

DRAFT

**CITY OF PORT ORFORD
TRANSPORTATION SYSTEM PLAN**

September 2002

Prepared for

The City of Port Orford, Oregon

Prepared by

David Evans and Associates, Inc.

and

H. Lee & Associates

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CHAPTER 1: INTRODUCTION

The Port Orford Transportation System Plan (TSP) guides the management of existing transportation facilities and the design and implementation of future facilities for the next 20 years. This TSP constitutes the transportation element of the City's Comprehensive Plan and satisfies the requirements of the Oregon Transportation Planning Rule (TPR) established by the Department of Land Conservation and Development. It identifies and prioritizes transportation projects for inclusion in the Oregon Department of Transportation's (ODOT's) Statewide Transportation Improvement Program (STIP).

Planning Area

The Port Orford Transportation System Plan planning area includes the City of Port Orford and the area within the city's Urban Growth Boundary (UGB). The planning area is shown on Figure 1-1. Roadways included in the Transportation System Plan fall under several jurisdictions: Port Orford, Curry County, and the State of Oregon. {tc "Figure 1-1: Port Orford Planning Area" \f F \l 1}

Port Orford is the oldest platted townsite on the Oregon Coast, and is also the most westerly incorporated city in the contiguous United States. Port Orford is the smallest incorporated city in Curry County with five percent of the county's population. Located in southwestern Oregon about 200 miles south-southwest of Portland, it is a self-contained community. Port Orford provides a variety of residential, shopping, employment, and recreational opportunities within its UGB and the surrounding countryside. The area is economically viable, supported by a combination of resource-based industries, agriculture, and a growing tourist trade.

US 101 (Pacific Coast Highway) runs north-south through the center of town along Oregon Street and 6th Street. The city streets are generally laid out in a grid system. This south coastal area is isolated from the central and eastern portions of Oregon, as no improved highway access links the area to the east. Eastern access is obtained via OR 42, 25 miles to the north, which goes to Roseburg, or by going south into California to access US 199 to Grants Pass, Oregon.

The comprehensive plan map of the Port Orford TSP planning area is shown in Figure 1-2. {tc "Figure 1-2: Port Orford Land Use Zone Map" \f F \l 1}

The core of the city and the tracts along US 101 are zoned for commercial uses, with some lots zoned for public uses (schools, post office, City Hall, libraries, etc.). Most of the land east of US 101 is zoned Residential. West of the Central Business District, the city consists of large parcels zoned Residential, Commercial, Controlled Development, Marine Activity, and Public Facilities.

Planning Process

The Port Orford TSP was prepared as part of an overall effort in Curry County to prepare TSPs for Curry County and the municipalities of Brookings, Port Orford, and Gold Beach. Each plan was developed through a series of technical analyses combined with systematic input and review by the City, the combined management team, Transportation Advisory Committee (TAC), ODOT, and the public. The TAC consisted of staff, elected and appointed officials, residents, and business people from Curry County, and the cities of Port Orford, Gold Beach, and Brookings. Key elements of the process include:

- Involving the Port Orford community (Chapter 1)
- Defining goals and objectives (Chapter 2)
- Reviewing existing plans and transportation conditions (Chapters 3 and 4; Appendices A and B)

LEGEND

- - - - - URBAN GROWTH BOUNDARY (UGB)
- CITY LIMITS



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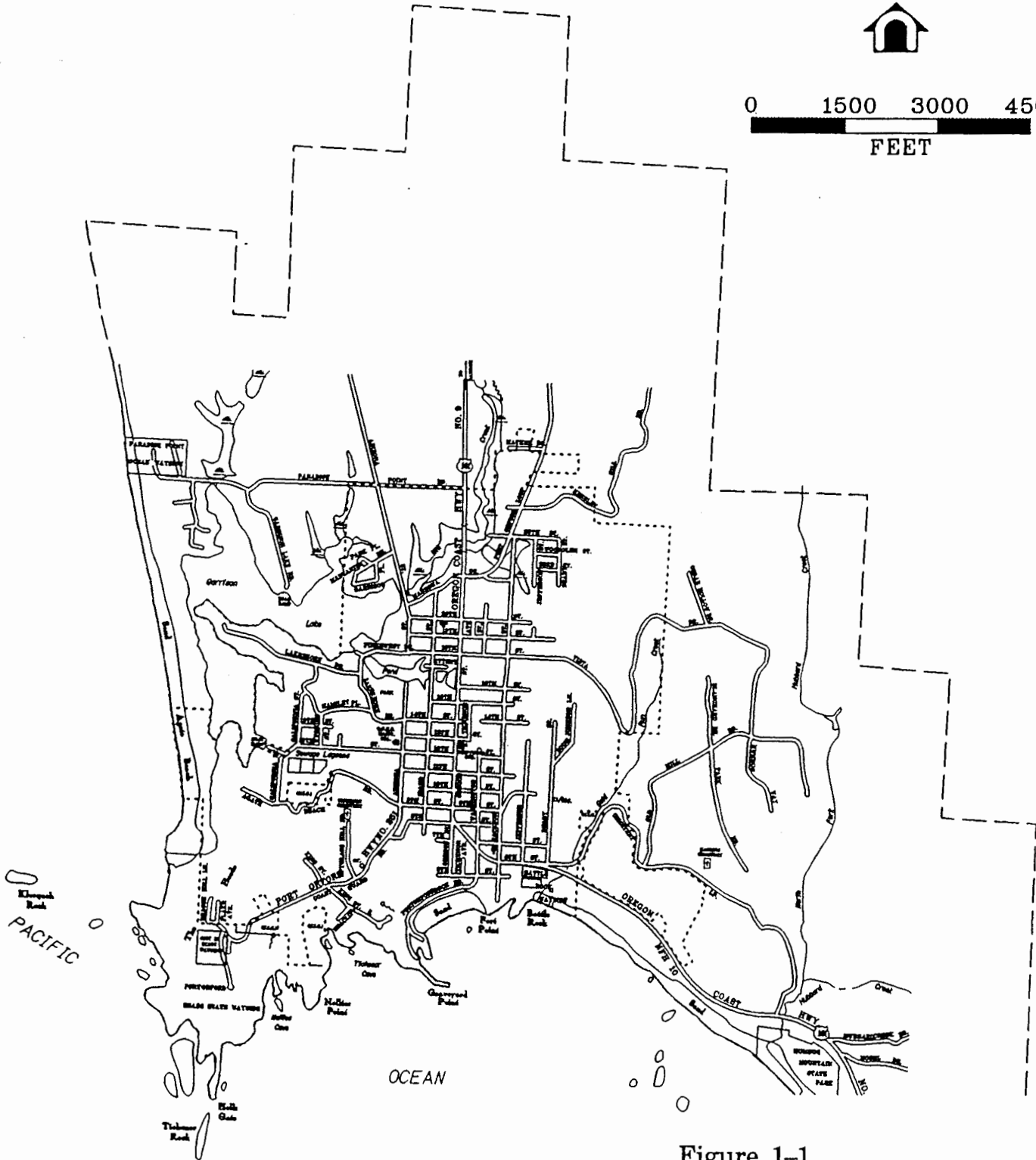
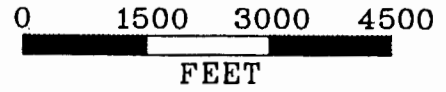
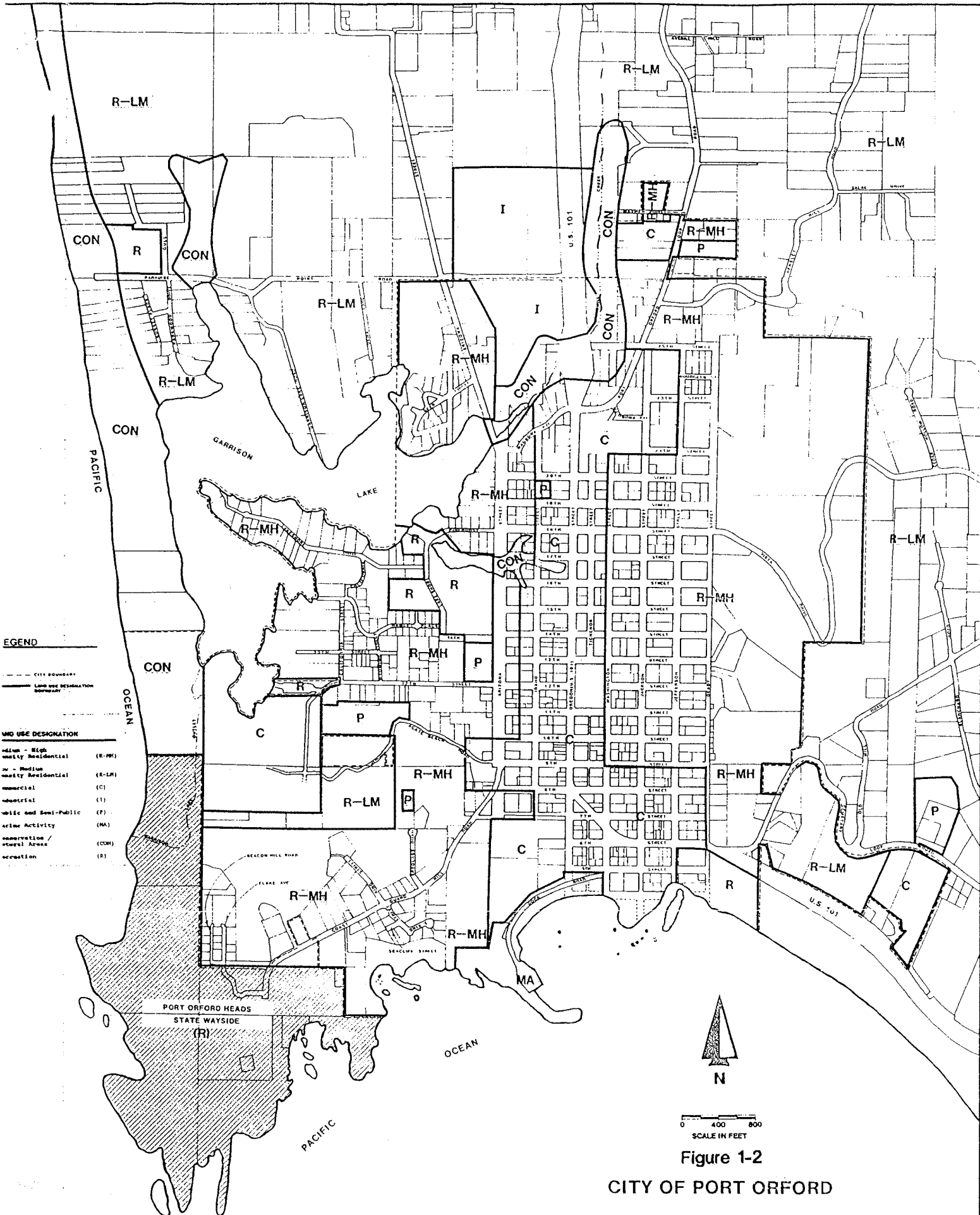


Figure 1-1
PORT ORFORD
PLANNING AREA



LEGEND

--- City boundary
 --- Land use designation boundary

LAND USE DESIGNATION

High Density Residential	(R-MH)
Medium Density Residential	(R-LM)
Commercial	(C)
Industrial	(I)
Public and Semi-Public	(P)
Crime Activity	(MA)
Conservation / Natural Areas	(CON)
Recreation	(R)

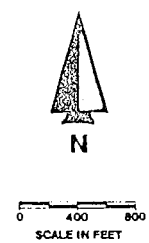


Figure 1-2
CITY OF PORT ORFORD
COMPREHENSIVE LAND USE PLAN MAP
 JUNE, 1989

- Developing population, employment, and travel forecasts (Chapter 5)
- Developing and evaluating potential transportation system improvements (Chapter 6)
- Developing the Transportation System Plan (Chapter 7)
- Developing a Capital Improvement Program (Chapter 8)
- Developing recommended policies and ordinances (under separate cover)

Community Involvement

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

A combined management team and TAC provided guidance on technical issues and direction regarding policy issues to the consultant team. Staff members from each local jurisdiction and ODOT and a local resident from each community served on this committee. This group met several times during the course of the project: November 1997, January 1998, and March 1998.

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

The third part will consist of community meetings within Port Orford during the adoption process. The general public will be invited to learn about the TSP planning process and provide input on transportation issues and concerns. The public will be notified of the public meetings through public announcements in the local newspapers and on the local radio station.

Goals and Objectives

Based on input from the City, the management team/TAC, and the community, a set of goals and objectives was defined for the Transportation System Plan. These goals and objectives were used to make decisions about various potential improvement projects. They are described in Chapter 2.

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

To begin the planning process, all applicable Port Orford and Curry County transportation and land use plans and policies were reviewed and an inventory of public facilities was conducted. The purpose of these efforts was to understand the history of transportation planning in the Port Orford area, including the street system improvements planned and implemented in the past, and how the City is currently managing its ongoing development. Existing plans and policies are described in Appendix A of this report.

