and enhanced to the benefit of all users.

THE IMPORTANCE OF THE WILLAMINA-SALEM HIGHWAY 22 CORRIDOR

The portion of the Highway 22 transportation corridor evaluated in this study is about thirty miles, beginning at the Highway 18 Interchange near Willamina and terminating about four miles east of Interstate Highway 5 at the Deer Park (Gaffin Road) Interchange. This conincides with the eastern boundary of the Salem Urban Growth Area. The corridor primarily goes through farm and forest land with little development outside the Salem area. Salem, the state capital, is part of the Salem-Keizer Urban Area with a population of over 182,000. In addition to serving as the center of state government, Salem also is a major agricultural processing center for the region.

Oregon Highway 22 is of importance to a wide range of statewide, regional and local users. It serves as the primary route linkage between the mid-Willamette Valley, the Oregon Coast and Central Oregon. It also is a primary connection to the Interstate Highway System for these areas. The corridor is traveled for a number of purposes, including daily commuting and recreational travel. It is relied upon for product movements by agricultural and forest producers and by industrial and commercial users

in the Willamette Valley, the Oregon Coast, and Central Oregon. About 5.5 million tons of freight moves through the corridor annually.

In addition to its function connecting regions in the State, Highway 22 is a major east/west arterial within the Salem area. Along this portion of Highway 22 can be found:

- The principal crossing of the Willamette River in the Salem area;
- The Salem Central Business District;
- The State Capitol and the largest concentration of state government employment, as well as Marion County and City of Salem Offices;
- The downtown Salem Transit Mall;
- The Salem Hospital;
- Willamette University;
- The Southern Pacific Railroad and the AMTRAK Station;
- The Fairview Industrial Park;
- The Salem Airport;
- An interchange with Interstate Highway 5; and
- Access to the Lancaster Drive shopping centers.

Highway 22 is routinely used by farmers and businesses for local travel to move equipment from farm to field, or transport gravel or lumber from source to processing facility. It serves as an important farm-to-market road, allowing farm products to be transported to processing plants. The corridor is a vital link for area residents needing health care and emergency services. It also provides access to AMTRAK and Salem's Airport.

The corridor is a major commuting route. A large number of commuters are using the corridor to get from their residences in other cities and locales to their jobs in Salem, and a number of Salem residents are using the corridor to commute elsewhere.

MAJOR ISSUES

Safety was by far the most frequently mentioned issue raised during the public involvement process. Among the more commonly mentioned safety issues were speeding, difficulty crossing Highway 22, hazardous intersections and roadway geometry, passing at inappropriate locations, and roadway markings and illumination.

Other major issues raised during the public involvemetn process included: a need for commuter transit service; bicycle facilities; farm machinery use/crossing Highway 22; the lack of passing and turning lanes; the transition area between the "freeway" portion of Highway 22 on the east end of the corridor and the urban arterial within Salem; the projected capacity limitations of the Willamette River bridges; and that congestion at the Willamette River bridges and in downtown Salem hampers connectivity between the portion of the corridor west of the Willamette River and Interstate Highway 5.

WHAT IS THE STRATEGY FOR THE HIGHWAY 22 TRANSPORTATION CORRIDOR?

The Strategy for the Highway 22 Transportation Corridor consists of a compilation of objectives selected to address the issues identified by the planning effort's public involvement process and the various federal and state policy initiatives. Among the objectives are:

- Improve the safety of corridor transportation facilities;
- Establish transit and park and pool opportunities to accommodate commuter traffic between Salem and other communities along the corridor;
- Develop a plan to reduce or manage recurring congestion within the corridor;
- Provide transportation options to improve the mobility of the transportation disadvantaged population living within or using the corridor;
- Provide additional climbing and passing lanes along the two-lane section of the corridor;
- Analyze the feasibility of developing a multi-modal transportation hub effectively linking all modes of transportation as a long term future;
- Conduct a Major Transportation Investment Study (MTIS) to analyze the need for, and potential location of an additional crossing of the Willamette River. Evaluate mechanisms that could postpone an additional bridge over the Willamette River, and evaluate the potential for a more direct east/west connection to Interstate Highway 5 for traffic originating west of the Salem area;
- Conduct an MTIS to identify appropriate solutions for recurring congestion on Mission Street between 25th Street and Cordon Road.
- Examine alternative ways to provide property access between the Independence Highway and the Willamette River Bridge.

Chapter 1
OVERVIEW OF CORRIDOR PLANNING

Chapter 1
Overview of Corridor Planning

A. INTRODUCTION

ODOT is developing corridor plans for those corridors identified in the Oregon Transportation Plan (OTP) as being of statewide importance. This document proposes a strategy and objectives for the operation, preservation and enhancement of transportation facilities along Oregon Highway 22 from the Highway 18 Interchange near Willamina to the Deer Park (Gaffin Road) Interchange east of Salem. The corridor strategy covers a 20-year planning horizon building upon federal, state, and local transportation and land use policies and plans together with a comprehensive consultation with stakeholders in the corridor. The corridor strategy will guide development of the Corridor Plan and Refinement Plans for the specific areas and issues in the corridor.

Plans call for the Corridor Strategy to be endorsed by all of the jurisdictions along the corridor and by the Oregon Transportation Commission. The Corridor Plan will be included in transportation plans and comprehensive land use plans in the future. This will ensure that the corridor is preserved and enhanced to the benefit of all users along the corridor.

This chapter consists of a general overview of the corridor planning process. Chapter Two includes a general description of the corridor, a listing of relevant planning along the corridor, and population and employment projections. The existing condition of transportation and land use is described in Chapter Three, and future conditions are discussed in Chapter Four. Issues, opportunities, and constraints identified during the planning process are provided in Chapter Five. Chapter Six is the interim corridor strategy.

B. CORRIDOR PLANNING DESCRIPTION AND PURPOSE

A corridor plan is a long-range (20-year) program for managing transportation systems that move people, goods and services within a specific transportation corridor. Corridor plans are currently being developed for the 31 corridors of statewide or interstate importance identified in the OTP. Other transportation corridors will be studied as resources allow. Each corridor planning area includes statewide transportation facilities, systems and land area that influence transportation performance.

Transportation *corridors* are defined as broad geographic areas served by various transportation systems that provide important connections between regions of the state for passengers, goods and services. Transportation *facilities* are defined as individual modal or multimodal conveyances and terminals; within a corridor, facilities may be of local, regional or statewide importance. Examples of facilities are highways, rail transit lines, transit stations and bicycle paths. Transportation *systems* are defined as networks of transportation links, services and facilities that collectively are of statewide importance even though the individual components in the system may be of only local

or regional significance. Examples include highway, rail, public transportation and bicycle systems.

ODOT is developing statewide management systems and modal plans for automobile, truck, passenger and freight rail, aviation, bicycle and pedestrian modes, and intermodal facilities, in addition to a transportation safety action plan. While many modes of transportation and transportation facilities are not owned or operated by the state (e.g., railroads, bus systems, port facilities), the state has a special interest in their performance given their interaction with ODOT facilities and collective significance to the statewide transportation system.

Benefits of corridor planning for the Highway 22 Corridor include:

Resolution of Major Planning Issues Prior to the Initiation of Project Development — Consensus among local, regional, and state governments regarding project purpose and needs is essential for successful project development. Corridor planning provides a framework within which individual projects located in corridor communities can be reviewed and prioritized.

Preservation of Transportation Rights-of-Way — Costs for transportation rights-of-way increase substantially as land suitable for transportation is developed for other purposes. Uncertainty about right-of-way needs may also impact property owners, businesses, and at times entire communities. The scope and 20-year planning horizon of a corridor plan identifies long-range right-of-way needs which serve to direct future development, reducing development costs and environmental, social and economic impacts.

Protection of Transportation Investments — To prevent premature obsolescence of highways and other facilities, corridor planning examines alternative means to accommodate transportation needs with and without capital-intensive improvements. Alternatives such as access management, utilization of parallel local streets, reconfigured land use patterns and demand management programs (i.e., rideshare, public transportation, flex-time, etc.) are considered in lieu of or in addition to major capital improvements.

Partnerships With Diverse Public and Private Agencies and Organizations — Corridor planning provides a forum for resolution of policy issues and negotiation of strategic partnerships between organizations striving to fulfill complementary missions with limited resources. Examples include local, state and federal agencies, Native American tribes and transportation associations.

C. CORRIDOR PLANNING REQUIREMENTS

Several federal and state mandates impact how corridor planning is to be undertaken. The three most important of these are: the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA); the OTP; and the Oregon Transportation Planning Rule (TPR). While very different policy initiatives, all three share several common themes: 1) a requirement that transportation plans provide a balanced transportation system providing transportation options; 2) that transportation plans reduce reliance upon the single occupant automobile and increase the opportunity for modal choice; and 3) that transportation plans be coordinated with land use plans, and address the environmental, social, economic and energy consequences of proposed actions.

A summary of the OTP, the TPR and ISTEA is provided in Appendix E. Appendix F summarizes applicable regional and local plans.

D. CORRIDOR PLANNING PROCESS

Corridor planning is being carried out in three phases that progress from the general to the specific (Figure 1-1). It is important to note corridor planning may not occur in a linear fashion, i.e., that activities described in Phase 1 may occur after Phase 2 or Phase 3 planning.

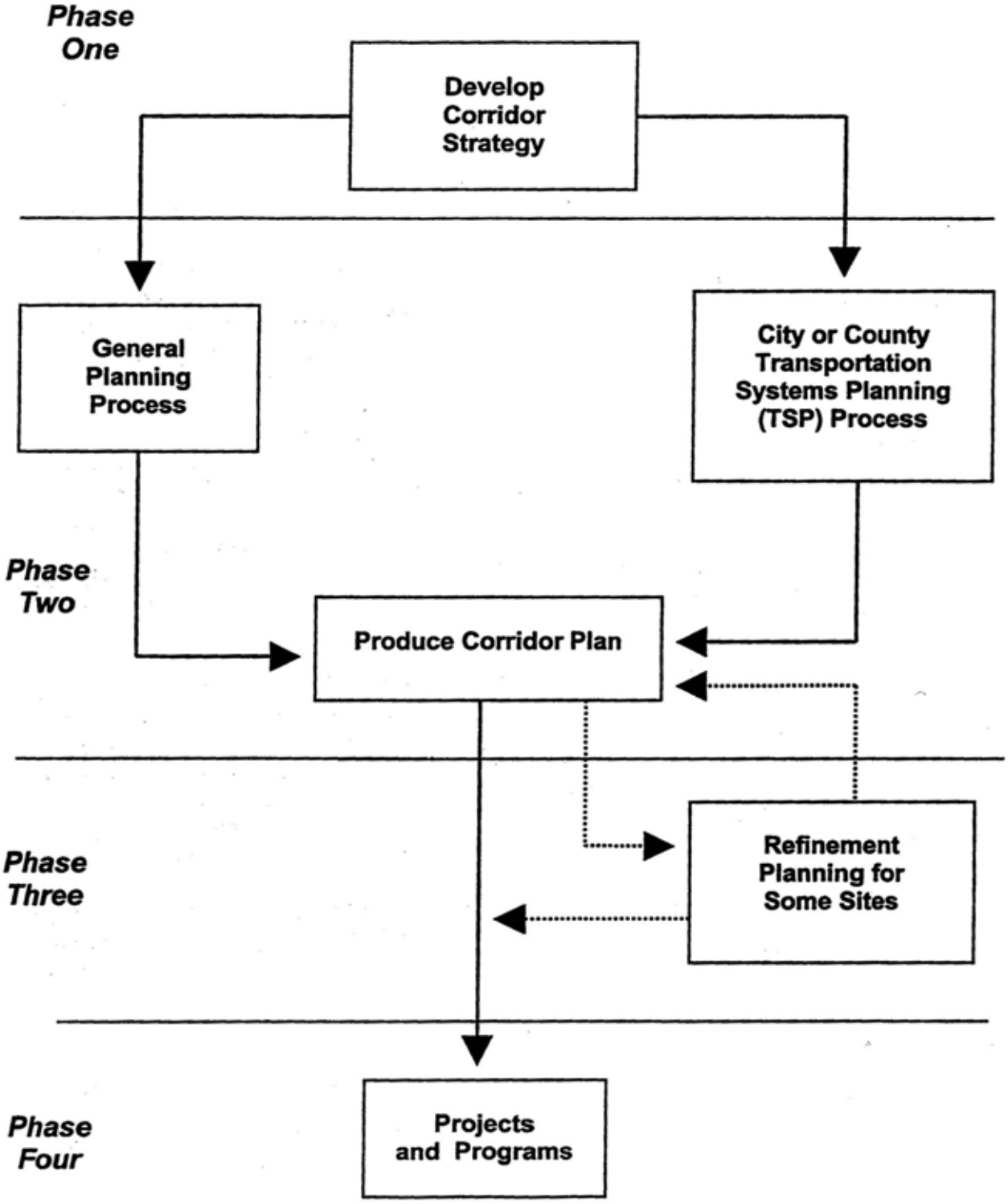
Phase 1: Interim Corridor Strategy

With requirements to consider a range of transportation modes and impacts on land use and the environment, a *corridor strategy* is established in order to properly address the goals and policies of the OTP and statewide mode plans. A corridor strategy provides a set of transportation performance and impact objectives for each corridor.