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

Future Transportation System Demands

The Transportation Planning Rule requires the Transportation System Plan to address a 20-year forecasting period. Future traffic volumes for the existing plus committed transportation systems were projected using ODOT's Level 1—Trending Analysis methodology. The overall travel demand forecasting process is described in Chapter 5.

Transportation System Potential Improvements

Once the travel forecasts were developed, it was possible to evaluate a series of potential transportation system. Transportation demand management measures and potential transportation improvements were developed and analyzed as part of the transportation system analysis. These improvements were developed with the help of the local working group, and they attempt to address the concerns specified in the goals and objectives (Chapter 2). After evaluating the results of the potential improvements analysis, a series of transportation system improvements was selected. These recommended improvements are described in Chapter 6.

Transportation System Plan

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

Funding Options

The City of Port Orford will need to work with Curry County and ODOT to finance new transportation projects over the 20-year planning period. An overview of funding and financing options that might be available to the community is described in Chapter 8.

Recommended Policies and Ordinances

Suggested comprehensive plan policies and implementing zoning and subdivision ordinances are included in a separate document. These policies and ordinances are intended to support the TSP and satisfy the requirements of the TPR.

Related Documents

The Port Orford TSP addresses the local transportation needs in the city. There are several other documents which address specific transportation elements or areas in Port Orford.

Other Transportation System Plans

A TSP has been prepared for Curry County. The county TSP addresses the need for the community outside each city's UGB. It provides roadway standards, access management standards, and modal plans. In some cases, a project may be identified in the Port Orford TSP which then needs to be addressed in the Curry County TSP as well. These projects include:

- Improved East-West Connection to I-5

- Develop an Alternative Route to US 101
- Implement Transportation Demand Strategies

Corridor Plans

One major highway corridor passes through Gold Beach: US 101 (the Oregon Coast Highway). ODOT developed a corridor master plan for this highway in 1995. The plan does not contain planned projects and is advisory in nature. In some cases, policy suggestions in the plan have been superceded by changes in Statewide policy. In general, the plan can be used to determine general direction of management of the corridor. However, specific policies and projects will be referenced from other plans such as the Oregon Highway Plan, other state modal plans, and local and regional TSPs. The participants in the Oregon Coast Highway Corridor Master Plan developed a vision statement for the corridor and five goals, which address it:

Process – Develop a transportation plan that builds on ongoing planning and implementation partnership among ODOT and each of the communities and jurisdictions that have a stake in the future of transportation along the Oregon Coast Highway Corridor.

Transportation – Develop a 20-year plan to manage future transportation needs in the Coast Highway Corridor and prolong the useful life of the existing transportation system.

Resources – Develop a plan for a transportation system to harmonize with the inherent scenic beauty of the coastal region, protect environmental resources, and enhance the enjoyment of the Corridor’s beauty and resources by corridor users.

Community – Develop a plan for a transportation system that supports the individual character and plans of the communities along the Corridor.

Economic – Develop a plan for a transportation system that supports sustainable economic diversity and vitality and provides responsible stewardship of public funds.

Furthermore, the Transportation Goal should:

1. Provide a transportation system that can adapt to future travel modes and practices.
2. Optimize the existing transportation system to reduce or delay the need for additional travel lanes or other large-scale improvements.
3. Improve safety for vehicle, bicycle, and pedestrian users.
4. Minimize conflicts between commercial, local, and recreational traffic.
5. Minimize congestion on US 101 and enhance mobility within and between communities along the transportation corridor.
6. Reduce vehicle travel demand through other modes of travel and demand management strategies.
7. Improve east/west corridor accesses.
8. Identify alternative routes for use during natural disasters and/or emergencies.

Several corridor-wide policies were identified to address the following:

- Communication among ODOT and communities and jurisdictions affected by this Plan
- Intercity passenger service
- Intermodal improvements
- Road capacity improvements
- Bridges
- Access management
- East-west corridors
- Emergency routes and emergency response
- Preserving and enhancing scenic resources
- Land use planning to reduce auto dependence
- Bicycle and pedestrian facilities
- Visual features
- Economic viability
- Parallel route

The Plan's focus in Curry County is to enhance and protect the scenic beauty of the corridor while increasing capacity and reliability on the transportation system. Specific Plan Activities include developing a southern "gateway to Oregon," local street circulation improvements, and improving facilities for travelers, including turnouts, signage, and shoulder improvements. The Plan identifies a specific need for a study of an east-west connection to the I-5 corridor in the Curry County, Port Orford, and Gold Beach TSPs.

Other State Plans

In addition to the ODOT corridor plan, coordination with the following state plans is required:

- Oregon Transportation Plan
- Oregon Highway Plan
- Oregon Bicycle Plan
- Oregon Aviation Plan

CHAPTER 2: GOALS AND OBJECTIVES

The purpose of the Transportation System Plan is to provide a guide for the City of Port Orford to meet its transportation goals and objectives. The following goals and objectives were developed from information contained in the City's Comprehensive Plan and public concerns as expressed during public meetings. An overall goal was drawn from the Plan, along with more specific goals and objectives. Throughout the planning process, each element of the plan was evaluated against these parameters.

Overall Transportation Goal

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

Goal 1

Preserve the function, capacity, level of service, and safety of the state highways.

Objectives

- A. Develop access management standards that will meet the requirements of the TPR and also consider the needs of the affected communities.
- B. Develop alternative, parallel routes.
- C. Promote alternative modes of transportation.
- D. Promote transportation demand management programs (i.e., rideshare and park and ride).
- E. Promote transportation system management (i.e., signal synchronization, median barriers, etc.).
- F. Develop procedures to minimize impacts to and protect transportation facilities, corridors, or sites during the development review process.

Goal 2

Improve and enhance safety and traffic circulation and preserve the level of service on local street systems.

Objectives

- A. Develop an efficient road network that would maintain a level of service C or better.
- B. Improve and maintain existing roadways.
- C. Ensure planning coordination between the City, the County and the State.
- D. Identify truck routes to reduce truck traffic in urban areas.
- E. Examine the need for speed reduction in specific areas.
- F. Identify local problem spots and recommend solutions.

Goal 3

Identify the 20-year roadway system needs to accommodate developing or undeveloped areas without undermining the rural nature of the city.

Objectives

- A. Adopt policies and standards that address street connectivity, spacing, and access management.
- B. Integrate new arterial and collector routes into a grid system with an emphasis on reducing pressure on traditionally heavy traffic routes.
- C. Improve access into and out of the city for goods and services.
- D. Improve the access onto and off of arterial roadways to encourage growth.[m1]

Goal 4

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

Objectives

- A. Provide sidewalks, bikeways and safe crossings on arterial and collector streets.
- B. Provide shoulders on rural collector and arterial streets.
- C. Develop a city bicycle plan.
- D. Promote alternative modes and rideshare/carpool programs through community awareness and education.
- E. Plan for future expanded transit service by sustaining funding to local transit efforts and seeking consistent state support.
- F. Seek Transportation and Growth Management (TGM) and other funding for projects evaluating and improving the environment for alternative modes of transportation.
- G. Periodically assess pedestrian and bicycle modes of transportation within the city and develop programs to meet demonstrated needs.

Goal 5

Provide a safe and efficient transportation system for current and future demands within the city and urban growth area.

Objectives

- A. Encourage the continued development of quality street and efficient traffic control systems which ensure maximum safety to pedestrians, bicyclists, and motorists by establishing long range priorities.

- B. Encourage efficient commodity transport by urging the development of regularly scheduled freight delivery and pickup services to and from the city.
- C. Encourage and assist the efforts to develop an upgraded east-west highway linking Curry County with the interstate highway system.
- D. Encourage a diverse transportation system.
- E. Encourage improvements and developments of the Cape Blanco Airport facilities.
- F. Assist the development of transportation systems in the area in such a way that local, regional, and state transportation needs; needs of the transportation disadvantaged; social consequences; social, economic and environmental impacts; and energy conservation will be accommodated.
- G. Assist the development of the Port of Port Orford as the only practical means of water transportation to and from the city.
- H. Develop a variety of air, water, and land transportation systems including port, airport, highway, bikeway, and trail improvements, including the Oregon Coastal Bikeways and Trails Programs.
- I. Encourage appropriate mass-transit and commodity transportation services in, and through, Port Orford.
- J. Develop land use planning to ensure compatibility with adjacent land uses.

Goal 6

Ensure that the road system within the city and urban area is adequate to meet public needs, including the transportation disadvantaged.

Objectives

- A. Develop a city transportation plan.
- B. Meet identified maintenance and level of service standards on the county and state highway systems.
- C. Direct commercial development and use access onto major arterials by means of improved city streets.
- D. Ensure that roads created in land division and development be designed to tie into existing and anticipated road circulation patterns.
- E. Review and revise, if necessary, street cross section standards for local, collector, and arterial streets to enhance safety and mobility.
- F. Develop an access management strategy for US 101.
- G. Evaluate the need for traffic control devices, particularly along US 101.
- H. Analyze the safety of traveling speeds and consider modifying posted speeds as necessary.

Goal 7

Improve coordination among Curry County, the Oregon Department of Transportation (ODOT), the US Forest Service (USFS), the Federal Highway Administration (FHWA), and the City.

Objectives

- A. Cooperate with ODOT in the implementation of the Statewide Transportation Improvement Program (STIP).
- B. Encourage improvement of state highways, especially US 101.
- C. Work with the County in establishing cooperative road improvement programs and schedules.
- D. Work with the County in establishing the right-of-way needed for new roads identified in the TSP.

CHAPTER 3: TRANSPORTATION SYSTEM INVENTORY

As part of the planning process, H Lee & Associates conducted an inventory of the existing transportation system in Port Orford. This inventory covered the street system as well as pedestrian, bikeway, public transportation, rail, air, water and pipeline systems.

Street System

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

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

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

- Street classification and jurisdiction
- Street width and right-of-way
- Number of travel lanes
- Presence of on-street parking, sidewalks, or bikeways
- Speed limit
- General pavement conditions

Figure 3-1 shows the roadway functional classification. Appendix B lists the complete inventory. {tc "Figure 3-1: Port Orford Roadway Functional Classification and Jurisdiction" \f F \l 1}

State Highways

Discussion of the Port Orford street system must include the state highways that traverse the planning area. Although Port Orford has no direct control over the state highways, adjacent development and local traffic patterns are heavily influenced by the highways. Similarly, local development can significantly affect the operation of those roadways. Port Orford is served by two state highways: US 101 and Oregon Route 251. US 101 serves as the major route through town with commercial development focused along it. Route 251 provides access to Port Orford Heads State Wayside and the Coast Guard Station at the headlands.

The 1999 *Oregon Highway Plan* (OHP) classifies the state highway system into five different categories. These categories are as follows: interstate highways (NHS), state highways (NHS), regional highways, district highways, and local interest roads. The classification system guides ODOT in planning, management, and investment decisions regarding state facilities.

US 101 in Port Orford is identified as a statewide highway. The OHP defines a statewide highway as follows:

“Statewide highways (NHS) typically provide inter-urban and inter-regional mobility and provide connections to larger urban areas, ports, and major recreation areas that are not directly served by Interstate Highways. A secondary function is to provide connections for intra-urban and intra-regional trips. The management objective is to provide safe and efficient, high-speed, continuous-flow operation. In constrained and urban areas, interruptions to flow should be minimal. Inside Special Transportation Areas (STAs), local access may also be a priority.”

US 101 is a statewide highway which runs along the entire Oregon coastline. To the south, US 101 connects Port Orford to Gold Beach, Brookings, and the California state line. To the north, US 101 connects Port Orford to the cities Bandon and Coos Bay and eventually continues to the Washington state line. US 101 is generally a four-to-five lane roadway with a 30 mph speed limit within the city limits of Port Orford. North and south of the city limits, US 101 generally becomes a two lane highway with a 55 mph speed limit.

Oregon Route 251 is identified as a District highway:






“District Highways are facilities of county-wide significance and function largely as county and city arterials or collectors. They provide connections and links between small urbanized areas, rural centers and urban hubs, and also serve local access and traffic. The management objective is to provide for safe and efficient, moderate to high-speed continuous-flow operation in rural areas reflecting the surrounding environment and moderate to low-speed operation in urban and urbanizing areas for traffic flow and for pedestrian and bicycle movements. Inside STAs, local access is a priority. Inside Urban Business Areas, mobility is balanced with local access.”

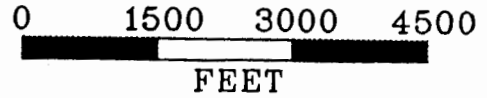
City Street Classification

Identification of the roadway functions is the basis for planning roadway improvements and the appropriate standards (right-of-way, roadway width, design speed) that would apply to each roadway facility. The following definitions serve as a general guide in determining street classifications:

- ***Principal Arterial*** – A roadway with substantial interstate and statewide travel. Principal arterials serve both through traffic and trips of moderate length. Access is partially controlled with infrequent access to abutting properties. US 101 is the only principal arterial within Curry County.
- ***Minor Arterial*** – A road that links cities or land uses that generate large numbers of trips. Travel speeds will be relatively high with minimum interference to through-movements. There are no designated minor arterials within the Port Orford Urban Growth Boundary.
- ***Major Collector*** – A road providing service to land uses that generate trips such as consolidated schools, shipping points, parks, mining and agricultural areas. This type of road links minor collectors with streets of higher classification. Within the Port Orford Urban Growth Boundary, there is one major collector, OR 251, or Coast Guard Hill Road.
- ***Minor Collector*** – A road providing service to small communities. This type of road links locally important land uses that generate trips with rural destinations. Port Orford Loop Road and Paradise Point Road are the only minor collectors within the Port Orford Urban Growth Boundary.