Transportation facilities and systems in each corridor are identified and analyzed for present and future performance in areas of modal balance, intermodal and regional connectivity, congestion and safety. In addition, characteristics of the corridor and the role it plays in the region are described in terms of land use, social, environmental and economic development impacts.

From these analyses come key findings and conclusions regarding the present and future performance and impact of the corridor. These findings and conclusions are the basis for a *corridor strategy*. This strategy, described in detail through a number of *corridor objectives,* help ODOT and jurisdictions within each corridor plan for their transportation systems in a manner consistent with the OTP and other plans and policies.

Figure 1-1
Corridor Planning Process and Phases



Phase 1 corridor planning concludes with the endorsement of an *interim corridor strategy* by cities, counties and metropolitan planning organizations within individual corridors, and by the OTC.

Phase 2

Most of the corridor planning effort occurs in Phase 2 and focuses on developing corridor improvement and management elements, and city and county transportation planning (Figure 1-1).

During Phase 2, a *corridor improvement and management element* of each corridor plan is developed to test interim corridor strategy objectives, analyze alternatives, provide general cost estimates and establish implementation priorities. Implementation decisions for each corridor objective may entail transportation improvements, operations and maintenance programs, agency liaison agreements, and management system category assignments. These decisions may be regulatory (e.g., level of importance, access management category assignments, etc.) or advisory (e.g., proposed capital projects, maintenance programs, etc.) in nature.

In conformance with the TPR, *transportation systems plans* (TSPs) are currently being or will be developed for cities, counties and metropolitan planning organizations in Oregon. ODOT staff and financial resources are contributing to these local efforts. Portions of TSPs that impact statewide corridors are incorporated into the corridor improvement and management element of corridor plans to implement the objectives established in the corridor strategy. This process helps link corridor objectives to city and county comprehensive plans.

Counties with populations under 25,000 and cities under 2,500 may apply to the Land Conservation and Development Commission for a full or partial exemption from the requirements to develop a TSP. In order to meet remaining TPR requirements for these jurisdictions and complete corridor plans in these instances, ODOT is assisting exempt local jurisdictions through a process called *general planning*. Similar to transportation systems planning, findings of general planning that impact statewide corridors are included in corridor improvement and management elements.

ODOT uses the general planning process to reach implementation decisions in several circumstances: 1) for any corridor where statewide emphasis regarding transportation facilities and systems is needed; 2) to adequately analyze those portions of corridors that lie within exempt jurisdictions; and 3) where non-exempt local jurisdictions desire that ODOT take the lead for transportation planning in the corridor.

At the conclusion of Phase 2 corridor planning, implementation decisions reached through transportation systems planning or general planning are combined in the transportation improvement and management element. The interim corridor strategy is then refined to reflect the implementation decisions made. The corridor improvement

and management element, together with the corridor strategy, is adopted by OTC as the *corridor plan.*

Phase 3

Some portions of corridors may require *refinement planning* during Phase 3 to resolve particular land use, access management or other issues that require a more in-depth analysis than ordinarily required to prepare a corridor improvement and management plan element. Corridor plans may then be amended to incorporate the products of these refinement plans.

Projects and Programs

Prioritized improvements to corridor facilities, systems and management, identified in the corridor plan, provide the basis for update of the State Transportation Improvement Program (STIP) which is responsible for distributing limited transportation resources. Corridor planning is helping ODOT, with the cooperation of local governments and the input from the citizens of Oregon, make difficult funding decisions necessary to build and maintain a statewide transportation system that meets the growing demand for transportation for the next 20 years.

Figure 1-1 illustrates the relationship between these phases of the planning process.

E. CORRIDOR PLANNING PARTICIPANTS

The Highway 22 corridor traverses two counties, affects several communities and one of Oregon's largest urban areas. A multi-jurisdictional approach to planning was needed. Equally important has been the involvement of the general public and various special interest groups located both on and off the corridor.

In order to coordinate and facilitate participation from such a large and diverse group, the following elements were used:

- Corridor Planning Management Team (CPMT) and Corridor Advisory Group (CAG)
- Public Involvement Program
- Statewide Agency Coordinating Committee and Statewide Stakeholders

1. Corridor Planning Management Team and Corridor Advisory Group.

The Corridor Planning Management Team (CPMT) consisted of representatives of Oregon Department of Transportation, Polk County, Marion County, and the City of Salem. The Mid-Willamette Valley Council of Governments, representing the Salem-Keizer Area Transportation Study and the Salem Metropolitan Planning Organization, also participated. The CPMT has acted as a review and steering committee throughout the planning process in developing the Corridor Strategy. These agencies will be responsible for implementing the programs and projects which will be necessary to implement the plans which will be the final outcome of the corridor planning process.

The Corridor Advisory Group (CAG) was composed of stakeholders and jurisdictions who were not represented on the CPMT, but who have a strong interest in the planning and operation of the Highway 22 Corridor. Twenty-two stakeholders and jurisdictions, including Salem neighborhood groups, the Cities of Dallas, Independence and Monmouth, the Oregon State Police and others were invited to two CAG meetings held during the planning process and their input was solicited in the development of the Highway 22 Corridor Strategy.

2. Public Involvement Program

An extensive public involvement program was held as part of the corridor planning process. This included twelve public meetings, direct mailings soliciting input, and print and electronic media coverage. Input was received and information provided to over 200 persons during the course of the project. The public involvement activities and the public input program are described in greater detail in Appendices A and B, and public comments submitted at the public meetings and by mail are summarized in Appendix C.

3. Statewide Agency Coordinating Committee and Statewide Stakeholders

Federal and state agencies, tribal representatives, and transportation service providers have been invited to participate in a continuing *statewide agency coordinating committee* to help facilitate their involvement in corridor planning. Public involvement in corridor planning at the state level is being facilitated by a *statewide stakeholders group*. The stakeholders group includes representatives of many statewide special interest groups in the transportation, land use, environmental and social service areas. Those interested in a specific corridor participate in corridor planning through involvement on the corridor planning management team and/or through meeting and corresponding with the corridor planning project team. Copies of draft documents were mailed to these groups for review.

Chapter 2
HIGHWAY 22
CORRIDOR OVERVIEW

A. GENERAL CORRIDOR DESCRIPTION

Highway 22 provides access to the Oregon Coast from the central Willamette Valley area, and to Central and Eastern Oregon. The studied corridor intersects a number of highways. These intersecting highways include: The Salmon River Highway (Highway 18), connecting the Portland area to the Oregon Coast; the Kings Valley Highway (Highway 223) connecting to Dallas; the Dallas-Rickreall Highway (Highway 223), also connecting to Dallas; Pacific Highway West (Highway 99W) at Rickreall, connecting to McMinnville and Monmouth; the Independence Highway (Highway 51) leading to the City of Independence, the Dayton-Salem Highway (Highway 221) leading to Dayton, Highway 99E through downtown Salem, and Interstate Highway 5.

Other modes of transportation are present for portions of the route. Railroads are present in certain areas, but no railroad is continuous through the corridor. Public transit exists in the Salem area, and transportation services are provided to disadvantaged persons throughout the corridor. Aviation services are adjacent to Highway 22 at Salem's McNary Field, and the Independence State Airport also provides general aviation services. Scheduled intercity bus services are available for North-South travel in Salem, but no such service exists through the corridor.

The Highway 22 Corridor is divided into two segments for the purpose of this analysis (Figure 2-1). The western segment, extending from the Highway 18 Interchange to the Highway 51 intersection, is entirely rural in character. The eastern segment, from Highway 51 to Salem's eastern Urban Growth Boundary at the Deer Park (Gaffin Road) Interchange, includes the Salem Urban Growth Area and a fringe area adjoining it on the west.

Western Segment - Highway 18 To Highway 51

No incorporated communities are on this segment. However, the City of Willamina (population 1,756) is near the corridor's western end and the City of Dallas (population 10,545) is approximately three miles to the south on Highway 223. The community of Rickreall is about one quarter mile south of the intersection of Highways 22 and 99W. Monmouth (population 7,745) and Independence (population 4,410) are about seven miles south of Highway 22.

1. Physical & Environmental Features

The terrain along this segment varies from rolling forest and farm land in the west to flat farm land in the east. The segment crosses the South Yamhill River at the western end of the corridor as well as a number of other creeks and sloughs, including Gooseneck Creek, Mill Creek, West Salt Creek, Salt Creek/Hoekstra Slough and Rickreall Creek. Most of these are identified by Polk County as significant fish habitat/riparian areas. An area designated by Polk County as elk and deer summer range is south of Highway

Figure 2-1
Highway Segments

Highway 22, Willamina-Salem East UGB

22 about four to six miles east of the Highway 18 Interchange. Remnants of Willamette Valley prairie grasslands exist in the corridor, including highway right-of-way. These areas are habitat for a number of rare native species. Baskett Slough National Wildlife Refuge, a major wildlife refuge developed for migratory waterfowl, particularly a subspecies of Canada Goose, borders Highway 22 northwest of Rickreall. These areas of environmental sensitivity must be considered when decisions about road development and widening projects are considered.

Access to the refuge viewing area has been identified as a problem because there are no highway turn lanes at the viewing area parking lot. ODOT and the U.S. Fish and Wildlife Service are currently constructing access to a new viewing area.

2. Land Use Patterns

The principal land uses along this segment are agriculture and forest with small pockets of rural residential. The largest area of development is found around Rickreall.

3. Cultural Features

This segment passes through areas of rural development. Buell Park is north of the highway. Several historic and cultural sites exist within the rural section of Highway 22. Brunk's Corner Historic Site is located just west of the Highway 51 intersection. Located near Brunk's Corner is the Oak Knoll Golf Course. Another golf course is under development north of the highway in the Salt Creek area.

4. Transportation & Travel

West of the intersection with the Dallas-Rickreall Highway, Highway 22 can be characterized as a two-lane highway. Hill climbing lanes exist at significant grades for both westbound and eastbound traffic. Highway 22 becomes a four-lane facility east of the Dallas-Rickreall Highway intersection. The Willamina and Grand Ronde Railroad, connecting the Fort Hill area to Southern Pacific's Willamina Branch, is at the western end of the corridor. The Southern Pacific's Westside Branch line crosses the corridor via an underpass east of the intersection of Highway 22 and 99W. Both the Willamina Branch and the Westside Branch are leased to the Willamette and Pacific Railroad. The highway also is crossed by a bicycle/pedestrian overcrossing near the Oak Knoll Golf Course.

Eastern Segment --Highway 51 To Deer Park (Gaffin Road) Interchange

This segment of the corridor begins just east of the Highway 51 intersection and continues through the Salem-Keizer area (population 182,000) to a point approximately four miles east of Interstate 5. Highway 22 becomes an urban arterial street between the Willamette River bridges and Interstate 5 in Salem. East of the Hawthorne Street intersection, it is a full access-controlled highway with vehicles entering only at the Interstate Highway 5 and the Lancaster Drive Interchanges.

1. Physical and Environmental Features

The Willamette River is parallel to Highway 22 beginning at a point about a mile east of the intersection with Highway 51, and ending at downtown Salem. The Willamette River is significant fish and wildlife habitat as well as a significant scenic feature. The Polk County Significant Resources Map includes the river. Rickreall Creek also is in the western portion of this segment, and Mill Creek, coursing through Marion County and Salem and crossed by the corridor at Interstate Highway 5, also is significant fish habitat. This segment also contains remnants of native Willamette Valley prairie grasslands. The environmental sensitivity along this segment is considered high.

2. Land Use Patterns

Land use in this segment is predominately urban within Salem, including downtown Salem, urban/suburban strip development, urban residential, and other uses such as governmental (State of Oregon, Marion County and City of Salem offices), educational (Willamette University) and transportation (Amtrak and Salem Airport).

3. Cultural Features

Holman Wayside, a state park and rest stop just east of Doak's Ferry Road, is on the north side of the highway. Wallace Marine Park and boat landing, on the west bank of the Willamette River at the Willamette River Bridges, is crossed by the corridor via an overpass into downtown Salem. A number of historic structures are located in the downtown historic district. Historic structures at Waterfront Park, the Oregon School of the Blind, Willamette University, the Thomas Kay Woolen Mill and the Amtrak Train Depot are located near Highway 22. At the intersection of Highway 22 and Mission Street is the historic Deepwood House. Cascade Gateway Park is located near the intersection of Highway 22 and Interstate 5. Due to the number of historic structures on or near the highway, the cultural sensitivity within this segment is considered high.

4. Transportation and Travel

Highway 22 contains at least four travel lanes throughout this section. Highway 22 follows a series of different streets as it winds through Salem. Immediately east of the Willamette River, it follows Front Street to the south. The highway then operates on a one-way grid in the Salem central business district: the east-bound lanes are on Trade Street, and the westbound lanes are on Ferry Street. East of this area the highway is on the Pringle Parkway, also known as Bellevue Street. After a short section involving a ramp and Twelfth Street, Highway 22 is on Mission Street, and continues routed onto the North Santiam Highway east of Interstate Highway 5.

B. EXISTING PLANS AND STUDIES

A number of statewide, regional and local plans have been adopted to guide transportation and land use in those jurisdictions primarily served by Highway 22.

Corridor planning and these plans must be consistent and supportive of each other. Applicable plans are been listed below. A summary of applicable goals, policies and objectives is provided in Appendices E and F.

Statewide Plans and Studies:

- Oregon Transportation Plan (OTP). Adopted by the Oregon Transportation Commission, September 15, 1992. Supporting the OTP are the following modal plans:
  - Oregon Highway Plan. Approved by the Oregon Transportation Commission, May 1991.
  - Oregon Passenger Rail Plan. Approved by the Oregon Transportation Commission, November 1992.
  - Oregon Freight Rail Plan. Approved by the Oregon Transportation Commission, August 1994.
  - Oregon Bicycle and Pedestrian Plan. Approved by the Oregon Transportation Commission, June 1995.
  - Oregon Transportation Safety Action Plan. Approved by the Oregon Transportation Commission, June 1995.
  - Oregon Public Transit Plan. Public review draft, December 1994.

- Oregon Administrative Rule on Transportation Planning (OAR 660-12, Transportation Planning Rule). Adopted by the Oregon Land Conservation and Development Commission April 1991, and amended May 1995.

Regional Plans and Studies:

Year 2005 Area wide Transportation Plan For the Salem-Keizer Urban Area. Adopted by the Salem-Keizer Areawide Transportation Study (SKATS) Policy Committee, October 21, 1987. Supporting the area wide transportation planning effort are the following special and modal plans:

- SKATS Regional Transportation System Plan, Bicycle Element. Draft, November 1994.
- SKATS Transportation Improvement Program. Adopted by the SKATS Policy Committee, June 1994.
- SKATS Planning Work Program. Adopted by the SKATS Policy Committee, February 1994.

Local Plans and Studies:

- Salem Area Comprehensive Plan. Revised by the Salem City Council, October 1992.
- Salem Transportation Plan. Revised by the Salem City Council, October 1992.
- Salem Transportation System Plan. Expected completion, July 1996.
- McNary Field Airport Master Plan. Adopted by the City of Salem, August 1987.
- Marion County Comprehensive Plan. Adopted May 1981.
- Polk County Comprehensive Plan. Revised 1993.

C. POPULATION AND EMPLOYMENT GROWTH

Population and employment growth in Marion and Polk Counties along the Highway 22 Corridor will significantly impact the level of service on the Highway 22 corridor and will place demands for future transportation facility and service improvements. Specific segments of the highway will be impacted at different levels, depending on population growth and industrial development patterns and trends. Polk and Marion Counties are both projected to experience substantial growth in population and employment during the next 20 years (Figure 2-2, 2-3). The impact of population and employment growth on the Highway 22 Corridor will depend on multiple factors, such as livability, location of housing and jobs, and local economic development efforts.

Figure 2-2
County Population Forecasts[1]

County	1970	1980	1990	2000	2012	Percent Change 1990-2012
Marion	151,309	204,692	229,500	271,575	303,507	32
Polk	35,349	45,203	49,700	58,197	64,286	29

[1] Demographic and Economic Forecasts, 1990-2030, ODOT, 1993

Population

The regional combination of Marion and Polk Counties make up the Salem Metropolitan Statistical Area. Between 1990 and 2012, population in this area is projected to increase by more than 88,000. Marion County's population will increase by more than 32 percent; Polk County's by more than 29 percent. The expected annual average rate of growth for the region is 1.26 percent. If this rate of growth persists, the region's population will double in 55 years.

Between 1970 and 1990, population within the two counties shifted from urban areas to suburban and rural areas. This shift in population from central cities can be expected to continue well into the next century. This shift reflects a nationwide trend of more dispersed population growth.

In 1990, the Salem Metropolitan Statistical Area was the second-most densely populated region in the state and accounted for 9.8 percent of the total state population. In 2012, the region is expected to contain 9.7 percent of the total state population.

Figure 2-3
County Employment Forecasts[1]

County	1970	1980	1990	2000	2012	Percent Change 1990-2012
Marion	55,200	88,300	97,667	118,506	139,114	42
Polk	[2]	[2]	11,458	13,750	15,928	37

[1] ODOT, Demographic and Economic Forecasts, 1990-2030, 1991.
[2] Polk County employment not reported as part of Salem region until 1990.

Employment

Non-agricultural wage and salary employment in the Salem Metropolitan Statistical Area is projected to expand by 45,900 jobs at an annual average rate of growth of 1.61 percent--faster than the rate of population growth. Marion County employment will increase by over 40 percent; Polk County by nearly 37 percent. In 1990, Salem area non-agricultural wage and salary employment accounted for 8.7 percent of total state employment. It is expected to account for 8.6 percent of statewide non-agricultural wage and salary employment in 2012.

Chapter 3
EXISTING CONDITIONS AND FACILITIES

INTRODUCTION

Highway 22 is of importance to a wide range of statewide, regional and local users. It is a principal route linking the Mid-Willamette Valley to the Oregon Coast and Central Oregon. A large number of people use the corridor for recreational purposes. This chapter describes current characteristics of land use and transportation in the corridor.

Highway 22 is regularly used by local farmers to move equipment between fields. Area businesses use it to transport wood products, aggregate materials and other resource materials from source to processing facility. It also serves as an important regional freight corridor and farm-to-market road, accommodating large volumes of trucks moving a diverse array of goods. In addition to this economic use, the corridor also serves as a vital link for residents within the region to reach government offices as well as health care and emergency services in Salem.

Residents of communities along or within several miles of Highway 22 rely upon the corridor as a major commuting route. A large number of commuters use the corridor to get from their residences to their jobs in Salem, the state capital and the region's largest city. An increasing number of commuters are using the corridor to access jobs in other communities, including Dallas, Monmouth and Independence. The eastern portion of the corridor is used by commuters traveling to and from the area communities, including Stayton, Sublimity, Aumsville, and Mill City.

A. HIGHWAY SYSTEM

1. Traffic Volumes

Between 1975 and 1994, the corridor shows significant growth in traffic volume (Figure 3-1). The rate of traffic growth slowed during the 1980s, but has returned to its previous rate of increase. Annual average growth rates between 1970 and 1992 were between 1.00% and 1.99% for 75% of the corridor mileage. Growth rates for the remaining 25% of corridor mileage were between 2.00% and 2.99%. The latter represents primarily the eastern corridor segment. More than half (54%) of the corridor has traffic volumes between 5,000 and 9,999 vehicles per day. Current volumes are greatest near Salem, ranging from 30,000 to 49,999 vehicles per day over 12% of corridor miles.

Figure 3-2 shows the variation in traffic volumes through corridor from west to east. Near Rickreall, traffic volumes change dramatically because of the volumes associated with Highway 223 (Dallas-Rickreall Highway) and Highway 99W. Highway 51, a route connecting to Independence, produces the next significant change in volume. The most significant single change occurs at the Willamette River Bridges. Traffic volume from West Salem and Highway 221 (Dayton-Salem Highway; Wallace Road) increases the corridor's volume to over 70,000 vehicles per day. Traffic volumes remain high throughout the eastern section of Highway 22.

Figure 3-1
Historic Traffic Volumes[1]
Highway 22, Willamina-Salem East UGB

Highway Location	Milepoint	1975	1980	1985	1990	1994
0.01 mile SE of Mill Creek Rd.	4.65	3,300	4,000	4,400	5,500	5,900
0.01 mile W of 99W	16.11	8,300	9,900	10,200	13,200	14,500
0.01 mile E of Greenwood Rd.	18.62	9,100	11,300	11,300	17,600	17,600
0.01 mile E of Doaks Ferry Rd.	22.05	13,700	17,200	16,400	23,100	26,900
ATR[2] Site, Salem Bridges	25.72	36,700	44,838	47,658	61,280	70,590
0.04 mi. E of Airport Road	7.96	16,600	23,900	25,900	39,400	41,800
0.20 mi. west of Lancaster	1.71	14,500	17,500	17,500	25,600	28,100
ATR[2] Site, 0.91 mi. E of Lancaster	2.82	10,700	12,886	13,879	17,334	19,981

1. Traffic Volume Tables, ODOT 1975-1994
2. Automatic Traffic Recorder Site.

Truck freight movements through the corridor is significant based upon tonnage and the percent of truck volumes through the corridor. About 5.5 million tons of freight moved through the corridor by truck in 1992. During that year, about 87 percent of the corridor had truck volumes between 500 and 1,499 vehicles per day. This is more than twice the statewide average for truck volumes on a highway. Thirteen percent of the corridor had truck volumes of 1,500 to 2,999 vehicles per day--also more than twice the statewide average (Figure 3-3).

2. Travel Time

The travel time for the length of the corridor is 41 minutes for cars and 54 minutes for trucks. Travel time per mile is highest at the east end of the corridor near Salem. The average travel time per mile for cars is 1.33 minutes for cars and 1.80 minutes for trucks. However, these figures increase to 2.5 minutes and 3.0 minutes, respectively, for the eastern segment of the corridor (Appendix D).

3. Congestion

Traffic congestion can be defined as "the level at which transportation system performance is no longer acceptable due to traffic interference." Congestion occurs most frequently and in a recurring manner in the eastern segment of the corridor. Congestion also occurs in the other portions of the corridor in a less predictable

Figure 3-2

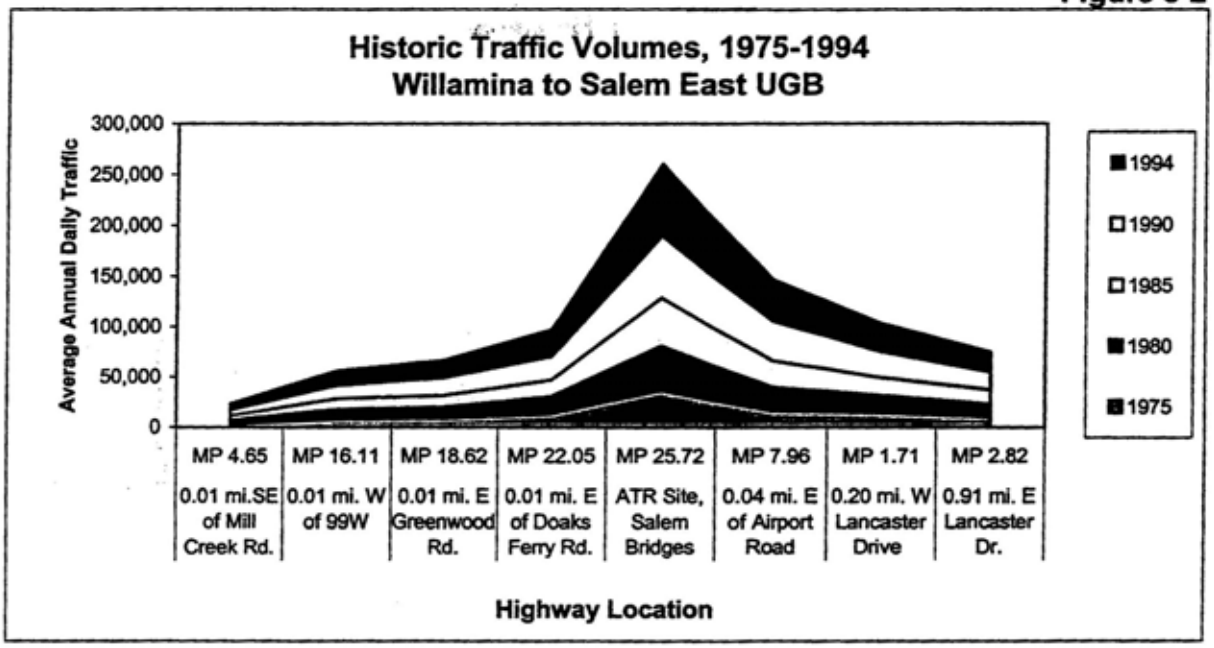

Historic Traffic Volumes, 1975-1994
Willamina to Salem East UGB
Average Annual Daily Traffic
300,000
250,000
200,000
150,000
100,000
50,000
0
1994
1990
1985
1980
1975
MP 4.65
0.01 mi.SE of Mill Creek Rd.
MP 16.11
0.01 mi. W of 99W
MP 18.62
0.01 mi. E Greenwood Rd.
MP 22.05
0.01 mi. E of Doaks Ferry Rd.
MP 25.72
ATR Site, Salem Bridges
MP 7.96
0.04 mi. E of Airport Road
MP 1.71
0.20 mi. W Lancaster Drive
MP 2.82
0.91 mi. E Lancaster Dr.
Highway Location

Figure 3-3
Highway 22 Corridor Truck Traffic Volumes and Freight Movement, Willamina to Salem Eastern UGB

Truck Traffic Volume*	Corridor Mileage	Corridor Mileage	Statewide Average
0-499	-	-	52
500-1,499	25.7	87	41
1,500-2,999	3.8	13	6
>3,000			1
Travel Mode	**Freight Moved (thousands of tons)**		
Truck	5,500	ATR site, Willamette River	

* Average Annual Daily Traffic

manner. Rural congestion on the corridor occurs particularly during weekend traffic periods, particularly at the beginning and end of a weekend.

4. Operating Costs and Fuel Consumption

Operating costs and fuel consumption were estimated for vehicles traveling along the corridor over a one year travel scenario. The estimated total annual operating costs in 1996 for automobiles are about $57 million; Truck operating costs are estimated in 1996 at $14.7 million (Appendix D).