LEGEND

-  PRINCIPAL ARTERIAL
-  MINOR ARTERIAL (NONE)
-  MAJOR COLLECTOR
-  MINOR COLLECTOR
-  LOCAL STREET



not labeled as minor collector on figure

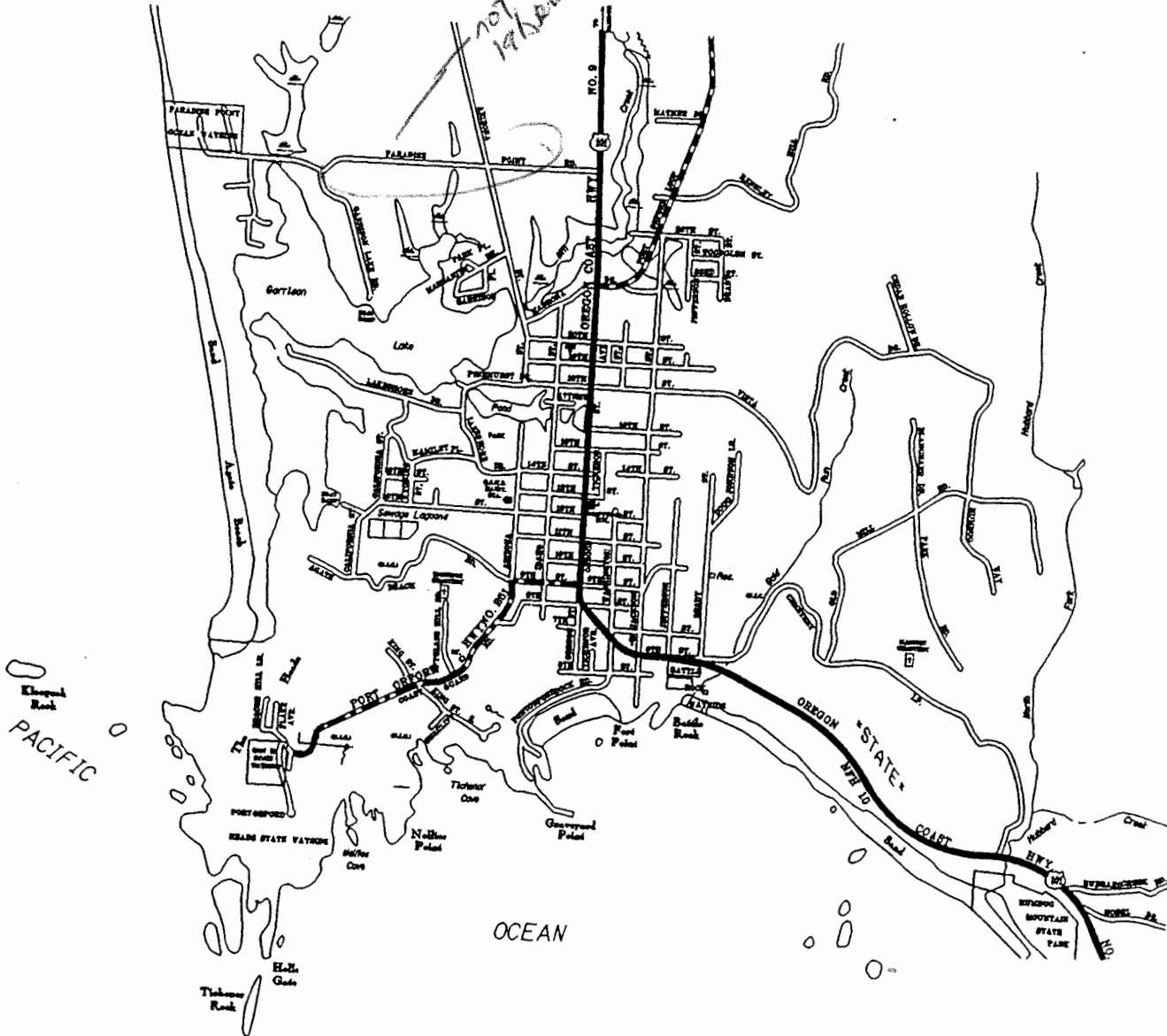





Figure 3-1
 PORT ORFORD
 ROADWAY FUNCTIONAL
 CLASSIFICATION AND
 JURISDICTION



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LEGEND

-  BIKE LANE
-  SIDEWALK
-  CROSSWALK



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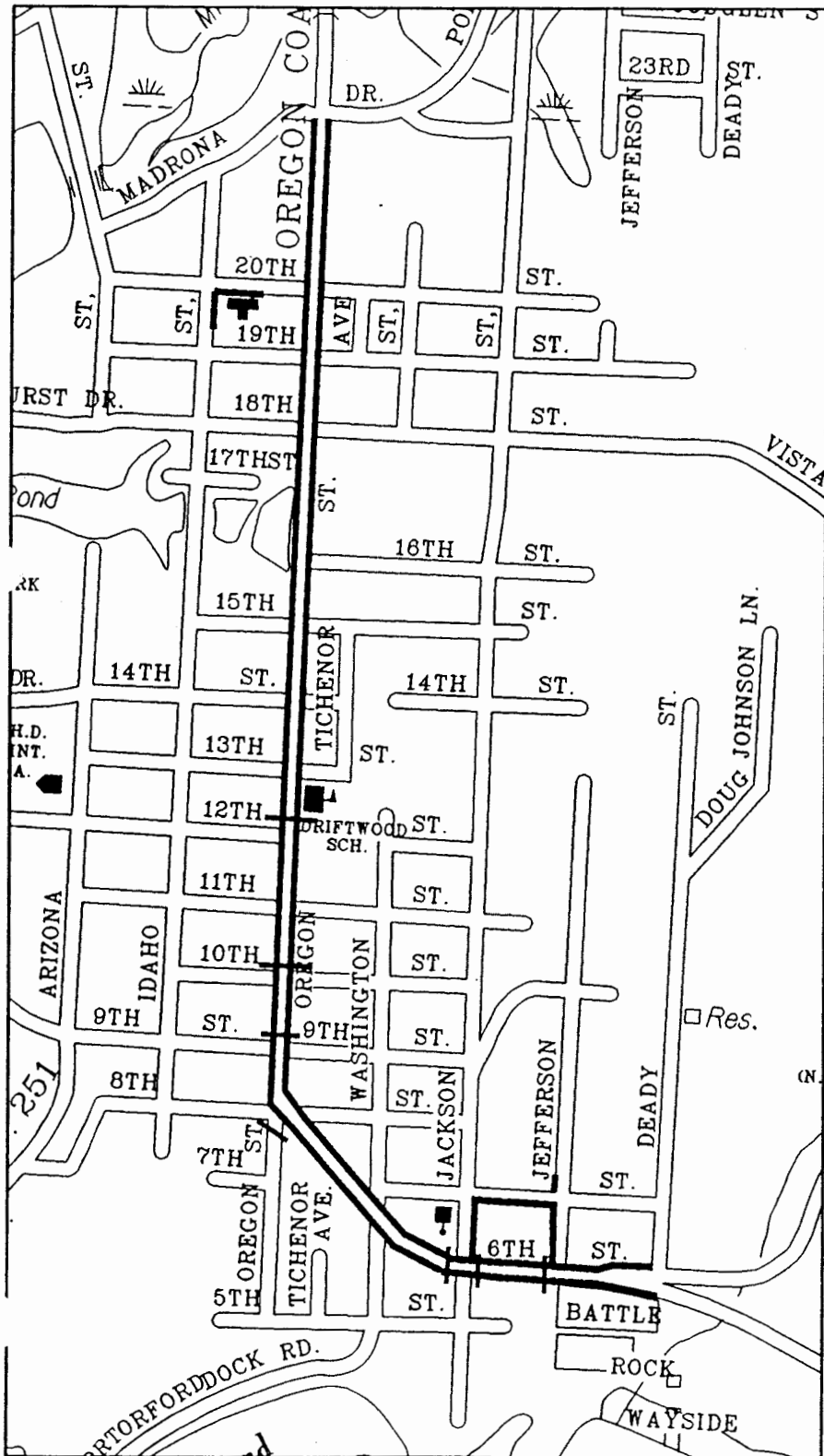
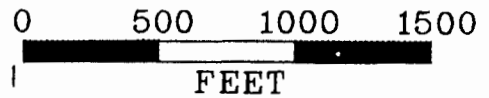


Figure 3-2
DOWNTOWN PORT ORFORD
SIDEWALK AND BIKE
LANE LOCATIONS

- **Local Street** – A public road that is not a county road, state highway or federal road. A street within residential neighborhoods connecting the local uses with the collector system. Property access is the main priority; through-traffic is not encouraged. All streets not classified as arterials or collectors are Port Orford's local streets.

Street Layout

The City of Port Orford is primarily centered around the US 101 corridor. The collectors and local streets generally form a simple grid system. The primary north-south streets are Arizona Street, Idaho Street, Jackson Street, and Jefferson Street. The primary east-west streets of the grid system are Twentieth Street, Nineteenth Street, Eighteenth Street, Fifteenth Street, Eleventh Street, and Ninth Street. These primary east-west streets connect several of the major north-south streets.

Bridges

The Oregon Department of Transportation maintains an up to date inventory and appraisal of Oregon bridges. Part of this inventory involves the evaluation of three mutually exclusive elements of bridges. One element identifies which bridges are structurally deficient. This is determined based on the condition rating for the deck, superstructure, substructure, or culvert and retaining walls. It may also be based on the appraisal rating of the structural condition or waterway adequacy. Another element identifies which bridges are functionally obsolete. This element is determined based on the appraisal rating for the deck geometry, underclearances, approach roadway alignment, structural condition, or waterway adequacy. The third element summarizes the sufficiency ratings for all bridges. The sufficiency rating is a complex formula which takes into account four separate factors to obtain a numeric value rating the ability of a bridge to service demand. The scale ranges from 0 to 100 with higher ratings indicating optimal conditions and lower ratings indicating insufficiency. Bridges with ratings under 55 may be nearing a structurally deficient condition.

Two of the 67 bridges in Curry County are located in Port Orford. Based on ODOT's bridge inventory, these bridges are not deficient and have high sufficiency ratings.

Pedestrian System

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

The relatively small size of Port Orford indicates that walking could be employed regularly for short trips, weather permitting, to reach a variety of destinations. Typically, a short trip that would be taken by a pedestrian would be around one half mile. Encouraging pedestrian activities may not only decrease the use of the personal automobile but may also provide benefits for retail businesses. Where people find it safe, convenient, and pleasant to walk, they are encouraged to linger.

Sidewalks and curb cuts for wheelchair access exist along the entire length of US 101 within Port Orford. However, sidewalks generally do not exist in other areas of town or exist in short, disjointed sections. The sidewalk locations and locations of needed curb cuts for wheelchair access are shown in Figure 3-2. {tc "Figure 3-2: Downtown Port Orford Sidewalk and Bike Lane Locations" \f F \l 1}

Bikeway System

Like pedestrians, bicyclists are often overlooked when considering transportation facilities. Bicycles are not often considered as a serious mode of transportation. However, cycling is a very efficient mode of travel. Bicycles take up little space on the road or when parked, do not contribute to air or noise pollution, and offer

relatively higher speeds than walking. Because of the small size of Port Orford, a cyclist can travel to any destination in town within a matter of minutes.

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

ODOT categorizes bicycle facilities into the following four major classifications:

- Shared roadways – Bicycles and vehicles share the same roadway area under this classification. The shared roadway facility is best used where there is minimal vehicle traffic to conflict with bicycle traffic.
- Shoulder bikeways – This bicycle facility consists of roadways with paved shoulders to accommodate bicycle traffic.
- Bike lanes – A separate lane adjacent to the vehicle travel lane for the exclusive use of cyclists is considered a bike lane.
- Bike paths – These bicycle facilities are exclusive bicycle lanes separated from the roadway.

There are no exclusive bicycle lanes within Port Orford. The entire length of US 101 in Curry County is classified as a bicycle route in ODOT's Oregon Coast Bike Route Map although no portion of US 101 in Port Orford is striped for bike lanes. Generally, sufficient shoulder space is available for cyclists to travel safely on US 101. However, in high traffic volume conditions with a significant number of trucks in the traffic stream, safety becomes a concern for the bicyclist. Figure 3-2 shows that there are no bike lanes in Port Orford.