5. Safety and Accident Profile

Accident data from 1991 to 1993 was evaluated. Within the corridor, there were 733 reported accidents, including twelve accidents resulting in fatalities and 338 injury accidents (Figure 3-4). Two accidents resulted in multiple fatalities. Figure 3-5 shows the approximate location of the twelve accidents resulting in fatalities. One-third of the fatal accidents occurred in two areas: the Highway 22/99W intersection, and the area known as the West Salem Curves. The 1993 accident rate for the studied corridor is 1.39 accidents per million vehicle miles. The statewide 1993 accident rate for comparable rural highways was 0.75; for comparable urban highways, 3.55. The 1994 Oregon Safety Priority Index System (SPIS) identifies 29 sites on the route in the top 10% of all highway accident locations statewide (Figure 3-5). Additional analysis then can be made to determine whether operational or geometric changes can improve operations and reduce the number or severity of accidents. Figure 3-6 characterizes environmental causes of all the accidents in the corridor. Intersections were involved in 57 percent of all accidents.

Figure 3-4
Highway 22 Corridor Accidents
Willamina to Salem East UGB, 1991-1993

	Highway 30[1]	Highway 72[2]	Highway 162[3]	Corridor Total
Total Accidents	246	394	93	733
Injury Accidents	105	181	52	338
People Injured	182	274	94	550
Fatal Accidents	10	2	0	12
Fatalities	13	2	0	15

1. Highway 18 to the Willamette River.
2. Willamette River to Interstate Highway 5.
3. Interstate Highway 5 to Deer Park (Gaffin Road) Interchange.

In response to the high number of accidents in the corridor, a "safety corridor" has been established between Highway 99W and the Willamette River. The safety corridor's purpose is to increase driver awareness of the need for caution in that area. The "safety corridor" uses increased numbers and variety of signs and traffic enforcement to educate the public about vehicle safety issues.

B. RAILROADS

Freight rail service within the corridor includes branch line railroads serving Willamina, Dallas, and Rickreall, and main line railroads through Salem. However, no railroad extends through the Highway 22 Corridor. The railroads interconnect outside of the Highway 22 corridor in Albany and Portland. Freight service in Salem is provided by the Southern Pacific Railroad and the Burlington Northern. Wood products can be reloaded from trucks onto railroad cars at the privately operated facilities at the Cascade Warehouse Company are located in Salem.

North-South intercity passenger rail service is provided in Salem by AMTRAK, using Southern Pacific's mainline railroad. The train station is located directly on the Highway 22 corridor but no east-west train service is offered. As part of the Oregon Rail Passenger Policy and Plan (1992), additional passenger train service operated between Portland and Eugene in 1994 and 1995. This service included stops in Salem and Albany. Ridership far exceeded projections and expectations.

Figure 3-5
Highway 22 Corridor Fatal Accident and Significant SPIS Accident Locations
Willamina to Salem East UGB, 1991-1993

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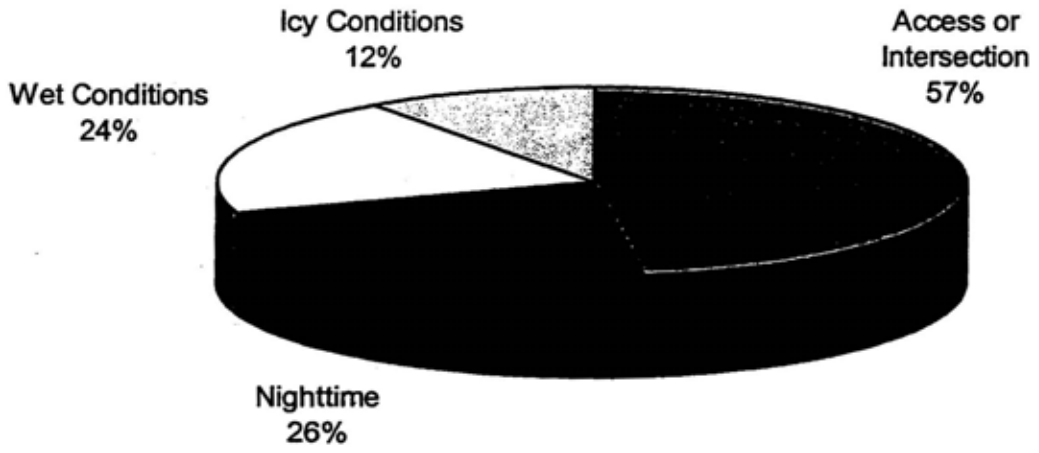
Figure 3-6
Highway 22 Corridor
Accidents and Environmental Factors



C. AIRPORTS

Air service is available at two public airports located along the corridor: Salem's McNary Field, and the Independence State Airport about 5 miles south of Highway 22 in Independence. McNary Field adjoins Highway 22. Except for seasonal agricultural aerial spraying that may use the airports, the length of the corridor is too short to result in air service within the corridor. Air service available at these airports generally connects to areas outside the corridor. A commercial bus service to Portland International Airport operates from McNary Field in Salem. Aircraft charter, rentals, maintenance, and flight instruction also are available at McNary Field. Air cargo service is available at the airport from Federal Express and United Parcel Service, but most air cargo is routed through Portland International Airport.

McNary Field, an airport with high state importance, has long runways capable of accommodating corporate jets and smaller commercial jet airplanes. Before air passenger service was deregulated, McNary Field was serviced by scheduled commercial passenger service. McNary Field also is near Salem's Fairview Industrial Park. The Southern Pacific Railroad also is adjacent to the airport. Several companies have developed near the airport.

The Independence State Airport is a general aviation airport offering aircraft rentals and flight instruction from businesses located there. It also has a residential subdivision immediately adjacent to the runway which provides direct access from private homes to the runway. The Willamette Valley West Side Branch Railroad Line is adjacent to this airport.

D. PUBLIC TRANSIT AND INTERCITY BUS

Transit service is presently available only within the Salem-Keizer urban area. The smaller communities located along the Highway 22 corridor west and east of Salem have no scheduled service. Services for the transportation disadvantaged also are more limited in the western segment than in the eastern one.

Intercity bus service is provided in Salem. The bus station is located in downtown Salem. The majority of service is north and south along the I-5 corridor. No service is provided west of Salem. No service currently exists via Highway 22 to Bend.

E. BICYCLE FACILITIES

Bicycle use in the corridor can be generally characterized as either short trips most commonly occurring in the Salem area, or longer distance trips frequently taken for recreational purposes. Because the corridor connects to Highway 18, the Oregon Coast is a popular destination for longer distance bicycle touring. Bicycle facilities, either as a bike lane or roadway shoulder/bikeway are provided throughout most of the length of Highway 22. Cyclists sometimes find that the roadway shoulders and bike lanes are littered with gravel and debris, making them difficult to cycle on.

F. PEDESTRIANS AND WALKWAYS

Walkways are provided along most of the urban arterial sections of Highway 22. In some areas of Salem where Highway 22 functions as an expressway, walkways are separated from the road. There are also pedestrian facilities on the Willamette River bridges. The provision of walkways along the highway in the rural sections is not cost-effective because of the general lack of rural area pedestrian trip generators or destinations. Pedestrians use the shoulders in those areas.

The portion of Highway 22 in Salem on Mission Street has a number of businesses as well as a large nearby residential area. Between 17th Street and 23rd Street, a distance of more than 0.30 miles, pedestrians crossing Mission Street must cross four lanes of traffic and a two-way left turn lane with vehicles. Pedestrian crossing opportunities are limited along Front Street in downtown Salem. The City of Salem is developing Riverfront Park in downtown Salem. This project includes changes to the road that will improve pedestrian crossing opportunities between Riverfront Park and

the downtown area. Pedestrian travel along the corridor also is constrained east of Hawthorne Avenue because no separate facilities are provided. Pedestrians crossing Interstate Highway 5 must either use the highway shoulder or use an alternative route such as State Street.

G. PIPELINES

Pipelines within the corridor are operated by and for the exclusive use of Northwest Natural Gas Company to deliver natural gas to their customers in Salem and Dallas. No other products are shipped by pipeline through the corridor. No need for pipeline service has been identified in the corridor.

Chapter 4
FUTURE CONDITIONS

The Federal Highway Administration requires each state to collect information about selected sections of highway. In Oregon, the collection, building, updating and submission of this information is known as the Oregon Highway Monitoring System (OHMS). ODOT has used this information to provide an analysis of existing and future conditions on highways throughout the state. This chapter summarizes the OHMS analysis for future conditions for the Highway 22 Corridor. A more detailed overview of the highway performance analysis methodology and results is provided in Appendix D.

A. HIGHWAY SYSTEM

Using traffic projections to the year 2016, an updated level of service analysis was conducted. Using the ODOT Oregon Highway Monitoring System (OHMS) analytical tool, ranges in highway performance were evaluated for four different cases:

- Case 1 - No Improvements/Low Management: This case assumes pavements are maintained, but neither roadway geometry nor capacity will be improved. It also assumes that changes in highway operating characteristics will occur as a result of future changes in land use.

- Case 2 - No Improvements/High Management: This case assumes pavements are maintained, but neither roadway geometry nor capacity will be improved. In contrast with Case #1, this case assumes that despite changes in land use, the general operating characteristics of the highway will not change.

- Case 3 - Improvements/Low Management: This scenario assumes that roadway geometry and capacity deficiencies are improved, and that changes in highway operating characteristics will occur as a result of future changes in land use.

- Case 4 - Improvements/High Management: This scenario assumes that roadway geometry and capacity deficiencies are improved, and that despite changes in land use, the general operating characteristics of the highway will not change.

The analysis indicates that substantial improvements will be needed in the future to maintain current levels of service, safety, and economy along Highway 22. If the rate of historic traffic growth continues, the traffic volumes shown in Figure 4-1 would occur. Figure 4-2 displays this growth at certain locations through the corridor, and Figure 4-3 shows the results of a preliminary analysis of expected highway levels of service (LOS) at locations along the route. The LOS analysis presented in Figure 4-3 is based upon historic growth trends in traffic volume and existing lane configurations. Figure 4-3 also shows the number of travel lanes necessary to attain the levels of service called for in the Oregon Highway Plan.

Figure 4-1
Projected Traffic Volumes, 1995-2015[1]
Willamina to Salem Eastern UGB

Highway Location	Milepoint	1995	2000	2005	2010	2015
0.01 mile SE of Mill Creek Rd.	4.65	5,900	6,400	6,900	7,400	7,900
0.01 mile west of Highway 99W	16.11	14,500	15,900	17,400	18,900	19,600
0.01 mi. east of Greenwood Rd.	18.62	17,800	20,100	22,400	24,700	27,000
0.01 mi. east of Doaks Ferry Rd.	22.05	27,000	29,700	31,200	35,100	36,400
ATR Site, Salem Bridges	25.72	72,200	80,100	88,100	96,000	103,900
0.04 mi. east of Airport Road	7.96	43,400	49,900	56,400	62,900	69,400
0.20 mi. west of Lancaster Drive	1.71	30,500	34,400	35,500	42,300	46,200
ATR Site, 0.91 mi. east of Lancaster Dr.	2.82	21,100	23,000	24,900	26,800	28,700

1. Average annual daily traffic volumes based upon historic patterns and linear regression analysis.

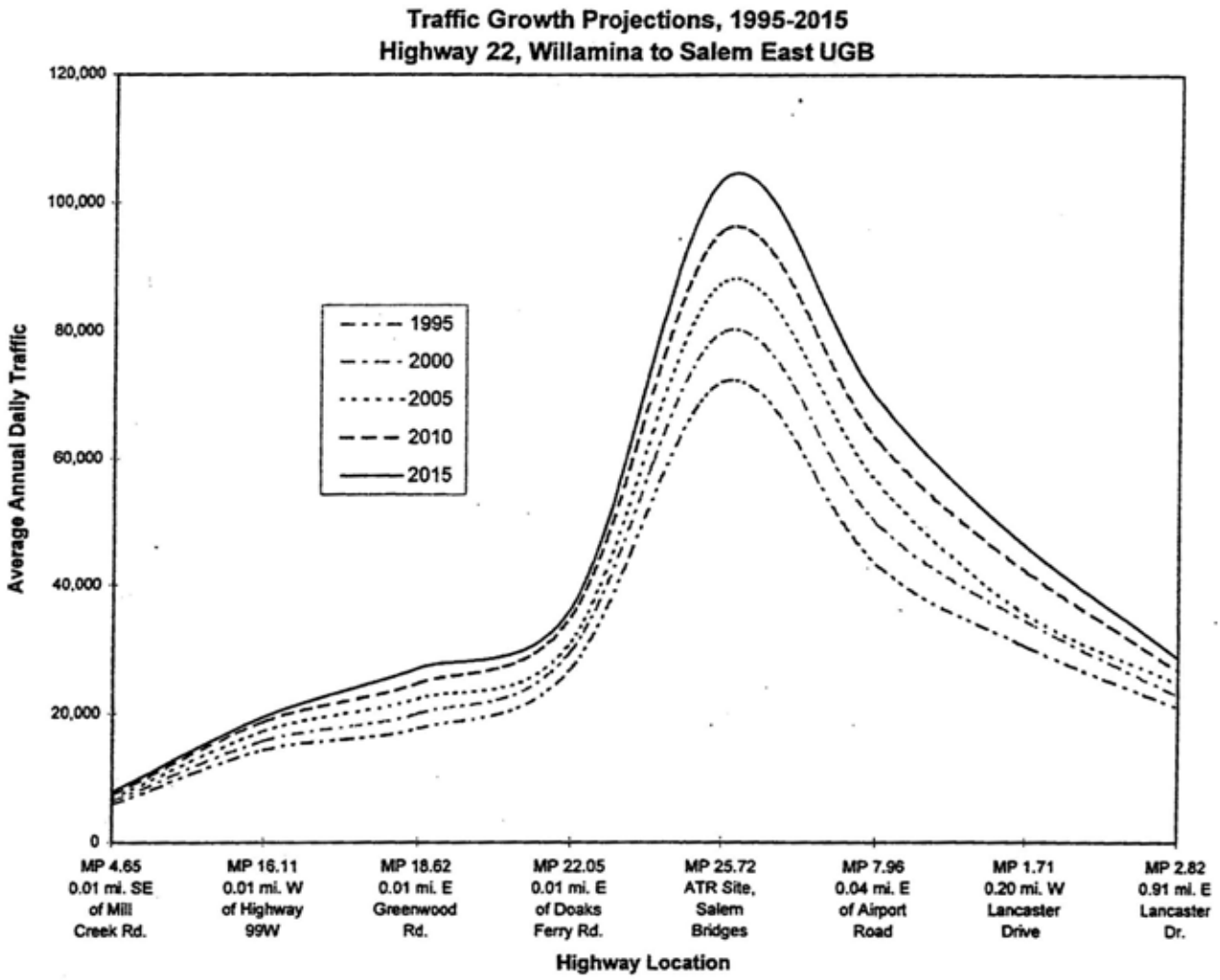
1. Volumes

Based upon historic traffic growth trends, average daily traffic volumes at locations in the corridor are expected to increase by 34 to 60 percent between 1995 and 2105, depending upon the location. New destinations, such as the Native American gaming facilities in Grand Ronde and Lincoln City, can be expected to result in greater traffic volumes than shown in Figure 4-1 and illustrated in Figure 4-2.

2. Travel Time

The OHMS data describes highway performance for the future depending on the level of access management and roadway improvements provided. Corridor travel times from the Highway 18 Interchange to Interstate Highway 5 currently are about 41 minutes for cars and about 54 minutes for trucks. This could degrade to 44 minutes for cars and 56 minutes for trucks if the current traffic growth trends continue, no major improvements occur, and changes in highway operations occur as a result of future land development. This represents a seven percent increase for cars and a four percent increase for trucks. With modeled improvements, the travel times for both

Figure 4-2
Highway 22 Future Traffic Growth Trends
Willamina to Salem Eastern UGB



Traffic growth projections are based upon traffic growth trends and linear regression analysis. They do not include the effects of alternative modes, alternative routes or of congestion.

Figure 4-3
Year 2015 Estimated Levels of Service
Highway 22 Corridor, Willamina to Salem Eastern UGB

Highway Location	Milepoint	Existing Lanes	Year 2015 AADT[1]	Year 2015 Existing Lanes and Level of Service	Year 2015 Lanes and Level of Service	
					Lanes	LOS
0.01 mile southeast of Mill Creek Rd.	4.65	2[3]	7,900	D[4]	4	A
0.01 mile west if Highway 99W	16.11[5]	4	19,600	B	6	A
0.01 mile east of Greenwood Rd	18.62	4	27,000	B	6	A
0.01 mile east of Ferry Rd	22.05	4	36,400	C	6	B
ATR Site, Salem Bridges	25.72	8	103,900	F[4]	10	F
0.04 mile east of Airport Rd	7.96[6]	5	69,400	F[4]	6	F
0.20 mile west of Lancaster Dr	1.71	5	46,200	D	6	C
ATR Site, 0.91 mile east of Lancaster Dr	2.82	4	28,700	C	6	B

1. Average Annual Traffic volumes based upon historic patterns and linear regression analysis.
2. Level of Service determined using 1994 Highway Capacity Manual Multi-Lane Highway Analysis.
3. Two-lane analysis.
4. Condition exceeds 1991 Highway Plan Operating Level of Service Standard.
5. Assumes signal is removed and replaced with an interchange.
6. Signalized intersection analysis.

Figure 4-4
Highway 22 Corridor Travel Times
Willamina to Interstate Highway 5

Year/Scenario*	Travel Time Minutes per Trip (car/truck)	Average Time Minutes per Mile (car/truck)	Statewide Average Minutes per Mile (car/truck)
1996	41/54	1.33/1.80	1.36/1.80
2016 No Improvements	44/56	1.44/1.86	1.47/1.80
2016 Improvements	39/51	1.31/1.73	1.23/1.66

types of vehicles will decrease from current times by two minutes for cars, and three minutes for trucks (Figure 4-4).

3. Congestion

In 1996, only nine percent of the corridor is expected to be subject to high levels of congestion. The balance of corridor mileage will be subject to moderate (46 percent) and low levels of congestion (45 percent). At present rates of traffic growth with no improvements, many of the moderately congested areas will be considered highly congested. High levels of congestion could result along 28 percent of the corridor by 2016 (Figures 4-5,4-6).

4. Safety

Without improvements but with increasing traffic volumes, safety conditions can be expected to worsen. Street improvements and safety awareness could result in lower accident rates. The 1993 Highway 22 Corridor accident rate was 1.39 accidents per million vehicle miles. The rate for comparable rural highways was 0.75; the rate for comparable urban highways was 3.55.

5. Operating Costs

Operating costs will increase in the future due to inflation and costs associated with traveling more slowly (and less efficiently) due to greater congestion. Without improvements, operating costs are expected to increase over 50 percent for cars and nearly 43 percent for trucks. It is estimated that improvements to the corridor could reduce these figures to about 46 percent for cars and about 37 percent for trucks (Appendix D).

B. RAILROADS

Competition from trucking operations and general disinterest by the major railroad companies in serving shippers located on lower volume branch lines resulted in very poor rail service and railroad abandonment. However, operation of branch lines by short line operators such as the Willamette and Pacific Railroad has dramatically changed this. Rail service previously in decline or unavailable is now being expanded, increasing opportunities for railroad service for shippers. As railroad operations and railroad-related activities such as the reload facilities at Cascade Warehouses expands, more shippers will find rail shipment desirable. Because of this change in operations, a greater role for rail service can be expected in the future. While rail service through the corridor is not available, improved rail service will positively affect highway operations by allowing greater volumes of freight to be moved in this manner rather than by truck.

Figure 4-5
1996 Congestion
Highway 22 Corridor

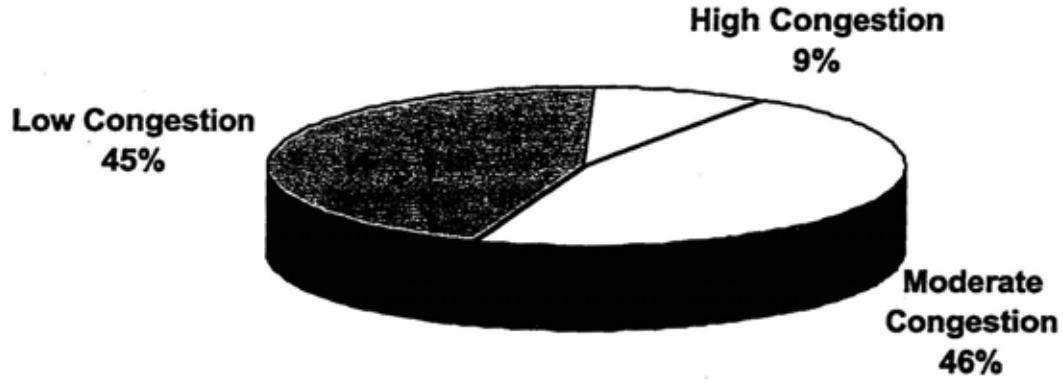
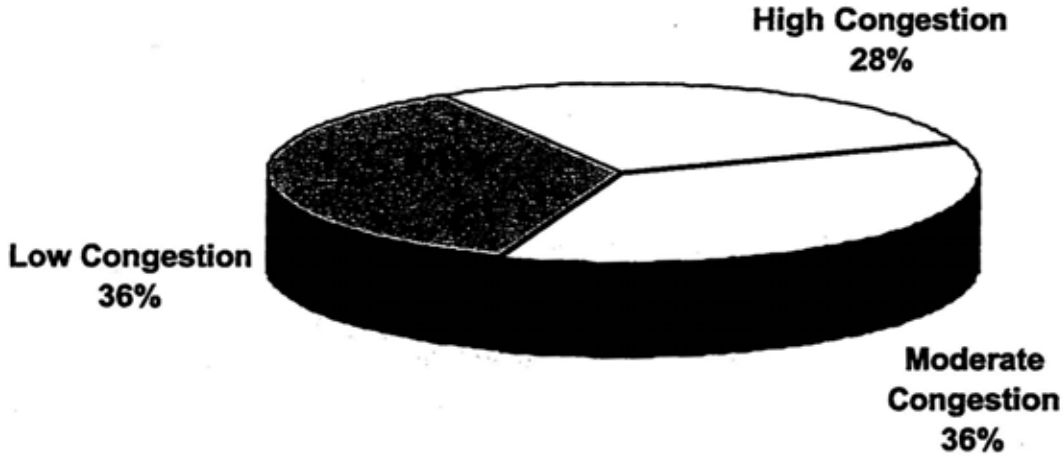


Figure 4-6
2016 Congestion
Highway 22 Corridor



C. AIRPORTS

Factors outside the corridor impact the future of air services at facilities in the corridor. The travel market originating from communities in the Willamette Valley further from Portland International Airport than Salem, such as Eugene, the time required to transport passengers and cargo via surface transportation to Portland International Airport, and the level of airport activity at Portland International Airport all impact the type of airport operations that can be expected to occur at the corridor airports in the future. Aircraft charter, rentals, maintenance, and flight instruction activities can be expected to expand with population increases.

D. PUBLIC TRANSIT AND INTERCITY BUS

Opportunities exist for an expanded role for transit in the corridor due to factors related to future population growth in West Salem and in other corridor communities. Express bus service for commuter travel could be developed from park-and-ride facilities. Such service is more likely to be provided from the West Salem area because of extent of expected population growth in this area, and because the area is within the Salem Transit District. However, the transit district currently is not well-funded.
Intercity bus service through the corridor does not exist. Express commuter bus service exists as a future opportunity. Population increases in corridor communities, and development of destinations such as the Native American gaming halls will impact future intercity bus services.

E. BICYCLE FACILITIES

Good bicycle facilities exist throughout the corridor. West of the Willamette River, a separate bicycle path exists to the Oak Knoll Golf Course. West of this point, bicycle facilities become shared shoulder/bikeways six to eight feet in width. Highway 22 provides an important connection for persons in the Salem/Keizer area to cycle to the Oregon Coast or to Silver Falls State Park and other destinations to the east.
The physical characteristics of bicycle travel on Highway 22 are presented in Chapter 3, Existing Conditions.

F. PEDESTRIAN WALKWAYS

Because of a lack of pedestrian trip generators or destinations within the predominantly rural sections of the corridor, the provision of sidewalks along the roadway in the rural

sections of Highway 22 is not warranted. Pedestrians use the shoulders in those areas. This is not anticipated to change before 2016.

Pedestrian crossing opportunities are limited in various locations within the Salem area. Efforts to improve pedestrian safety along Front Street and in portions of Mission Street will lower barriers to this type of travel.

Chapter 5
Corridor Issues, Opportunities and Constraints

A. INTRODUCTION

This chapter consolidates and organizes comments received by participants in the corridor planning process. Comment from members of local governments and organizations, from organizations and agencies with a more statewide interest, and from the general public have been analyzed using the Oregon Transportation Plan's 36 policies guiding transportation planning, and presented as those comments relate to modal balance, regional connectivity, congestion, safety, and economic, social, environmental nad energy impacts. This information then serves as the basis for the interim corridor strategy presented in Chapter 6.

B. TRANSPORTATION BALANCE

The Oregon Transportation Plan states that a balanced transportation system is one that provides transportation options at appropriate minimum service standards, reduces reliance on the single occupant automobile where other modes or choices can be made available, particularly in urban areas, and takes advantage of the inherent efficiencies of each mode. What follows is an evaluation of the modal balance within the Highway 22 corridor.

1. Automobile

A. Findings and Issues

The automobile is the primary mode of travel for people within the corridor, providing a high degree of accessibility and mobility. Peak period ("rush hour") auto demand creates capacity problems at certain intersections and bridges within the corridor. Access to property also impacts traffic operations in the corridor. Weekday work commute trips are one of the causes. Recreational trips typically peaking on weekends is another, creating capacity problems west of Highway 99W.

Native American gaming facilities have been developed in Grand Ronde and Lincoln City. Although these facilities will likely capture a percentage of their traffic from travelers already on the route, they will undoubtedly generate a number of new trips. These new trips may exhibit travel demand patterns different from the current recreational traffic.

B. Opportunities and Constraints

Trips in the corridor can be grouped by purpose - through trips, work commute, recreational related, shopping, medical, education, etc. With the exceptions of work commute, education, and recreational related trips, the rest of the trips tend to be widely dispersed throughout the day. This limits the opportunity to make transportation planning decisions or policies which might affect those trip types. The trip patterns for work commute, school trips and recreational trips tend to be more predictable. Some

opportunity exists for developing transportation plans or policies which might have an impact on transportation services provided within the Highway 22 corridor.

Work Commute Trips. Shifting commuters out of single occupancy automobiles into car or van pools can be promoted through the existing carpool matching program operated by the City of Salem.