Public Transportation^[ml2]

Currently, Greyhound operates the only commercial bus service in this corridor and the only inter-city service to California. There are four scheduled buses per day, two northbound and two southbound along US 101. Service to Portland, Oregon and San Francisco are available. Intermediate destinations enroute to major cities are also available. Curry County Transit provides inter-city service to Gold Beach, Port Orford, and Bandon in Coos County. Connections to Coos Bay are available in Bandon.

Paratransit services are available in Curry County. Curry County provides this service through a dispatch center at the Port Orford Senior Center. Service is provided both on a scheduled and demand response, dial-a-ride basis. These services are provided at a minimal cost to senior citizens and disabled people. The general public can also access these services for a slightly higher fee. The primary focus of this program is to meet the needs for local, routine trips within three miles of the dispatch centers. Transportation to the rural areas and adjacent cities are a secondary focus of this program. These trips are limited to a 14-mile radius of the dispatch centers according to a published weekly trip schedule.

Local transportation is also provided by the Retired Senior Volunteer Program (RSVP) through the Port Orford senior center. This program consists of volunteer drivers who are reimbursed for their travel expenses. The program is funded from public sources and user donations.

Curry County provides limited local fixed-route transit service which links the cities of Curry County and provides service to Coos County. The small size and low traffic volumes on city streets indicate that mass transit will likely remain limited, but the Coos Curry Transit Feasibility Study shows that such service is feasible at this time.

Rail Service

There are no rail lines nor rail service present in the study area.

Air Service

There is no airport within the city limits of Port Orford. However, the Cape Blanco State and Gold Beach airports would serve Port Orford's non-commercial air service needs since they are relatively close to the city.

The Gold Beach Airport is within the City of Gold Beach. It is owned and operated by the Port of Gold Beach. This airport is classified as a general aviation airport and can accommodate about 95 percent of the general aviation aircraft under 12,500 pounds. The airport has a 3,200-foot asphalt runway with a wind indicator, runway lights, and beacon as navigational aids. The 2000 Oregon Aviation Plan shows that in 1994 the Gold Beach Airport had 14 based aircraft with annual operations of 5,358. The plan reports the following facility condition deficiencies:

- Taxiway Lighting
- Visual Guidance Ind. (VGI)
- REILS
- Instrument Approach
- 24-hour Weather

The Cape Blanco State Airport is located in unincorporated Curry County, approximately six miles north of Port Orford, adjacent to Floras Lake Park and is the western most airport in the contiguous United States. Although currently owned and operated by the State of Oregon, the State and the Port of Port Orford have recently discussed the possibility of the Port assuming jurisdiction over the airport. The airport was originally constructed by the military for coastal air defense. As part of that intent, the runway was built to handle larger aircraft with its 5,100 foot length and 150 foot width. Due to its long runway, the Cape Blanco Airport has the greatest potential for expansion.

The airport is able to accommodate aircraft with approach speeds up to 121 knots and wingspans up to 79 feet. The last available count of the number of annual operations occurring at this airport was in 1994. The 2000 Oregon Aviation Plan estimated one based aircraft and annual operations at 500. The Aviation Plan also identifies facility condition deficiencies, but does not specifically plan for when those deficiencies will be addressed. The Plan indicates that the Cape Blanco State airport is deficient in the areas of the *Runway Object Free Area* and having a *Runway Protection Zone* in place.

A 24-hour air ambulance service is available to county residents who are part of the Mercy Flight program. The Mercy Flight organization is a non-profit organization based in Medford, Oregon.

No commercial service is provided at either the Gold Beach or Cape Blanco State airports. The closest available commercial air transportation services are available from Crescent City, California, to the south and Coos Bay/North Bend, Oregon, to the north.

Pipeline Service

Although not often considered as transportation facilities, pipelines carry liquids and gases very efficiently. The use of pipelines can greatly reduce the number of trucks and rail cars carrying fluids such as natural gas, oil, and gasoline. There are currently no pipelines serving Port Orford.

Water Transportation^[ml3]

The Port of Port Orford serves primarily tourism and commercial fishing craft. The port has one jetty that is the only port in southwestern Oregon that does not have a bar at the entrance of the port closing it for navigation during heavy storms. For this reason, the Port of Port Orford is often used as refuge during northerly and westerly winds.

The marine facilities at the Port consist of a timber platform dock supported with timber piling, a small floating dock and gangway, and onshore paved parking. The Port currently does not have a boat ramp or safe moorage due to frequent severe weather and waves. Recreation and commercial boats are hoisted on and off the dock. The existing timber dock is in poor condition, restricting traffic in some areas as a result of rotting of timber deck and pile supports. Some sections of the dock have temporary improvements and other sections are missing pile supports. The dock is in need of replacement to meet the needs of the Port's activities.

CHAPTER 4: CURRENT TRANSPORTATION CONDITIONS

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

Traffic Volumes

A.M. and P.M. peak hour turning movement traffic volumes were collected by H. Lee & Associates in July and August 1997 at the study area intersections defined by the Curry County TSP management team. The study intersections generally represent major intersections, and intersections adjacent to land uses generating significant amount of traffic. These traffic volumes were adjusted by applying seasonal factors from ODOT's 1996 Traffic Volume Tables. The seasonal adjustment factors were derived from a permanent count station located on US 101 approximately one mile north of the Oregon-California state line. These seasonal factors are summarized in Table 4-1. The A.M. and P.M. peak hour traffic volumes are shown in Figure 4-1.

08-005 - MP 358

TABLE 4-1
SUMMARY OF SEASONAL ADJUSTMENT FACTORS

Month	Seasonal Adjustment Factors
January	1.16
February	1.14
March	1.10
April	1.09
May	1.00
June	0.89
July	0.79
August	0.81
September	0.95
October	1.03
November	1.10
December	1.15

ATR # 05-004 - MP 000

The A.M. peak hour traffic counts indicate that the A.M. peak hour generally occurs between 7:00 to 8:00 A.M. The P.M. peak hour generally occurs between 4:15 to 5:15 P.M.

Existing average daily traffic volumes were obtained from ODOT's 1996 Traffic Volume Tables. These daily traffic volumes are also shown in Figure 4-1. As shown in Figure 4-1, the average daily traffic volumes range from 4,500 to 7,700 vehicles per day (vpd) along US 101.

Level Of Service

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

Level of Service Definition for Local Streets

Level of Service (LOS) is an estimate of the quality and performance of transportation facility operations in a community. One commonly used method is the Transportation Research Board's *1997 Highway Capacity Manual* (HCM) LOS system. The degree of traffic congestion and delay is rated using the letter "A" for the least amount of congestion to the letter "F" for the highest amount of congestion. The following Level of Service categories provide general descriptions of the different levels of service defined in the *1997 Highway Capacity Manual*. The community decides what level of traffic congestion is tolerable (i.e. decides whether "C," "D," or some other level). The choice of a particular LOS threshold can vary by planning subarea, roadway classification, or specific corridor or street. This method is used for evaluating the local street system. *An alternative method, described below, is used for evaluating performance on state highways.*

The level of service methodology for unsignalized intersections was based on average delay for critical turning movements. This system of quantifying level of service is based on the *1997 Highway Capacity Manual*. Level of service values range from LOS A, indicating free-flowing traffic, to LOS F, indicating extreme congestion and long vehicle delays. Table 4-2 summarizes the relationship between level of service and reserve capacity at unsignalized intersections.

TABLE 4-2
LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

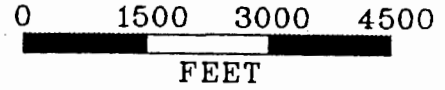
Level of Service	Average Delay (seconds per vehicle)	Expected Delay
A	≤10.0	Little or no delay
B	>10.0 ≤15.0	Short delays
C	>15.0 ≤25.0	Average delays
D	>25.0 ≤35.0	Long delays
E	>35.0 ≤50.0	Very long delays
F	>50.0	Failure – extreme congestion

Although the *1997 Highway Capacity Manual* has a specific methodology for urban and suburban principal arterials, this methodology was not used because of its limitation to analyzing segments between signalized intersections with speeds greater than 25 mph. In Port Orford, there are no traffic signals. The 1997 HCM methodology is not calibrated for principal arterials with no signals. Therefore, an alternative methodology still consistent with the HCM and the previously conducted South Coast Transportation Plan, was utilized. Level of service at the roadway mid-blocks were calculated based on correlating the volume to capacity ratio (V/C) to LOS values. Table 4-3 summarizes the Volume/Capacity ratio ranges that have been developed for determining planning level roadway mid-block LOS on local urban and rural roadways, but are not valid for State Highways.

LEGEND

- 1,000 AVERAGE DAILY TRAFFIC VOLUMES
- 100/100 AM PEAK HOUR TRAFFIC VOLUMES/
PM PEAK HOUR TRAFFIC VOLUMES
- * COMBINED DEADY ST. AND CEMETARY LOOP ROAD VOLUMES

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Note: US101 is always shown as the north-south road on the turning movement counts (even where the actual alignment is east-west).

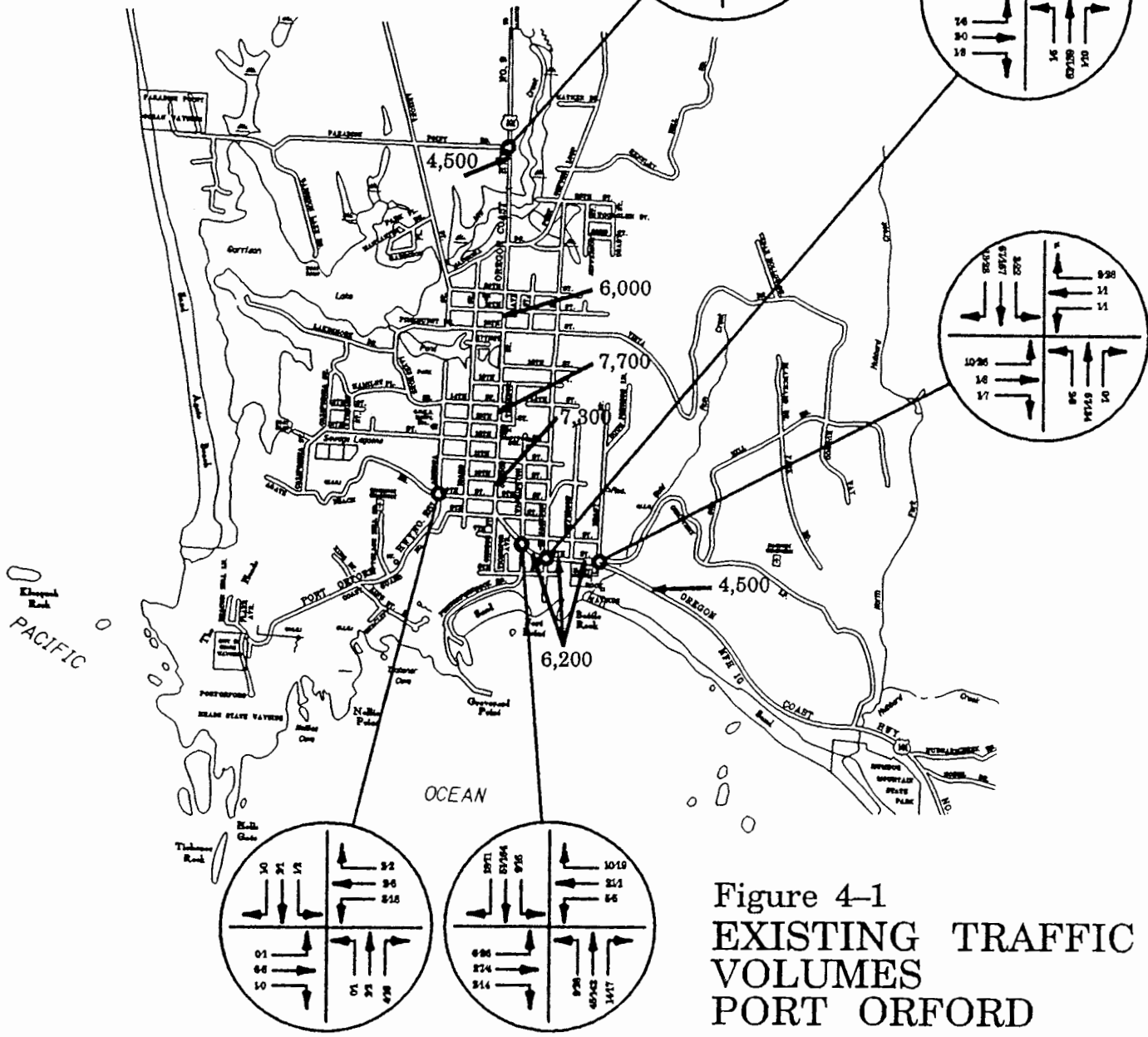


Figure 4-1
EXISTING TRAFFIC VOLUMES
PORT ORFORD

TABLE 4-3
LEVEL OF SERVICE CRITERIA FOR LOCAL ROADWAY MID-BLOCKS

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

Level of Service Definition for State Highways

Minimum standards for highway mobility are defined in the Oregon Highway Plan (OHP) and are stated in terms of the maximum volume to capacity (V/C) ratio by facility type, surrounding land use, and posted speed. The OHP defines a volume to capacity ratio as the peak hour traffic volume (vehicles per hour) on a highway section divided by the maximum volume that highway section can handle. Different standards are established for each highway classification, allowing for higher congestion in urban areas and on lower classification roadways. Further, in many cases, turns from a local street onto a highway can operate at a lower V/C standard, acknowledging that fact that most problems at highway intersections stem from the difficulty of turning left from the local street onto the busy highway.