The Salem Area Transit District is only chartered to provide service within the greater Salem-Keizer urban area. The transit district does not provide service to areas west of Salem. There may be opportunities to extend transit service into Monmouth or Dallas with park and ride or express bus service, capturing commuters and shoppers who would otherwise drive in single occupant automobiles. This would require an amendment to the charter and a substantial increase in operating capital.

It is likely, however, that the greatest benefit could be achieved by establishing express bus service, park and pool, or park and ride lots in West Salem. Any such facilities should be designed with pedestrian amenities and sheltered bike parking facilities to promote use of those modes as connections to the transit system. Such a facility will be constructed as part of the Salemtowne-Orchard Heights project on Highway 221(Wallace Road).

There may be opportunities to develop park-and-ride, park-and-pool, and express bus service at major intersections with Highway 22 in areas both east and west of Salem. Facilities located near the Highway 51, 99W, or 223 intersections might prove feasible and could make an impact on reducing the number of vehicle trips on sections of Highway 22 during the weekday.

Non-work Trips. Non-work trips include travel to consumer trips to shopping centers and grocery stores, visits to doctors' offices, trips to schools for school functions or to transport children to after-school activities. They also include recreational trips to locations such as the Oregon Coast. These trips are more difficult to accommodate with transit systems or by increased vehicle occupancy. Ridesharing and busing patrons to the Native American gaming facilities in Grand Ronde and Lincoln City could reduce the total number of future recreational trips by private automobile.

2. Truck and Rail Freight

A. Findings and Issues

Trucks are used to transport a variety of products within and through the Highway 22 corridor. Products include logs and other wood products, agricultural products, and aggregate materials.
There is rail service within the corridor with railroads in Willamina, Dallas, and Salem. The rail systems serve as connections to areas outside of the Highway 22 corridor but generally do not provide service location to location within the corridor. Privately operated wood products reload facilities exist in Salem.

In situations where products are being shipped by truck and the routing involves using I-5, access to I-5 is slowed by congestion in downtown Salem and on Mission Street.

B. Opportunities and Constraints

Rail Shipments. Given the short length of the corridor, it is unlikely that products would be shipped within the corridor even if rail service was available throughout its length. The operation of the Westside Willamette Valley Branch Lines by the Willamette and Pacific Railroad substantially increases the opportunity for rail service by shippers. Increased service holds the opportunity for continuing shifts in freight shipments from truck to rail.

Trucking Connections to Interstate Highway 5. Connections to I-5 from the west are funneled through downtown Salem. Trucks connecting to points east and south remain on Highway 22 through Salem. Trucks connecting to points north typically leave Highway 22 in downtown Salem and use the Salem Parkway (Highway 72) for access to I-5. Construction of a new bridge across the Willamette with a controlled access route to I-5 would improve the movement of goods to and from areas served by Highway 22 to the west of Salem. There are, however, significant environmental, cost, land use, and logistical difficulties associated with siting and building a new bridge over the Willamette River, including developing approaches to the new bridge through the Salem/Keizer area.

Over the short term, there may be opportunities to improve travel through downtown Salem by improving the roadway geometry at various locations, and the use of advanced central traffic signal control systems that can be adjusted to improve traffic flow conditions.

3. Passenger Rail

A. Findings and Issues

Intercity passenger rail service is provided in Salem. The train station is located directly on the Highway 22 corridor but does not provide service (east-west) within the corridor. Service is limited to north-south travel within the Willamette Valley and connecting to areas outside the region. As part of the Oregon Rail Passenger Policy and Plan, special rail service between Portland and Eugene (with a stop in Salem) was operated in 1994 and 1995. Ridership far exceeded projections and expectations.

B. Opportunities and Constraints

Given that no railroad exists through the corridor, it is unlikely that passenger rail service through the corridor will be feasible in the planning period. Rail service issues relating to regional connectivity is included in that section of the Strategy.

4. Airports

A. Findings and Issues

Air service is available at two airports located along the corridor - in Salem at McNary Field, adjacent to Highway 22, and at the Independence State Airport located about 5 miles south of Highway 22 in Independence. The air service available at these airports connects to areas outside the corridor rather than within the corridor.

Passenger transportation service via a commercial bus connection to Portland International Airport is available from McNary Field. Aircraft charter, rentals, maintenance and flight instruction also are available. Cargo service is provided by Federal Express, which has an office located at the airport. Cargo pick-up is also available via other air cargo carriers with the cargo routed through Portland International Airport.

McNary Field is adjacent to a major rail line. It has long runways capable of accommodating business jets and small commercial airliners. Another feature is the availability of industrial land on airport. Several companies have large developments at the airport.

The Independence State Airport is a general aviation airport also offering aircraft rentals and flight instruction. A residential subdivision is adjacent to the airport and taxiways provide direct access from private homes to the runway. The integration of private residences with the airport has proven to be a popular concept with the number of homes continuing to increase.

B. Opportunities and Constraints

Development in Salem and in Independence could result in conflicts between community development and airport operations. This issue is particularly sensitive at the Salem Airport because it is capable of accommodating larger airplanes and a higher level of activity than it currently does. Replacing those airports would be extremely difficult

The Federal Aviation Administration airspace clearances for the Salem airport constrain the ability to construct elevated structures or interchanges along the length of Highway 22 on its northern boundary. Construction of an elevated structure would not be possible at Highway 22 and 25th Street, or at Highway 22 and Airport/Turner Road. It would be possible at Highway 22 and Hawthorne Boulevard.

Connection to commercial air service currently is provided via motor coach to the Portland Airport. It is possible that commercial passenger service will again be provided by aircraft from Salem. This may present an opportunity for an intermodal passenger facility near the airport providing for air, rail, public transit and intercity bus interconnections.

5. Public Transit

A. Findings and Issues

Transit service is available only within the Salem/Keizer urban area. The smaller communities located along the Highway 22 corridor to the west of Salem have no scheduled service.

B. Opportunities and Constraints

There may be an opportunity to initiate some type of express transit service from West Salem and from the outlying suburban communities. Express bus service from park and ride lots also might provide a benefit in reducing the peak travel demand on the Willamette River Bridges. Because of higher population densities, the development of such service from West Salem may provide the greatest opportunity for shifting people out of the private automobile onto transit.

The transit system tax base is also limited to the Salem-Keizer Area. Recent attempts by the transit system to pass operating levies to support the maintenance of existing service levels have failed, forcing cutbacks in service. The lack of a stable long-term financial operating base makes planning for service expansion difficult.

Another transit service opportunity may be to provide a connection from the areas west of Salem to services that connect to areas outside the corridor. Examples of those services include:

- Passenger Rail Service
- Intercity Bus Service
- Shuttle Bus Service from Salem's McNary Field to Portland International Airport

Air service at the Salem Airport should such service be re-established

6. Intercity Bus

A. Findings and Issues

Intercity bus service is provided in Salem. The bus station is located in downtown Salem. The majority of service is north and south along the I-5 corridor. No service is provided west of Salem. Historic service between Salem and Bend via Highway 22 has been discontinued.

B. Opportunities and Constraints

As travel demand between cities along the Highway 22 corridor, and between the Willamette Valley and the Oregon Coast increases, intercity bus service along the Highway 22 corridor may be feasible. The development of the Spirit Mountain Casino in Grande Ronde could make intercity bus service at limited service levels feasible.

7. Transportation Services for the Transportation Disadvantaged

A. Findings and Issues

At the present time, transportation services for the transportation disadvantaged are limited along the Highway 22 corridor outside the urban areas of Salem and Keizer. Within the eastern section of the corridor, there are a greater variety of specialized services.

B. Opportunities and Constraints

The needs of the transportation disadvantaged are typically very specialized, with on-demand door-to-door service providing the highest level of service. The low population density and the travel distances in the rural sections of the corridor makes increased service levels by individual providers unlikely. However, service could benefit through greater coordination in the provision of services.

8. Bicycle Facilities

A. Findings and Issues

Bicycle use in the corridor can be divided into two types--urban cycling within the Salem area, and longer distance cycling in the rural sections. Bicycle facilities, including bicycle lanes in certain urban sections and shared shoulder/bikeways, are provided throughout most of the length of Highway 22.

Cyclists sometimes find that the roadway shoulders and bike lanes are littered with gravel and debris which can make them difficult to cycle on.

B. Opportunities and Constraints

Bike lanes and shoulder bikeways are provided throughout the Highway 22 corridor (except for a short section between 25th and Airport Road). Keeping facilities clean and maintained will encourage increased use by cyclists.

9. Pedestrians and Walkways

A. Findings and Issues

A general lack of pedestrian trip generators or destinations exist within the predominantly rural section of the corridor. This makes provision of walkways in the rural sections of Highway 22 unwarranted: pedestrians use the shoulders in those areas. Pedestrians traveling the corridor east of Highway 51 can use a walkway/bikeway facility along the highway's north side, then use walkway facilities along Edgewater Drive in the West Salem area, and the walkway/bikeway facility across the river. Walkways are provided along of the urban arterial sections of Highway 22, but no walkways exist east of the Mill Creek Bridge near I-5.

Within Salem, barriers exist to pedestrian travel in the corridor. The section of Highway 22 between 17th Street and 23rd Street separates area residents from area retail commercial uses. Pedestrians attempt to cross this five-lane highway section between the traffic signals because of the distance between them, but high traffic volumes create unsafe conditions for pedestrians attempting to cross. Pedestrian crossing opportunities on Front Street also are impacted by high traffic volumes and long distances between signalized intersections. Pedestrians attempting to cross I-5 either must use the highway shoulders or use another crossing, such as State Street.

B. Opportunities and Constraints

The section of Highway 22 passing through downtown Salem adjacent to Willamette University and Tokyo International University has the highest volume of pedestrians within the corridor. High volumes of pedestrians crossing the highway directly conflict with vehicular traffic (both truck and automobile) moving along Highway 22. In other urban locations, pedestrian safety is of concern.

Opportunities to address pedestrian travel in the corridor include possible walkway extension across I-5 as part of any interchange reconstruction. Pedestrian islands at certain urban arterial sections also could be considered to increase pedestrian safety when crossing the highway.

There are occasional difficulties for pedestrian crossings of Highway 22 in the rural areas, however, the levels of pedestrian use (and crossings) and the highly dispersed nature of the crossings does not warrant special facilities.

10. Pipeline

A. Findings and Issues

Pipelines within the corridor are operated by and for the exclusive use of Northwest Natural Gas Company, to deliver natural gas to their customers in Salem and Dallas. There are no commercially available pipelines for shipping products through the corridor.

In absence of products or manufacturers requiring such service, it was concluded that pipeline service was not a need within the corridor.

C. REGIONAL CONNECTIVITY

Regional connectivity is a measure of how well the corridor connects various parts of the state and nation. This is usually quantified in terms of travel times, or described by reflecting the level of transportation services available. The issue of travel time overlaps with the congestion and transportation balance performance measures. Both of those measures can affect regional connectivity. Increased congestion may result in slowed travel times and discontinuity between regions. Congestion may be the result of a transportation system which is not in balance, i.e.: people or goods are moving via the wrong, or an inefficient mode.

1. Findings and Issues

Highway 22 provides an important link to the Oregon Coast from the Mid-Willamette Valley as well as an important link for employment and retailling and service opportunities between the cities west of Salem and Salem from the suburban residential populations west of Salem into Salem. Highway 22 east from Salem provides the same linage for communities east of Salem as well as providing an important link o Central Oregon.

The average travel time from one end of the corridor to the other is forty-one minutes for automobiles and fifty-four minutes for trucks.

Connectivity is often negatively impacted by congestion caused by traffic peaks associated with morning and evening work trips and recreational travel demand peaks associated with people returning a weekend outing. As was noted under the transportation balance performance measure, congestion can potentially be reduced by shifting commuters out of single occupant vehicles into shared ride arrangements with car pools, van pools, and transit.

Connections from the west and to the west from I-5 are impacted by the need to funnel through the Salem downtown in order to reach I-5. Movement is slowed regardless of the time of day. Vehicles on the Mission Street segment of Highway 22 also experience significant congestion and delay.

North-south passenger rail service is available in Salem daily. Connections to eastbound passenger rail service from Portland also can be made. This connection with the national Amtrak passenger rail system provides a link between users of the Highway 22 corridor and areas beyond the corridor throughout the nation. Additional regional service Eugene to Seattle is also provided.

The Oregon Transportation Plan (OTP) and the Willamette Valley Transportation Strategy envision increased cross-valley transit service linking outlying communities witha multi-modal transportation facility in Salem located at the Amtrak train station (on Highway 22). This would connect these communities to the future high-speed rail service planned for operation between Eugene, Oregon and Vancouver B.C., as well as the envisioned increase in intercity bus service linking Eugene, Salem, and Portland.

Rail freight service is available within the corridor with connections to state and national rail systems. This provides the opportunity to ship products via rail from within the corridor to regions outside of it.

Commercial bus service from McNary Field provides connections to passenger air service at Portland International Airport. While not providing transportation within the corridor, it provides important links to passenger air service outside of the corridor. Air cargo service is also available.

2. Opportunities and Constraints

Opportunities to bypass downtown Salem, the major congestion point on the corridor, are limited by the bridges crossing the Willamette River. All require passing through that part of the city. Over the years, discussions regarding possible locations for additional bridges have been held but no consensus has been reached and there are no current plans for additional crossings.

Passenger rail service levels vary based upon funding levels. Access to the train station is via public transit, the private auto, taxi, bicycle, or walking.