For the intersections along US 101 within the Port Orford urban growth boundary, a maximum V/C ratio of 0.80 is allowed where posted speeds are less than 45 mph. A maximum V/C ratio of 0.75 is allowed for turns from the highway where the posted speed is equal to or greater than 45 mph. Turns from the local street onto the highway can operate at a V/C ratio of 0.85 where the speed is <45 MPH and 0.80 where the speed is 45 MPH or higher. Turns from and onto OR 251 (Coast guard Hill Rd.) must operate at a V/C or .85 or less.

Existing Level of Service

Based on current A.M. peak hour, P.M. peak hour, and daily traffic volumes, level of service was calculated for the study area intersections and roadway mid-blocks. The results of the unsignalized intersection level of service analysis are summarized in Table 4-4. The results of the roadway mid-block level of service are summarized in Table 4-5. The results of the roadway mid-block level of service are summarized in Table 4-6. A LOS letter is shown for highway segments and intersections for comparative purposes. However, the stated V/C ratio is used to determined performance of these locations.

As shown in Tables 4-4 and 4-5, all of the study area intersections currently operate at LOS B or better. The roadway mid-blocks are all operating at LOS A. The OHP V/C standards are met for all intersections and roadway segments along US 101.

TABLE 4-4
EXISTING INTERSECTION LEVEL OF SERVICE {TC "TABLE 4-4: EXISTING
INTERSECTION LEVEL OF SERVICE" \ F T \ L 1}

Unsignalized Intersection	AM Peak			PM Peak		
	LOS	Average Delay	V/C Ratio	LOS	Average Delay	V/C Ratio
US 101/Paradise Point Road						
Northbound Left	A	7.5	0.01	A	7.7	0.01
Eastbound Approach	A	9.1	0.03	B	10.0	0.03
US 101/Washington Street						
Northbound Left	A	7.8	0.01	A	7.8	0.02
Southbound Left	A	7.7	0.01	A	7.7	0.01
Eastbound Left	B	11.3	0.02	B	12.6	0.08
Eastbound Through/Right	B	12.0	0.10	B	10.2	0.03
Westbound Through/Left	B	12.5	0.09	B	12.8	0.09
Westbound Right	A	9.0	0.02	A	9.0	0.03
US 101/Jackson Street						
Northbound Left	A	7.5	0.00	A	7.7	0.00
Southbound Left	A	7.6	0.00	A	7.7	0.00
Eastbound Approach	A	9.4	0.02	B	10.3	0.03
Westbound Approach	A	9.1	0.01	A	9.6	0.05
US 101/Battle Rock Park/Cemetery Loop Rd/Deady Street						
Northbound Left	A	7.8	0.00	A	7.8	0.00
Southbound Left	A	7.6	0.00	A	7.7	0.03
Eastbound Approach	A	9.9	0.02	B	12.2	0.10
Westbound Approach	A	8.9	0.05	A	9.3	0.03
Arizona St./Coast Guard Hill Rd./Ninth St./Agate Beach Rd.						
Northbound Approach	A	6.6	0.01	A	6.8	0.06
Southbound Approach	A	6.9	0.01	A	7.3	0.00
Eastbound Approach	A	6.9	0.01	A	7.2	0.01
Westbound Approach	A	6.9	0.01	A	7.4	0.06

TABLE 4-5
EXISTING ARTERIAL ROADWAY LEVEL OF SERVICE SUMMARY {TC "TABLE 4-5:
EXISTING ARTERIAL ROADWAY LEVEL OF SERVICE SUMMARY" \ F T \ L 1}

Roadway	Section	AADT	Capacity	LOS	V/C Ratio
US 101	South of Paradise Point Road	4,500	16,000	A	0.28
	South of Nineteenth Street	6,000	24,000	A	0.25
	South of Thirteenth Street	7,700	24,000	A	0.32
	North of Coast Guard Hill Road	7,500	24,000	A	0.31
	South of Coast Guard Hill Road	7,300	24,000	A	0.30
	North of Jackson Street	6,200	24,000	A	0.26
	South of Jackson Street	6,200	24,000	A	0.26
	South of Jefferson Street	6,200	24,000	A	0.26
	East City Limits of Port Orford	4,500	24,000	A	0.19

Traffic Accidents

Accident data at the study area intersections and roadway mid-block sections were obtained from ODOT. Data were provided for a three-year period between January 1994 and December 1996. Table 4-6 summarizes the accident data for the roadway mid-block sections within the study area. Table 4-7 summarizes the accident data for the study area intersections.

The accident rate for the roadway mid-block sections were reported in both average accidents per year accidents per million vehicle miles of travel. For comparison purposes the average state accident rate for urban non-freeway state facilities was 1.76 accidents per million vehicle miles traveled in 1996 according to the 1996 State Highway System Accident Rate Tables, ODOT, 1997.

As shown in Table 4-6, five roadway mid-block sections have accident rates greater than the state average. It should be noted that although these roadway segments have an average accident rate higher than the statewide average, the actual number of accidents occurring on these roadways is small. All of these locations have a rate less than 1.0 accident per year. These above statewide accident rates are predominantly a function of very short roadway segment lengths which tends to increase the relative importance of even a single accident.

The accident rate for the intersections were reported in average accidents per year instead of accidents per million entering vehicles because the traffic volumes at most of the intersections were not available. As shown in Table 4-7, the accident rates at the study area intersections are between 0.3 to 0.7 average accidents per year. Accident rates in this range are typically considered acceptable.

Based on the reported accident information from January 1994 to December 1996, no fatal accidents have occurred in the City of Port Orford in the last three years.

TABLE 4-6
ROADWAY SEGMENT ACCIDENT SUMMARY (JANUARY 1994 TO DECEMBER 1996) {TC
 "TABLE 4-6: ROADWAY SEGMENT ACCIDENT SUMMARY (JANUARY 1994 TO
 DECEMBER 1996)" \ F T \ L 1 }

Roadway Segment	Average Accidents per Year by Severity			Total	Total
	PDO ¹	Injury	Fatal	(acc/yr) ²	(acc/mvm) ³
US 101					
Paradise Point Rd to Madrona Avenue	0.0	0.7	0.0	0.7	1.06
Madrona Avenue to Twentieth Street	0.0	0.0	0.0	0.0	0.0
Twentieth Street to Nineteenth Street	0.0	0.0	0.0	0.0	0.0
Nineteenth Street to Eighteenth Street ⁴	0.3	0.3	0.0	0.6	5.79
Eighteenth Street to Sixteenth Street	0.0	0.0	0.0	0.0	0.0
Sixteenth Street to Fifteenth Street	0.0	0.0	0.0	0.0	0.0
Fifteenth Street to Fourteenth Street	0.0	0.0	0.0	0.0	0.0
Fourteenth Street to Thirteenth Street	0.0	0.0	0.0	0.0	0.0
Thirteenth Street to Twelfth Street ⁴	0.3	0.0	0.0	0.3	2.25
Twelfth Street to Eleventh Street	0.0	0.0	0.0	0.0	0.0
Eleventh Street to Tenth Street ⁴	0.3	0.0	0.0	0.3	2.31
Tenth Street to Ninth Street	0.0	0.0	0.0	0.0	0.0
Ninth Street to Eighth Street ⁴	0.3	0.3	0.0	0.6	3.80
Eighth Street to Washington Street	0.3	0.0	0.0	0.3	1.24
Washington Street to Jackson Street	0.0	0.0	0.0	0.0	0.0
Jackson Street to Jefferson Street	0.0	0.0	0.0	0.0	0.0
Jefferson Street to Deady Street/ Cemetery Loop Road (north end)	0.0	0.0	0.0	0.0	0.0
Deady Street/Cemetery Loop Road (north end) to Cemetery Loop Road (south end) ⁴	0.3	0.0	0.0	0.3	5.60

¹ PDO = property damage only ² acc/yr = accidents per year ³ acc/mvm = accidents per million vehicle miles of travel

⁴ Location where accident rate is higher than statewide average of 1.76 accidents per million vehicle miles traveled on urban non-freeway state facilities.

TABLE 4-7
INTERSECTION ACCIDENT SUMMARY (JANUARY 1994 TO DECEMBER 1996) {TC "TABLE
 4-7: INTERSECTION ACCIDENT SUMMARY (JANUARY 1994 TO DECEMBER 1996)" \F T
 \L 1}

Roadway Segment	Average Accidents per Year by Severity			Total (acc/yr) ²
	PDO ¹	Injury	Fatal	
US 101/Paradise Point Road	0.0	0.3	0.0	0.3
US 101/Madrona Avenue	0.0	0.7	0.0	0.7
US 101/Eighteenth Street	0.0	0.3	0.0	0.3
US 101/Fourteenth Street	0.0	0.3	0.0	0.3
US 101/Ninth Street	0.3	0.3	0.0	0.6
US 101/Jackson Street	0.3	0.0	0.0	0.3

¹ PDO = property damage only

² acc/yr = accidents per year

Update accident information was gathered for US 101 to determine if any change in crash trends had occurred since the original data was collected.[ml4]

Transportation Demand Management Measures

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

Alternative Work Schedules

One way to maximize the use of the existing transportation system is to spread peak traffic demand over several hours instead of a single hour. Statistics from the 1990 Census show the spread of departure to work times over a 24-hour period (see Table 4-8). Approximately 18 percent of the total employees depart for work between 7:00 and 8:00 A.M. Another 33 percent depart either the hour before or the hour after the peak.

TABLE 4-8
DEPARTURE TO WORK DISTRIBUTION, PORT ORFORD (1990)

Departure Time	Trips	Percent
12:00 A.M. to 4:59 A.M.	18	6.1
5:00 A.M. to 5:59 A.M.	36	12.1
6:00 A.M. to 6:59 A.M.	44	14.9
7:00 A.M. to 7:59 A.M.	53	17.9
8:00 A.M. to 8:59 A.M.	53	17.9
9:00 A.M. to 9:59 A.M.	50	16.9
10:00 A.M. to 10:59 A.M.	10	3.4
11:00 A.M. to 11:59 A.M.	2	0.7
12:00 P.M. to 3:59 P.M.	22	7.4
4:00 P.M. to 11:59 P.M.	8	2.7
Total	296	100.0

Source: US Bureau of Census

Assuming an average nine-hour workday, the corresponding afternoon peak can be determined for work trips. Using this methodology, the peak work travel hour would occur between 4:00 and 5:00 P.M., which corresponds with the peak hour of activity measured for traffic volumes.

Travel Mode Distribution

Although the automobile is the primary mode of travel for most residents in Port Orford, some other modes are used as well. Modal split data is not available for all types of trips; however, the 1990 census data does include statistics for journey-to-work trips as shown in Table 4-9. The census data reflects the predominant use of the automobile.

TABLE 4-9
JOURNEY TO WORK TRIPS, PORT ORFORD (1990)

	Trips	Percent
Car, Truck, or Van:		
Drove alone	217	64.6
Carpooled	42	12.5
Public Transportation	0	0.0
Motorcycle	0	0.0
Bicycle	3	0.9
Walked	25	7.4
Other Means	9	2.7
Worked at Home	40	11.9
Total	336	100.0

Source: US Bureau of Census

Most Port Orford residents travel to work via private vehicle. In 1990, 77 percent of all trips to work were in an auto, van, or truck. Trips in single-occupancy vehicles made up 65 percent of all trips, and carpooling

accounted for 13 percent. No workers indicated they used public transportation or a motorcycle to get to work.

Walking as a means of getting to work was the second most common form of transportation after automobiles and trucks, with 7.4 percent walking to work. However, the census does not account for other uses of transportation, such as shopping or recreation.

CHAPTER 5: 2017 BASELINE TRAFFIC CONDITIONS

The 2017 traffic projections developed as part of this study are used as the basis for assessing future roadway conditions and likely improvement requirements. These projections have been developed using a simplified travel demand model which relies on a combination of land use-driven trip generation and distribution, and on a trend analysis which uses historical experience and anticipated land use development as a basis (including several large future development projects anticipated within the study area).

Twenty-year projections were developed when this study commenced in 1997. Development of the TSP occurred from 1997 to 2000 and adoption is expected to occur in the summer or fall of 2000, at which point the forecasts only extend 17 years into the future. Concern was raised that, by the time the plan is adopted, the plan would not truly be a 20-year plan. Although this concern is valid, the travel forecasts were not the driving force behind the transportation projects the community wished to pursue. The projects evaluated in the improvement options analysis, and those projects ultimately recommended in the modal plans predominantly address safety, pedestrian and bicycle facilities, access management, emergency routes, and connectivity, rather than capacity issues because in most cases the existing transportation infrastructure could meet the forecast demand. Therefore, the plan serves the intended purpose, and the 17-year forecast does not detract from the plan. Furthermore, it is expected that the TSP will go through periodic review every four to five years at which time the travel forecasts will be updated.