No scheduled passenger airplanes service Salem. With the exception of the transit service provided within the Salem/Keizer area, access to the Salem airport passenger terminal is via private auto, taxi, walking, or bicycle.

D. HIGHWAY CONGESTION

Congestion is defined as the level at which transportation system performance is no longer acceptable due to traffic interference. Congestion can result from an individual incident such as an accident, or can result from high travel demand during specific time periods such as typical commuting times.

1. Findings and Issues

The Highway 22 corridor experiences congestion through the urban areas in Salem and in the two-lane section of Highway 22 west of Dallas. Congestion west of Dallas most often peaks with recreational traffic demand. Increased congestion along the corridor will be most noticeable in the two lane segment west of Dallas.

The bridges over the Willamette River experience congestion and are nearing their capacity. Based upon forecast growth in traffic, the bridges will reach their design capacity around 2005. Congestion associated with the bridges and routing traffic through downtown Salem will impact travel times and congestion levels. The population increases expected in West Salem and the limited number of commercial and employment opportunities in West Salem will further increase travel demand over the Willamette River bridges.

Other significant areas of congestion include the stretch of Highway 22 from 25th Street to east of Cordon Road. This section of Highway 22, particularly the section between 25th Street and I-5, experiences significant recurring weekday congestion.

2. Opportunities and Constraints

Passing lanes located at regular intervals in the two lane sections of Highway 22 west of Dallas would reduce congestion by allowing slower moving vehicles to be passed by faster moving vehicles. This breaks up the traffic platoons and reduces driver frustration.

There are physical limitations to capacity expansions of Highway 22 to respond to projected traffic volumes. Congestion in built-up sections of Salem occurs where the financial and social cost of developed property limits the ability to add travel and turn lanes. As a result, the eastern section of Highway 22 is expected to operate at congestion levels greater than the western, rural section. The western section has more opportunity for expansion and also is serving many fewer vehicles on a typical day.

Some improvement may be possible using transportation system management techniques such as adding turn lanes at problem intersections or making other changes to geometric design or signal timing.

In the section of Highway 22 near I-5 and Lancaster Drive, large scale solutions may be necessary. This may include redesigned interchanges or new interchanges. It is likely that construction of major new facilities will be needed to implement transportation

improvements in this section of Highway 22. A Major Transportation Investment Study (MTIS) should be undertaken to evaluate a full range of options prior to a decision.

The greatest opportunity to lessen congestion in the corridor involves the downtown Salem area. This could involve a new bridge and new connection to I-5 either north or south of the existing bridges. Previous bridge studies have identified significant constraints to construction of a new bridge, including its high cost, environmental, and land use concerns.

Other methods need to be explored to reduce congestion. Increasing vehicle occupancy at peak hours through car pools, van pools, and possibly expanded transit service could provide relief to congestion. Other alternatives include shifting demand to off peak hours when road capacity exists, or eliminating trips altogether through telecommuting. Using these methods may delay the need for a new bridge.

An important management technique to preserve the function of the highway is through good access management practices. These practices include limiting and regulating the number, spacing, type, and location of driveways, intersections, and signals. The 1991 Oregon Highway Plan establishes six access management categories ranging from full access control (freeways) to partial control (district level highways where safe access to local properties is important). More information about these access management categories is provided in Appendix H.

E. SAFETY

The improvement of transportation safety is a constant goal of all agencies involved in the provision of transportation services. Improvements are sought through vehicle design, operating systems, operating environment, training, enforcement, and education.

1. Findings and Issues

Safety was most commonly identified as the number one issue by individuals participating in the public involvement process. The extent to which it dominated other issues was dramatic. Safety issues manifest themselves in a number of ways such as:

- Intersections with high accident rates;
- The number of unsignalized local streets intersecting Highway 22 in the West Salem area.

The accident location input received from the public involvement program tracked the results of the SPIS analysis but also identified other locations which were perceived to be unsafe or problem sites by the members ofthe public. The intersections of Highway 22 and the Kings Valley Highway, the Dallas-Rickreall Highway, Highway 99W, Highway 51 also were mentioned.

Highway 22 from the Willamette River bridges to the intersection with Highway 99W is a "Safety Corridor". This corridor has been implemented to heighten public awareness of the number and severity of accidents that have occurred. Actions have included increased traffic enforcement and a public awareness program.

2. Opportunities and Constraints

ODOT has an accident database that is used to analyze accident problem locations. The extensive input received from the members of the public provides additional information which should be used in analyzing problem locations.

One issue identified in the public involvement process is the lack of a means to summon emergency assistance. Access to public telephones along the corridor is a problem in some of the rural sections of the corridor.

The current ODOT Statewide Transportation Improvement Program (STIP) calls for resurfacing and making safety improvements on Highway 22. Improvements are planned for the western twelve miles from Wallace Bridge at the Highway 18 Interchange to Perrydale Road near Dallas. The project will include guardrail replacement, bridge rail retrofit, intersection improvements and a two-inch pavement preservation overlay.

There may be opportunities to improve safety by making changes to the local street network to reduce the number of intersections with Highway 22. It may be necessary to purchase access rights in order to effectively manage access over the long term.

Safety improvements are also planned for the Highway 22 and Highway 223 (Kings Valley Highway) intersection. Those improvements will include a left-turn lane.

F. ECONOMIC IMPACTS

Transportation systems can have a significant positive or negative economic impact. New transportation services can act as a catalyst of the siting of new businesses and the creation of jobs and for promoting access to recreational opportunities. Conversely, changes in the transportation system, such as the elimination of some type of modal choice, can have the opposite effect and result in the loss of businesses and jobs.

1. Findings and Issues

Several industrial developments exist along the Highway 22 corridor. Along Highway 22 in West Salem and the Fairview Industrial Park located adjacent to Highway 22 near the Salem airport are two notable examples.

East of I-5 on the Highway 22 corridor, there are vacant parcels with the potential for large scale industrial and commercial development.
The Highway 22 corridor is an important route linking the Willamette Valley with the recreational opportunities located along the Oregon Coast and in the Cascades.

2. Opportunities and Constraints

Access along Highway 22 in West Salem is hampered by traffic volumes, roadway geometry, and travel speeds. These circumstances also create safety problems. Opportunities for improvements may take the form of service road development and street or driveway consolidation or closure.

The number of adequate roads serving the Fairview Industrial Park is limited. This area produces high commute-hour travel demands that result in congestion on Highway 22 in the 25th Street area. Efforts taken to improve the capacity and condition of other roads serving the area will relieve congestion on the highway.

There may be opportunities to create multi-modal connections for people to get to and from special events or recreational centers within and along the corridor, or to inform travelers of special events occurring within the corridor.

G. SOCIAL IMPACTS

Transportation systems can have far reaching but sometimes very subtle social impacts on a community. A highway by-pass can isolate one community but connect others. A street improvement can provide a benefit for persons traveling on the street but can have an adverse impact on an adjacent land use. Analysis is needed to understand potential impacts both positive and negative when transportation system changes are planned.

1. Findings and Issues

The following issues were identified through the Highway 22 corridor strategy development process:

- Traffic Impacts on Downtown Salem. Highway 22 funnels all traffic through downtown Salem. Much of this traffic is destined for areas outside of downtown Salem. This results in congestion and transportation impacts on downtown.
- Crossing Highway 22. In the urban sections of Highway 22, particularly from Willamette University east to 25th Street, Highway 22 becomes a barrier difficult for pedestrians and bicyclists to cross. It also forms a barrier between residential neighborhoods and retail commercial businesses. I-5 also creates a barrier to east/west pedestrian and bicycle movements. Bicycle and pedestrian movements are not well accommodated in the vicinity of Highway 22 and I-5.
- Farm Equipment Problems. Through traffic volumes in rural sections of Highway 22 impact the movement of farm equipment across or along the highway.

2. Opportunities and Constraints

The problem of the traffic impact of through traffic on downtown Salem is also related to questions of transportation balance, highway congestion, and energy efficiency. Studies have been recommended to look at alternative routes to avoid funneling through traffic through downtown Salem.

The problem of pedestrian and bicyclists crossings of Highway 22 has also been noted in previous sections.

The low volume of farm equipment crossings and movement along Highway 22 and the dispersed nature of the activity make it difficult to develop cost effective solutions to conflicts between farm equipment and non-farm vehicles sharing Highway 22.

H. ENVIRONMENTAL IMPACTS

Transportation systems have an impact on the adjacent environment. This impact can be in the form of noise, water pollution, air pollution, or physical disruption of the environment caused by the construction of a facility. Through careful management of the operation or modification of a facility's design, it is possible to reduce the impacts to acceptable levels. Hazardous material spills are another source of environmental impact on the corridor.

1. Findings and Issues

Highway 22 crosses and is adjacent to significant natural resources. The highway crosses and is parallel to the Willamette River west of Salem. Further west, it goes through fertile farm and forest lands. It also is adjacent to the Baskett Slough Wildlife

Refuge and passes elk and deer summer range. Sections of the corridor provide habitat for the following rare, threatened, or endangered plants and animals:

- Fender's Blue Butterfly
- Kincaid's Lupine
- Peacock Larkspur
- Nelson's Checkermallow
- Willamette Daisy
-

The opportunities for accidental contamination of land, groundwater and surface water within the corridor increases as the number of vehicles using the corridor increases.

The Salem area is an air quality non-attainment area for carbon monoxide and ozone. In the past, air quality in Salem failed to meet the EPA standards for clean air. This impacts road capacity and intersection signalization projects because they must meet project air conformity requirements.

2. Opportunities and Constraints

Projects that propose to widen or otherwise improve Highway 22 will require careful environmental analysis. Significant environmental resources will constrain road improvement alternatives. Such analysis is required to respond to state and federal environmental laws and regulations.

The development of coordinated accident response plans between the jurisdictions along the corridor would provide means of minimizing the impact of hazardous material spills.

It is possible that Salem area air quality now complies with environmental standards. If demonstrated and accepted by the Environmental Protection Agency, this would substantially benefit efforts to manage area transportation facilities and provide road capacity.

I. ENERGY IMPACTS

Transportation systems and modal choices can have a significant impact on energy consumption. The lack of an appropriate mode may result in people, goods, or services moving in an inefficient manner. Transportation facility design may result in improved efficiency or diminished efficiency.

1. Findings and Issues

Throughout the corridor, several modes of transportation are available. The opportunity to select energy efficient modes is variable because a choice of modes does not exist throughout the corridor. Modes that are lacking and may provide opportunities for increased transportation efficiency are public transit and intercity bus service. As was

identified in other sections, park-and-ride or express bus service from West Salem, and intercity bus service from outlying communities may be viable options that shift people out of single occupancy vehicles. Carpooling is also an important option for increasing energy efficiency within the corridor.

2. Opportunities and Constraints

As was noted in other sections, transit and car pooling opportunities exist. Expansion of these alternatives to single occupant vehicle usage warrant further study to determine their cost-effectiveness and acceptability.

Chapter 6
INTERIM STRATEGY

INTRODUCTION

The Interim Corridor Strategy consists of goals and objectives that, when taken as a whole, serve to guide the work of ODOT, cities, counties and the Salem-Keizer MPO related to transportation planning and development of future transportation facilities and services in the corridor. Additional analysis will occur during transportation system planning, refinement planning, and comprehensive plan periodic review, and through local plan amendment activities. These processes will allow ODOT, the local governments and the Salem-Keizer MPO to cooperatively work together to ensure that city and county comprehensive plans and land use regulations achieve the objectives stated in the final corridor plan. Additional analysis will further define transportation needs and solutions, and is expected to result in future modifications to the strategy. The final corridor plan will incorporate the results of additional analysis and provide a final strategy resulting from additional analysis. The final corridor plan will then be adopted by ODOT as an element of the state transportation system plan.

There are instances where some of the issues addressed by a particular strategy are also directly or indirectly applicable to other issues. As an example, a regional connectivity issue (the ability to move from one region of the state to another) may also be related to a transportation balance issue (the availability and use of various modes of travel). A single strategy may address both issues without its separate inclusion in both categories. The goals and objectives are categorized by transportation measures in order to demonstrate how they address the policies and objectives of the Oregon Transportation Plan.

Many of the Strategy Objectives apply to a specific portion of the corridor, or to the western segment or to the eastern segment. However, if an Objective does not state that it applies to a specific portion of the corridor, it should be assumed to apply to the entire corridor.

A. Transportation Balance Goal:

Provide for a balanced mix of transportation modes within the corridor in order to provide a range of modal choice for urban and rural users of the transportation system.

1. Commuter Travel Objectives

Steps should be taken to manage and reduce work commute trip impacts through the following objectives:

A.1 Ride Share. Promote increased vehicle occupancy by expanding Salem Rideshare program activities, or establish new programs in the communities west of Salem.

A.2 Transit Service. Evaluate the feasibility of express bus service into downtown Salem and the Capital Mall from West Salem. Evaluate the effectiveness of reducing congestion on the Willamette River Bridges and in downtown Salem through such service. Examine establishing similar services operating from the communities west and east of Salem. Evaluate an expanded "guaranteed ride home" program as a means to increase express bus ridership and carpooling from other corridor cities.

A.3 Park and Pool/Park and Ride Lots. Using an approach that considers the entire corridor, establish park and pool/park and ride lots and promote car pooling. Explore development of facilities at major intersections with Highway 22 such as Highway 223, Highway 99W, Highway 51, and Highway 221 (Wallace Road). Include facilities for parking and safe storage of bicycles. As a first step, develop a park-and-ride facility as part of the Salemtowne-Orchard Heights project on Highway 221 (Wallace Road). Evaluate program effectiveness on reducing congestion on the Willamette River Bridges and in downtown Salem.

A.4 Promote transportation demand management approaches as a means to reduce vehicle miles traveled and related impacts on the roadway system. Such approaches might include:

- Telecommunication and telecommuting to eliminate trips to work;
- Flexible work schedules to shift work trips to off peak times;
- Work weeks of four, ten-hour days to reduce the number of days worked;
- Preferential High Occupancy Vehicle (HOV) Lanes or Reverse Flow Lanes to accommodate high occupancy vehicles.

2. Truck and Rail Objectives

A.5 Provide additional climbing and passing lanes at appropriate locations west of Highway 99W. Such improvements would provide benefits to all Highway 22 users.

A.6 Improve truck movements through downtown Salem by making improvements to the roadway geometry, signal control systems, and congestion management programs. Such improvements would provide benefits to all Highway 22 users. Such improvements should be accomplished in a manner that does not unnecessarily impact the viability of the downtown commercial area or other users, notably pedestrians and bicyclists.

A.7 Expand railroad reload services to other commodity shippers.

3. Air Travel Objectives

A.8 Coordinate construction and improvements to the Mission Street section of the Corridor with the City Of Salem and ODOT Aeronautics.

A.9 Protect existing aviation resources along the corridor from incompatible land uses through implementation and enforcement of appropriate land use planning measures.

A.10 Ensure protection for the Salem and Independence Airports by using airport overlay zoning to prevent construction or growth of obstructions into the Federal Aviation Administration Part 77 Airspace (FAR Part 77) around both airports.

A.11 Dedicate avigation easements to the airport operators. No new development should be allowed within the FAR Part 77 Approach Surfaces.

A.12 Analyze the feasibility of developing a future, long-term multi-modal transportation hub that effectively links all modes (air passenger, air freight, truck, passenger rail, local transit, intercity bus, auto, bicycle, pedestrian).

4. Transit Objectives

A.13 Improve transit service connections to rail, intercity bus, and airline services connecting with areas outside the corridor. Improvements to the Salem Rail Station should be included.

A.14 Develop all transit, park-and-ride and park-and-pool facilities with pedestrian amenities and secure bicycle parking in order to promote connection between those modes and transit.

5. Intercity Bus Objectives

A.15 Examine the demand factors and opportunity for intercity bus service connecting Salem and other points on the corridor, particularly the Spirit Mountain Casino in Grand Ronde.

6. Transportation Disadvantaged Travel Objectives

A.16 Design passenger intermodal transportation hubs to comply with the Americans with Disabilities Act (ADA).

A.17 Work with all providers of specialized social and medical services to improve the mobility of the transportation disadvantaged population in the corridor through greater service coordination. Develop and implement a strategy that maintains the existing services.

7. Bicycle Travel Objectives

A.18 Continue to provide continuous bike facilities (bike lanes or bikeways) throughout the Highway 22 Corridor.

A.19 Clean roadway shoulders when debris accumulates, particularly in the peak summer cycling months.

A.20 Provide secure and sheltered bicycle parking facilities at park and ride lots, transit centers, airport terminals, bus terminals, and major public and private facilities. Equip buses with bicycle racks.

8. Pedestrian Travel Objectives

A.21 Continue to provide pedestrian facilities along Highway 22 where it functions as an urban arterial within the Salem Area.

A.22 Ensure that pedestrian facilities are replaced, added, or upgraded to desired conditions in conjunction with other highway construction and maintenance activities.

A.23 Geometric improvements made to increase mobility of other transportation modes should be undertaken in a manner that minimizes the impact of those improvements on pedestrian mobility.

A.24 Improve pedestrian crossing opportunities in the Salem area. Incorporate median islands in areas where pedestrian activity is high, such as between 17th Street and 23rd Street, to provide a comparatively safe refuge area for pedestrians. Consider pedestrian facilities between Hawthorne Boulevard and Lancaster Drive as part of any proposal to reconstruct the North Santiam Interchange.

B. Regional Connectivity Goal:

Develop transportation facilities within the corridor to provide a high degree of regional connectivity for all corridor users, both internal to the corridor as well as those passing through the corridor.

Regional Connectivity Objectives

B.1 Maintain existing travel times throughout the planning period.

B.2 Examine means to provide opportunities for modal choice in traveling between communities along the Highway 22 corridor. Improve access to existing rail, air, and bus facilities as well as access to the planned multi-modal hub in Salem.
B.3 Develop the Salem train station as a near-term intermodal connection between rail service and pedestrian, bicycle, automobile, and transit modes.

B.4 Conduct a Major Transportation Investment Study (MTIS) to analyze the purpose, need and potential location of an additional crossing of the Willamette River. Examine the potential for more direct connections for trucks from the western end of the Highway 22 corridor across the Willamette River to I-5.

B.5 Incorporate advances in signal coordination in the Salem urban area to improve traffic flow.

B.6 West of the Willamette River, avoid installation of additional traffic signals.

B.7 West of the Willamette River, intersections with the highway may need to be replaced with interchanges. Where interchanges are constructed, land use controls should be implemented to protect the integrity of the interchange operations for transportation purposes.

C. Highway Congestion Goal:

Operate all transportation facilities within the corridor at a level of service that is cost-effective and appropriate for the area served.

Congestion Objectives

C.1 Manage Transportation Demand. Develop programs to manage transportation demand (reduce demand or slow its growth) to extend the service life and capacity of existing facilities throughout the Highway 22 corridor. Techniques could include:

- Increasing average vehicle occupancy through carpools and vanpools;
- Increasing the use of transit within the Salem urban area with particular emphasis on new service to West Salem;
- Establishing transit service, including park-and-ride and express bus service between Salem and areas outside the Salem-Keizer Urban Area, and on the urban fringe of Salem;
- Examining ways to shift demand to off-peak hours;
- Evaluating transportation system management options such as signalization improvements;
- Studying the suitability of employer trip reduction ordinances and transportation demand management programs for large businesses;
- Investigating the opportunity, cost-effectiveness and acceptability of congestion pricing when linked to effective alternative transportation opportunities; and
- Promoting increased use of telecommunication technologies to reduce the need to travel to a work site.

C.2 Reduce Travel Demand. Analyze the effect alternative land use patterns would have on reducing travel across the Willamette River Bridges, with a focus on West Salem development opportunities.

C.3 Major Transportation Investment Study (MTIS), Willamette River Crossing. This MTIS is essential to understanding the range of options available to manage or reduce congestion within this section of the corridor and to develop a plan for improving that

highway section's ability to accommodate commute hour travel demand. Such a study should include:

- An analysis of "no-build" alternatives, such as the programs recommended under Objective C.1.
- An analysis of trip patterns to determine whether a bridge would provide greater utility if located to the north of the existing bridges or to the south.
- An identification of the specific location, alignment, and road connection for an additional bridge across the Willamette River.

C.4 Major Transportation Investment Study, 25th Street to east of Cordon Road. This MTIS is essential to understanding the options available to manage or reduce congestion within this section of the corridor and to develop a plan for improving that highway section's ability to accommodate commute hour travel demand. The MTIS would include:

- An analysis of "no-build" alternatives such as the programs recommended under Objective C.1.
- An evaluation of various combinations of construction alternatives including:
  Park-and-ride and park-and-pool lots;
  Interchange construction at Cordon Road and Hawthorne Avenue;
  Reconstruction of the North Santiam Interchange at Interstate 5;
  Reconfiguration of turn and through lanes; and
  Adding new turn and through lanes.

C.5 Congestion Management Plan. Develop a plan to reduce or manage recurring congestion within the corridor. Target capacity improvements where the benefit/cost ratio is greatest. Techniques to be examined in the Congestion Management Plan should include:

- Improved signal timing or inter-connect systems;
- Addition of left and right turn lanes at major intersections;
- Access management involving the closure of some streets or driveways that contribute to congestion.

C.6 Access Management. Manage highway facilities in a manner that does not result in conditions that are less than the following for highway traffic. Consider identifying downtown Salem as a pedestrian oriented environment where few alternatives exist to avoid conflicts between vehicles and pedestrians, and where a lower level of service can be accepted.

Location	Level of Service[1]
West of Highway 51	LOS C
Highway 51 to Willamette River Bridges	LOS C
Through downtown Salem	LOS D
Mission Street to I-5	LOS D

East of I-5		LOS C

1. Level of Service (LOS) operating characteristics are described in Appendix G.

D. Safety Goal:

Continually improve all facets of transportation safety within the corridor.

Safety Objectives

D.1 Target safety improvement projects to sections of the corridor with the highest accident rates. Analyze the accident types at sites that fall within the top 10% of all SPIS accident index sites. Develop solutions that reduce accident rates, including:

- Operational changes such as increased traffic enforcement and consideration of appropriate speed zones;
- Minor design modifications such as change in striping, geometric layout, or illumination; and
- Major redesign including intersection replacement with interchanges, street alignment changes, and passing lanes.

D.2 Review citizen input on other accident or problem locations and identify what action might be taken to improve safety at those locations.

D.3 Evaluate solutions to the safety concerns at the intersections of Highway 22 and Highway 99W, and Highway 22 and Highway 223 near Rickreall.

D.4 Evaluate the safety needs of alternative access routes to Dallas, including the Kings Valley Highway.

D.5 Analyze alternatives to reduce accident risk near the intersections with a high number of turning vehicles, including Highway 223, Highway 99W and Highway 51.

D.6 Examine alternatives to provide public telephones at five-mile intervals throughout the length of the corridor. Phones can be located at grocery stores or gas stations, or may be needed as stand alone phone booths where no development is available.

D.7 Examine changes to the local street network that improves the operation of the transportation system and public safety.

D.8 Coordinate with efforts by the Oregon State Police and other agencies to reduce vehicle speeding in the corridor. Coordinate with emergency service providers with the responsibility to respond to accidents in the corridor.

E. Economic Impact Goal:

Promote economic health and diversity through the efficient and effective movement of goods, services, and passengers in a safe, energy-efficient and environmentally sound manner.

Economic Impact Objectives

E.1 Improve access to industrial and commercial users by making street network improvements such as systems of service roads, selected street or intersection improvements, or as appropriate, street and driveway closures.

E.2 Enhance development of planned industrial and commercial sites through improvements to road facilities and transportation services.

E.3 Provide opportunities for the use of alternative modes of transportation in conjunction with special events on or near the corridor.

F. Social Impacts Goal:

Provide a transportation corridor that has positive social impacts by providing for the safe movement of goods and people while reducing the negative impacts caused by transportation/land use conflicts.

Social Impacts Objectives

F.1 Examine methods to reduce the impact of vehicular traffic, particularly truck traffic, in downtown Salem.

F.2 Improve pedestrian crossing opportunities, particularly in the urban sections of Highway 22, to reduce the "barrier" effect of the roadway and to foster good pedestrian connections between both sides of the road.

F.3 Address pedestrian and bicyclist safety and connectivity issues in the I-5 area when the North Santiam Interchange is reconstructed.

F.4 Examine methods to reduce the negative impacts and increase the positive impacts of Highway 22 corridor transportation systems on neighborhoods, parks, and community facilities.

G. Environmental Impacts Goal:

Provide a transportation system throughout the Highway 22 corridor that is environmentally responsible and encourages protection of natural resources.

Environmental Impacts Objectives

G.1 Avoid highway improvements near Baskett Slough National Wildlife Refuge that have significant adverse impacts to the refuge. If impacts are unavoidable, strive to minimize those impacts.

G.2 Consider enhancements or management techniques that maintain or enhance the visual quality of the corridor, particularly in the scenic rural sections west of Dallas.

G.3 Develop a coordinated accident response plan with the jurisdictions along the corridor to reduce the impact of hazardous material spills.

G.4 Evaluate the impact of transportation improvements on air quality in the Salem airshed consistent with the requirements of the federal Clean Air Act Amendments. Coordinate with the Salem-Keizer Metropolitan Planning Organization's regional air emissions studies. Analyze projects to ensure that "hot-spot" air quality locations are not created by road projects.

G.5 Evaluate and mitigate, as needed, the impact of Highway 22 corridor transportation improvements on water quality for adjacent streams and rivers such as Mill Creek, Salt Creek, Rickreall Creek and the Willamette River.

G.6 Prepare an inventory of sensitive environmental and cultural resources in the corridor that identifies resources that should be avoided when transportation improvement projects are proposed. The inventory should include:

- Rare, threatened, and endangered plants and animals or their known habitats;
- Wetland resources;
- Creeks, streams, and rivers;
- Wildlife refuges or significant wildlife habitat;
- Archaeological or cultural resources.

G.7 Prepare an inventory of hazardous material sites on the corridor that should be avoided when transportation improvement projects are proposed..

H. Energy Impacts Goal:

Provide a transportation system that minimizes transportation-related energy consumption by using energy-efficient and appropriate modes of transportation for the movement of people and goods.

Energy Impacts Objectives

H.1 Give priority to those projects that reduce energy consumption and vehicle miles traveled.

H.2 Examine methods to reduce energy consumption through the following:

- Carpooling;
- Increased use of public transit;
- Increased use of intercity transit;
- Reduction of trips through strategies such as telecommuting;
- Reduction of trips through strategies such as 4 day, 10 hour work schedule.
- Increased bicycling and walking.