In general, an understanding of the underlying land development and demographic growth anticipated within the study area is important to provide a good foundation for understanding future travel demand and the need for improvement projects. The following discussion is intended to provide a general sketch of the assumptions and analysis methodology inherent in developing the year 2017 traffic projections. Included is a description of the population and land use forecasts, which form the basis for the traffic projections, as well as a discussion of the travel demand forecasting process and resulting projections.

Population And Land Use Forecasts

The purpose of this sub-section is to identify expected future growth within the Port Orford study area including not only the magnitude of that growth but also the spatial distribution of future residential, commercial and industrial land uses. These future land use projections will form the basis of the development of future traffic projections, the analysis of future transportation system deficiencies, and, ultimately, the development of a transportation improvement program.

The beginning of this sub-section presents an explanation of the demographic changes that the Port Orford area has experienced over the last 20 years, as well as the anticipated growth in population through 2017. The population forecasts were used as a basis for determining future housing demand.

Population Growth and Distribution

Information used in this analysis was from the U.S. Census Bureau and Portland State University's Center for Population Research and Census. The U.S. Census data does not reflect demographic characteristics consistent with the UGBs of Oregon communities, but includes city limits, counties and various tracts or districts within Counties.

Historic Population Growth

Table 5-1 summarizes population growth between 1970 and 2000 for the study area and Curry County as a whole. From 1977 through 1997, the City of Port Orford showed a slight decrease in population from 1,054 to 1,055. Curry County grew from 15,796 to 23,200 during that same period which equates to almost a 50 percent increase in population.

TABLE 5-1
PORT ORFORD STUDY AREA HISTORIC POPULATION GROWTH TRENDS
5-1: PORT ORFORD STUDY AREA HISTORIC POPULATION GROWTH TRENDS

	1970	1977	1980	1990	1995	1997	2000	1977-1997 % Change	Annual Growth Rate 1977-1997
Port Orford	1,037	1,054	1,061	1,050	1,055	1,063	1,153	0.00%	0.00%
Curry County	13,006	15,796	16,992	22,000	23,200	24,699	21,137	47.00%	1.95%

Source: *U.S. Bureau of the Census; County forecast developed by State of Oregon Office of Economic Analysis*

Population Projections

Table 5-2 presents the most recent forecasts of future population growth for the City of Port Orford and Curry County as a whole. The information in Table 5-2 is interpolated from the US Bureau of the Census, and State of Oregon Office of Economic Analysis data. The population is projected to growth at an annual growth rate of 0.25 percent.

TABLE 5-2
PORT ORFORD STUDY AREA POPULATION FORECASTS
5-2: PORT ORFORD STUDY AREA POPULATION FORECASTS

	1997	2017	Growth Rate
	Population	Population	1996-2017
Port Orford	1,055	1,110	0.25%
Curry County	23,200	31,311	1.50%

Source: *U.S. Bureau of the Census; County forecast developed by State of Oregon Office of Economic Analysis*

Traffic Forecast

Traffic Forecast Methodology

The 1997 to 2017 future growth rates were developed by correlating the 1977 to 1997 population growth to the 1977 to 1997 traffic growth. As shown in Table 5-1 there was virtually no population growth between 1977 and 1997 in Port Orford. Table 5-3 indicates that on average there was virtually no traffic growth in Port Orford between 1977 and 1997.

Population trends correlate fairly well with historical traffic growth in Port Orford between 1977 and 1997. Annual traffic growth rates range from -1.3 percent to 1.2 percent, with an overall average of -0.05 percent. As shown in Table 5-2, population is projected to grow by 0.25 percent annually from 1997 to 2017. Since traffic growth correlates fairly well with population growth, it would be expected that traffic would grow at approximately 0.25 percent per year. In order to be conservative, an annual growth rate of one (1) percent was used at all intersections in Port Orford.

The 2017 future traffic volumes were forecasted by applying an annual compounded traffic growth factor of 1.00 percent. The resulting 2017 A.M. peak hour, P.M. peak hour, and daily traffic volumes are shown in Figure 5-1.

TABLE 5-3
HISTORICAL ANNUAL TRAFFIC GROWTH RATES ON US 101 {TC " TABLE 5-7:
HISTORICAL ANNUAL TRAFFIC GROWTH RATES ON US 101" \F T \L 1}

Location	Milepost	1977 Daily Count	1997 Daily Count	1977 to 1997 % Change	Annual Growth Rate
North City Limit	299.83	6,200	4,800	-23%	-1.30%
South of 19 th Street	300.46	6,700	6,700	0%	0.00%
North of 13 th Street	300.77	6,600	6,500	-2%	-0.01%
North of Port Orford Highway	300.98	6,700	6,700	0%	0.00%
South of Highway 250	301.00	7,000	6,000	-14%	-0.75%
West of Jackson Street	301.22	4,850	5,500	13%	0.61%
East of Jackson Street	301.24	4,600	4,900	7%	0.34%
East of Jefferson	301.31	3,900	4,300	10%	0.48%
East City Limit	301.48	3,150	4,000	27%	1.20%
Average for Port Orford				-0.60%	-0.05%

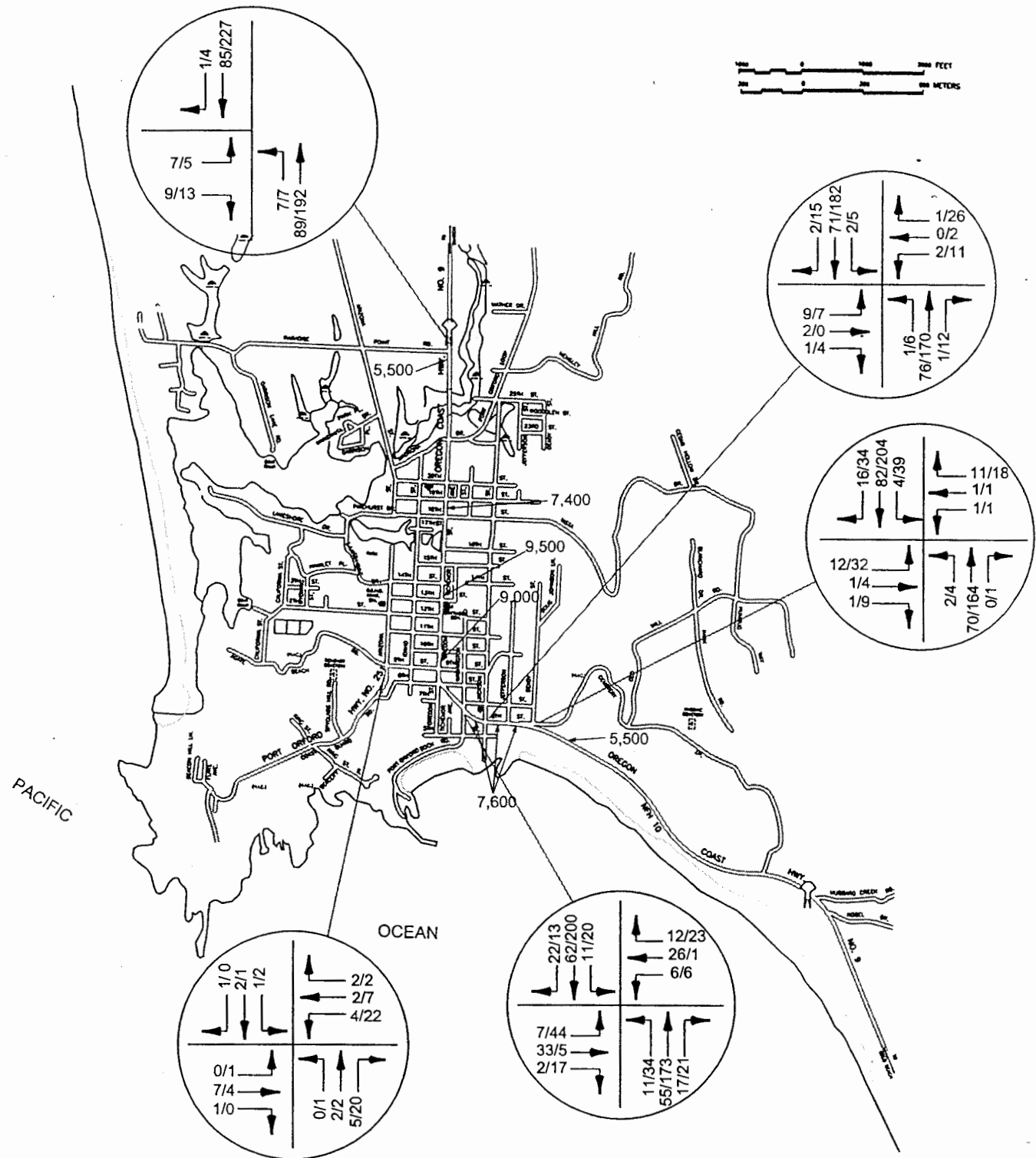
Source: ODOT, 1977 and 1997 Traffic Volume Summaries

Levels Of Service

Level of service analyses were conducted based on the 2017 traffic volumes shown in Figure 5-9. The results of the signalized and unsignalized intersection levels of service analysis are summarized in Table 5-4. Table 5-5 summarizes the arterial roadway levels of service.

As shown in Tables 5-4 and 5-5, all of the study area intersections and roadways are projected to operate within acceptable performance standards through 2017.

PORT ORFORD TSP PORT ORFORD, OREGON



LEGEND

- 1000 Average Daily Traffic Volume
- 100/100 AM/PM Peak Hour Traffic Volume



FIGURE 5-1
2017 TRAFFIC VOLUMES

TABLE 5-4
2017 INTERSECTION LEVEL OF SERVICE
 {TC " TABLE 5-10: 2017 INTERSECTION LEVEL OF SERVICE" \F T \L 1}

Unsignalized Intersection	AM Peak			PM Peak		
	LOS	Average Delay	V/C Ratio	LOS	Average Delay	V/C Ratio
US 101/Paradise Point Road						
Northbound Left	A	7.6	0.01	A	7.8	0.01
Eastbound Approach	A	9.3	0.03	B	10.6	0.04
US 101/Washington Street						
Northbound Left	A	7.9	0.02	A	7.9	0.03
Southbound Left	A	7.8	0.02	A	7.8	0.02
Eastbound Left	B	12.2	0.03	B	14.3	0.11
Eastbound Through/Right	B	13.1	0.14	B	10.4	0.03
Westbound	B	13.6	0.12	B	13.8	0.02
Westbound Right	A	9.2	0.02	A	9.2	0.03
US 101/Jackson Street						
Northbound Left	A	7.6	0.00	A	7.8	0.01
Southbound Left	A	7.7	0.00	A	7.7	0.00
Eastbound Approach	A	9.6	0.03	B	10.8	0.04
Westbound Approach	A	9.3	0.01	A	9.9	0.06
US 101/Battle Rock Park/Cemetery Loop Rd/Deady Street						
Northbound Left	A	7.8	0.00	A	8.0	0.00
Southbound Left	A	7.6	0.00	A	7.9	0.04
Eastbound Approach	B	10.3	0.03	B	11.0	0.10
Westbound Approach	A	9.1	0.05	A	9.5	0.04
Arizona Street/Coast Guard Hill Road/Ninth Street/Agate Beach Road						
Northbound Approach	A	6.6	0.01	A	6.9	0.07
Southbound Approach	A	6.9	0.01	A	7.3	0.00
Eastbound Approach	A	6.9	0.01	A	7.2	0.01
Westbound Approach	A	7.0	0.02	A	7.5	0.07

TABLE 5-5
2017 ARTERIAL ROADWAY LEVEL OF SERVICE SUMMARY
 {TC "TABLE 5-11: 2017 ARTERIAL ROADWAY LEVEL OF SERVICE SUMMARY" \F T \L 1}

Roadway	Section	AADT	Capacity	LOS	V/C Ratio
US 101	South of Paradise Point Road	5,500	16,000	A	0.34
	South of Nineteenth Street	7,400	24,000	A	0.31
	South of Thirteenth Street	9,500	24,000	A	0.40
	North of 9 th Street	9,200	24,000	A	0.38
	South of 9 th Street	9,000	24,000	A	0.38
	North of Jackson Street	7,600	24,000	A	0.32
	South of Jackson Street	7,600	24,000	A	0.32
	South of Jefferson Street	7,600	24,000	A	0.32
	East City Limits of Port Orford	5,500	24,000	A	0.34

CHAPTER 6: IMPROVEMENT OPTIONS ANALYSIS

As required by the Oregon Transportation Planning Rule, transportation alternatives were formulated and evaluated for the Port Orford Transportation System Plan. These potential improvements were developed with the help of the TAC, and attempt to address the concerns specified in the goals and objectives (Chapter 2).

Each of the transportation system improvement options was developed to address specific deficiencies, safety issues, or access concerns. The following list includes all of the potential transportation system improvements considered. Improvement Option 2 is illustrated in Figure 6-1. {tc "Figure 6-1: Port Orford Improvement Options" \f F \l 1}

The proposed transportation system improvement options include both state highway and local road projects. This section of the TSP describes the individual improvements and their associated costs. Improvement options include:

1. Revise Zoning and Development Codes to Encourage Proximity of Compatible Uses
2. Improve Safety at the Intersection of Cemetery Loop Road and US 101
3. Develop an Alternative Route to US 101 for When the Highway is Closed
4. Improved East-West Connection Between the South Coast and I-5
5. Implement Transportation Demand Management Strategies

As discussed in the remaining sections of this chapter, not all of these considered improvements were recommended. The recommendations were based on costs and benefits relative to traffic operations, the transportation system, and the community livability. Inclusion of an improvement project in the TSP does not commit the City or ODOT to allow, construct, or participate in funding the specific improvement. Projects on the State Highway System that are contained in the TSP are not considered "planned" projects until they are programmed into the Statewide Transportation Improvement Program (STIP). As such, projects proposed in the TSP that are located on a State highway cannot be considered mitigation for future development or land use actions until they are programmed into the STIP.

Unanticipated issues related to project funding, as well as the environment, land use, the economy, changes in use of the transportation system, or other concerns may be cause for re-evaluation of the alternatives discussed below and possible removal of a project from consideration for funding or construction. Highway projects that are programmed to be constructed may have to be altered or canceled at a later time to meet changing budgets or unanticipated conditions.

Evaluation Criteria

The evaluation of the potential transportation improvements was based on an analysis of traffic projections, a qualitative review of safety, environmental, socioeconomic, and land use impacts, as well as estimated cost. The potential improvements were analyzed to determine if they could reduce congestion and delay, as well as vehicle miles traveled, because of the beneficial effects of those reductions.

In addition to the quantitative traffic analysis, three factors were evaluated qualitatively: 1) safety; 2) environmental factors, such as air quality, noise, and water quality; and 3) socioeconomic and land use impacts, such as right-of-way requirements and impacts on adjacent lands.

The final factor in the evaluation of the potential transportation improvements was cost. Costs were estimated in 1998 dollars based on preliminary alignments for each potential transportation system improvement.

Improvement Options Evaluation

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

Option 1. Revise Zoning and Development Codes to Encourage Proximity of Compatible Uses

Overview: One of the goals of the Oregon Transportation Planning Rule (TPR) is to reduce reliance on the single-occupant automobile. One method of reducing reliance on automobiles is to amend zoning and development codes to allow mixed-use developments and increased density in certain areas. Specific amendments include allowing neighborhood commercial uses within residential zones and allowing residential uses within commercial zones. Such code amendments can result in shorter travel distances between land uses, thereby encouraging residents to use alternative modes of transportation, such as walking and cycling throughout the community.

These code revisions are more effective in medium- to large-sized cities (with over 25,000 residents), than in cities such as Port Orford, where they may not be as appropriate. Because of Port Orford's relatively small size, the decision of what mode of transportation to use when making a trip inside the city is not influenced by distance. The longest distance between city limit boundaries in Port Orford is around one mile, a distance short enough to walk, ride a bike, or drive. Distances between different land uses, such as residential and commercial, is even shorter. According to the 1990 census, seven percent of the population already walks to work, which is higher than the statewide average.

Increasing density may have some effect on development in Port Orford. As discussed in Chapter 5, a projected population growth of 13 percent (140 additional residents) in the next 20 years is anticipated to be accommodated by infill development inside the city limits or by development of vacant land within the UGB. Therefore, as city limits are expected to expand to include portions of the UGB, the provision of commercial uses close to or within these areas could become more important in reducing the need for automobile trips.

Impacts: Although the primary goal of TDM strategies is to reduce the number of vehicle trips made within a jurisdiction, especially during peak periods, street capacity for automobiles and trucks is generally not an issue in Port Orford. Nevertheless, altering land use codes to encourage some level of mixed uses to bring compatible businesses and resident closer together can be beneficial for both. Retailers may gain more exposure from people walking by, rather than driving by, their shops. For residents, more walking and biking can enhance the sense of community, local vitality, and security. With more emphasis on walking or biking in the city, conditions such as air quality and noise levels would be improved as well.

Cost Estimate: No direct costs are associated with making the zoning code amendments.

Recommendation: Because of the small size of the city, the relationship between land uses is already similar to the mixed use zoning patterns that are recommended in larger urban areas. It is desirable for this development pattern to continue as the city grows (the population is forecast to increase by 13 percent, or 140 additional residents in the next 20 years). Increasing density requirements would have a positive effect on the way land is developed in Port Orford by preventing urban sprawl. Therefore, revisions to zoning and development codes to allow for increased density is recommended.

LEGEND

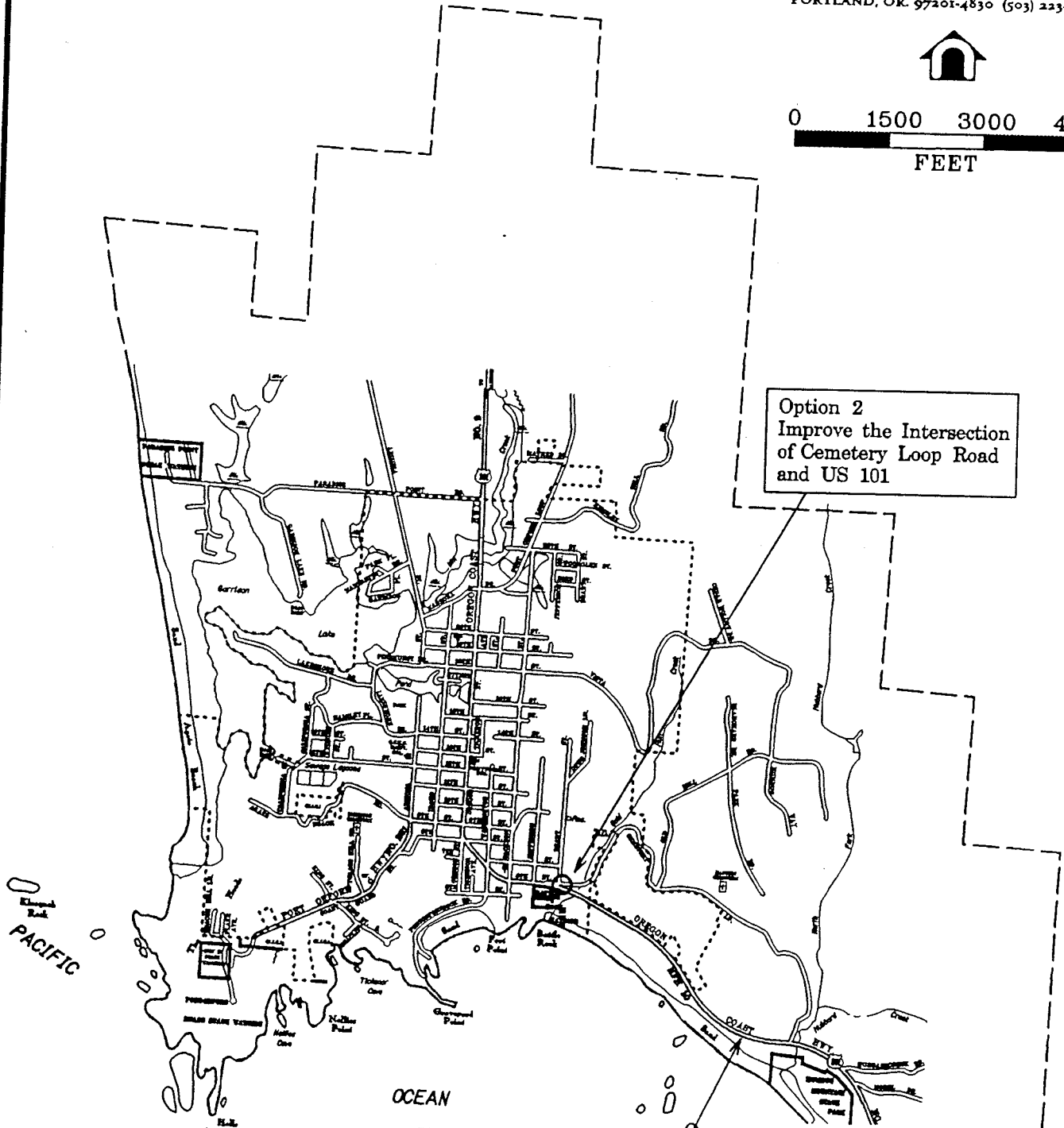
- City Limits
- Urban Growth Boundary



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Option 2
Improve the Intersection
of Cemetery Loop Road
and US 101

Option 3
Develop an Alternative
Route to US 101

Figure 6-1
**IMPROVEMENT
OPTIONS
PORT ORFORD**

Option 2. Improve safety at the Intersection of Cemetery Loop Road and US 101

Overview: The intersection of Cemetery Loop Road and US 101 was identified as a hazardous location due to a curve on the highway and because Cemetery Loop Road intersects the highway at an angle and vehicles entering the highway from Cemetery Loop Road do not have adequate sight distance to the south. The wide pavement width on the combined US 101 and Cemetery Loop Road between Jefferson and Deady Street results in sort of “no man’s land” because it is in the Cemetery Loop Road alignment, but lies beyond the painted stop line and it isn’t part of the travel lanes on the highway. It also results in a wide, unprotected distance for pedestrians to cross. In addition, a high volume of turning movements in to and out of Battle Rock Park, on the other side of the highway, give the perception that this is a dangerous intersection; however, accident records for the 3-year period from 1994 to 1996 indicated only one “property damage only” accident in the three-year period, a rate that is well below the statewide average for similar highways.

The community has indicated that the intersection of Cemetery Loop Road and US 101 poses a safety problem because when vehicles traveling south on the highway turn left onto Cemetery Loop Road they make a wide, sweeping turn and travel a significant distance in the opposing northbound lanes. It should be noted that left turns from the southbound lanes of the highway on to both Cemetery Loop Road and Deady Street are prohibited by the solid yellow striping on the highway. This is also true of left turns from Cemetery Loop Road and Deady Street on to US 101. Some attempt at physically prohibiting these turns was made when the gore area between the highway and Cemetery Loop Road was constructed so that it extended half way across the width of Deady Street; however, motorists continue to make this dangerous turn. This area could be made safer with stricter access management.

Several geometric improvement options were developed for this intersection which reflect input received from the Transportation Advisory Committee (TAC). Figures 6-2{tc "Figure 6-2: Cemetery Loop Improvement Options" \f F \l 1}{tc "Figure 6-3: Cemetery Loop Improvement Options" \f F \l 1} through 6-4 contain schematic drawings of the existing roadway geometrics and four improvement options for this area.{tc "Figure 6-4: Cemetery Loop Improvement Options" \f F \l 1}

Option 1 - This option consists of constructing a raised median on US 101 from Jefferson Street to an area east of Cemetery Loop Road. This option would be more effective than the painted solid lines on the highway at preventing the dangerous left turns from the highway to Cemetery Loop Road and Deady Street; however, there is always the chance that reckless drivers will continue to disobey the law and make this turn from the intersection of Jefferson Street, endangering themselves as well as on-coming traffic. This option would also physically prevent left turns from Cemetery Loop Road and Deady Street. A secondary benefit of this improvement option is that this type of access management (raised islands) slows traffic and provides refuge areas for pedestrians. Slowing traffic on the highway as it enters the city from the south would most likely be welcomed by the community. The TAC discussed this option, and rejected it, believing it would not improve safety at this intersection.

Option 2 - This option consists of a raised curb and/or barricade along the south and west legs of the intersection of Cemetery Loop Road and Deady Street. This option would physically prevent all of the illegal left turns to and from Cemetery Loop Road and Deady Street. Drivers would be required to make these turns from the intersection of Jefferson Street, as was originally intended. This improvement will also prevent right turns from Cemetery Loop Road and Deady Street, which could cause opposition from local residents; however, traffic volumes on Cemetery Loop Road and Deady Street are very low, so this improvement does not cause significant out-of-direction travel. In addition, this improvement option can be visually softened with proper landscaping.

The TAC discussed this option, and suggested some refinement. The TAC recommended that access from Deady Street to US 101 remain; however, Cemetery Loop Road should not connect to these two streets at the same location. The refinements to Option 2 resulted in the development of Option 4.

Option 3 - This option remedies the safety problem by allowing safe left turns to and from Deady Street and Cemetery Loop Road. This option consists of adding left turn lanes on US 101 at the intersection of Jefferson and Deady Streets. In addition, the gore area that extends half way across Deady Street between Cemetery Loop Road and US 101 would have to be moved back to the east side of Deady Street. A significant disadvantage of this improvement option is that it contradicts access management policies, by providing more access than exists today to a state highway, in an area that already does not meet access management standards. There is also some doubt as to whether there is enough room to provide two left turn lanes on the block between Jefferson and Deady Streets. This option was rejected by the TAC.

Option 4 - This option realigns Cemetery Loop Road to the north to intersect Deady Street at a “T” intersection. Raised concrete islands on the northwest corner of Deady Street and US 101 and the northeast corner of Jefferson Street and US 101 would provide pedestrian refuges and result in shorter crossing distances for pedestrians crossing the highway. With the excessive pavement width on US 101 between Jefferson Street and Deady Street, diagonal on-street parking could be provided on this block. This option would require the acquisition of right-of-way and could impact an existing house on the northeast corner of Deady Street and Cemetery Loop Road.

Cost Estimate: Any of these first three options can be constructed for under \$10,000. Option 4 would require significantly more surveying, engineering and construction and is estimated to cost \$40,000 not including right-of-way acquisition.

Recommendation: During the last TAC meeting, all four improvement options were rejected in favor of a “no action” option. As discussed in the Recommended Street Standards section in Chapter 7, a three-lane cross section was recommended for US 101 within the city. The center lane left turn refuge in the three-lane section was presumed to address the geometric deficiencies at the intersection of Cemetery Loop Road and US 101. However, no study was completed to determine if this assumption is correct. Any proposed changes to the highway will have to be analyzed by ODOT for capacity and safety impacts and feasibility.

Highway striping costs approximately \$200 per mile. If the entire length of US 101 in the Port Orford urban area was restriped (striped with one travel lane in each direction, a center turn lane, and bike lanes in both directions) the cost would be approximately \$1,200; however, to account for the cost of traffic mitigation and unforeseen contingencies, it is recommended that this project be budgeted at \$10,000.[ml5]

Option 3. Develop an Alternative Route to US 101 for When the Highway is Closed

Overview: The need for an alternative north-south route to US 101 was identified because mud and rock slides on US 101 have closed the highway recently (at Humbug Mountain, Arizona Beach, and Hooskanaden), at times isolating the Cities of Port Orford, Gold Beach and Brookings from the rest of the county.

Several State, County and Forest Service roads, including Elk River Road, Euchre Creek Road, Meyers Creek Road, Pistol River Loop Road and Carpenterville Road were identified as possible alternatives.

Elk River Road - Elk River Road begins at US 101 approximately three miles north of Port Orford as a two-lane, paved county road for seven miles to the Elk River Fish Hatchery and the National Forest Boundary. From there, the road becomes a Forest Service Road, maintained at Maintenance Level 4 (moderate speed, moderate degree of user comfort) to milepost 11.3. Elk River Road and Euchre Creek Road, connected by Forest Service Road 5502, provide an alternative route to US 101, bypassing Humbug Mountain State Park and Arizona Beach. The paved section of the road is approximately 24 feet wide and can accommodate trucks.


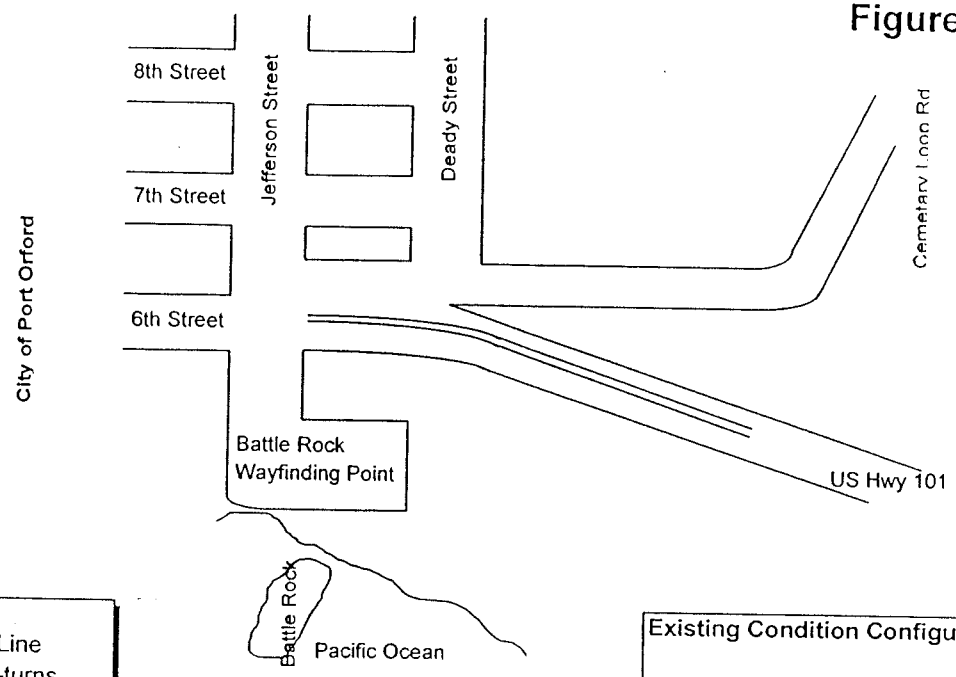

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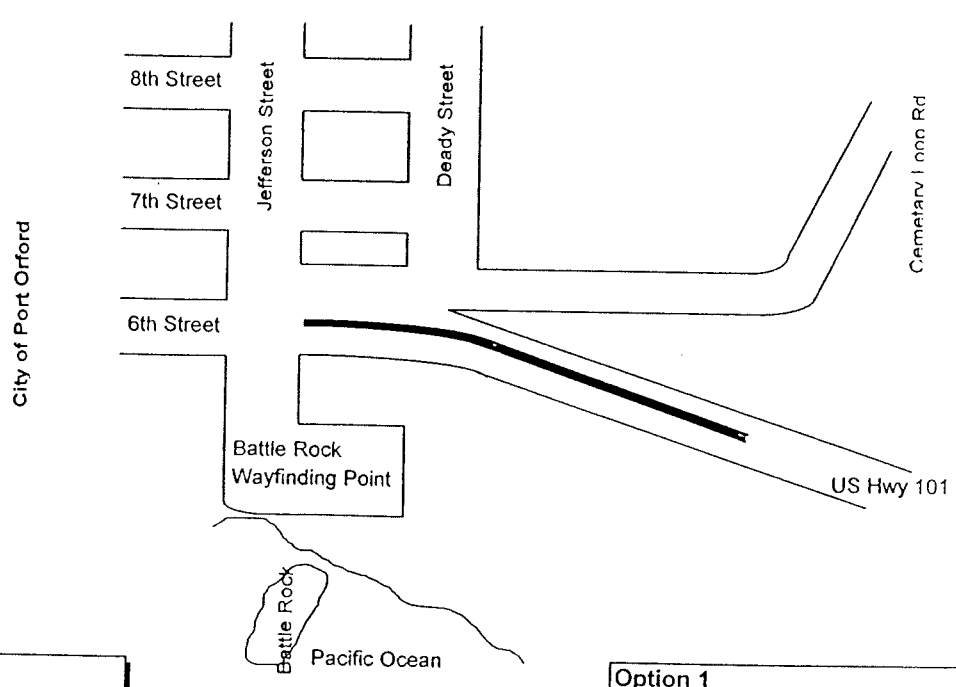


Figure 6-2



Legend
 == Double Yellow Line
 Prohibiting Left-turns

Existing Condition Configuration



Legend
 — Existing Roadway
 — Proposed Median

Option 1
 Solid Raised Median on US 101



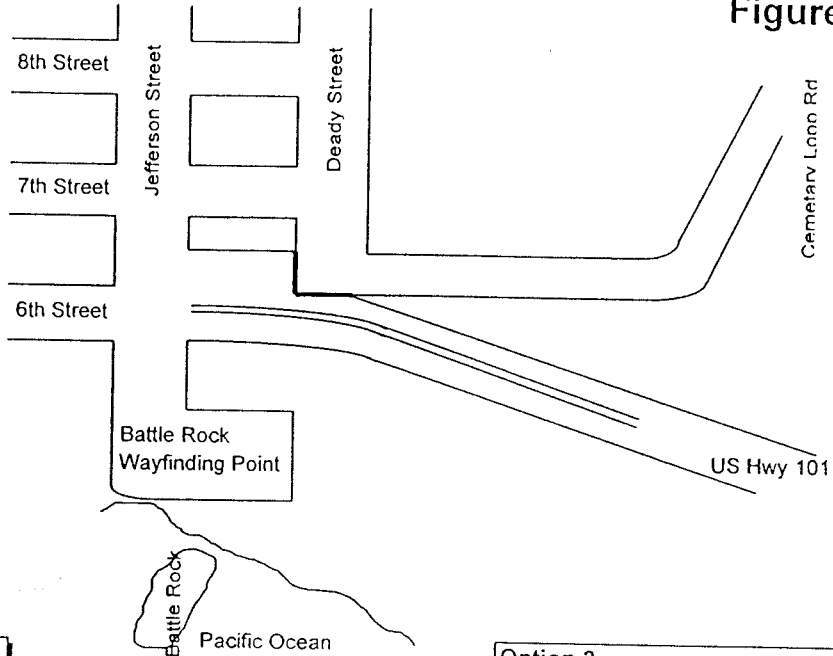
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not to scale

Figure 6-3

City of Port Orford

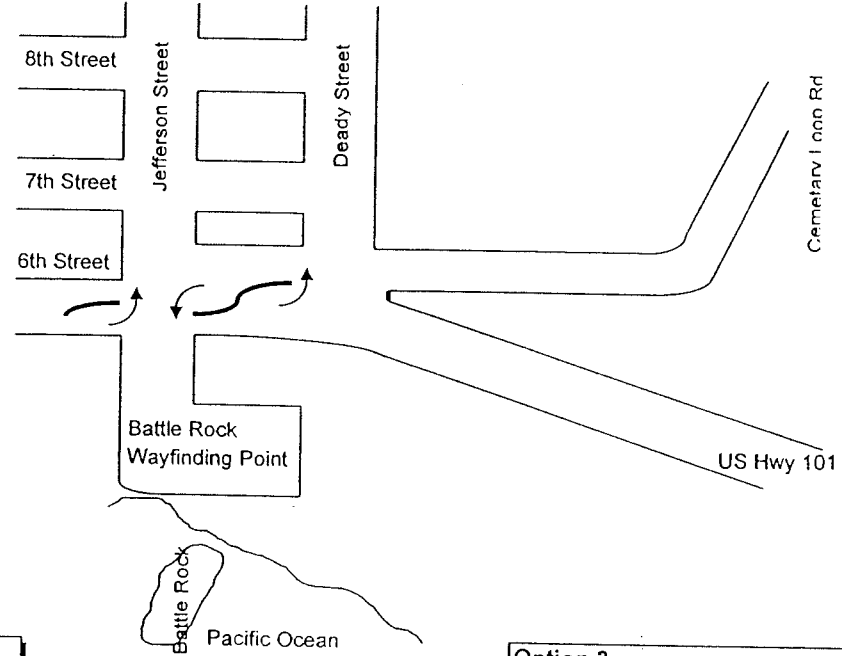


Legend

- Existing Roadway
- Proposed Roadway

Option 2
 Close Access from Deady Street and Cemetery Loop Rd. to US Hwy 101

City of Port Orford



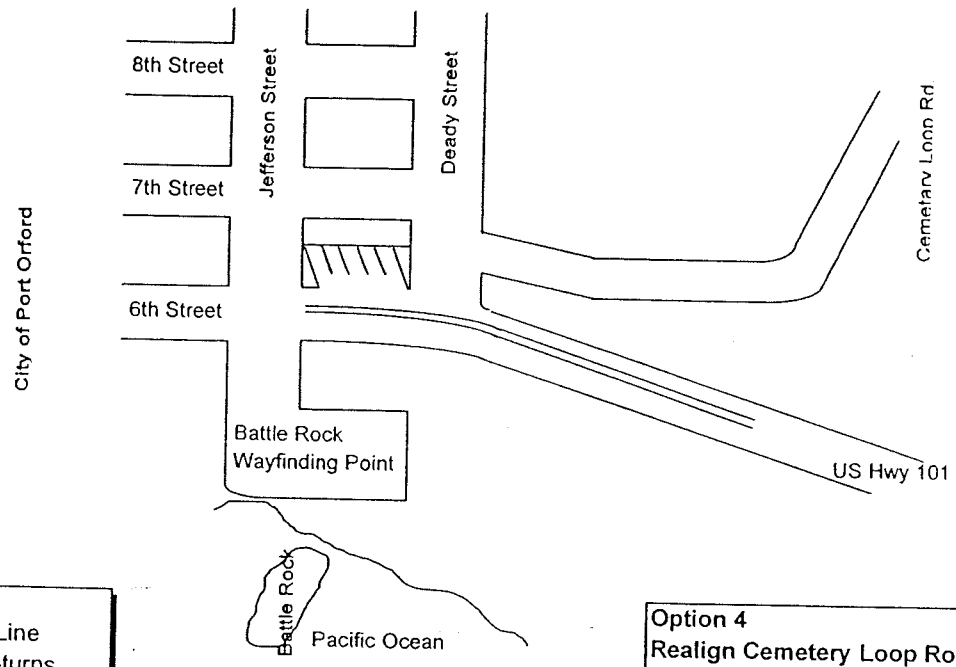
Legend

- Existing Roadway
- Proposed Roadway


Option 3
 Left-turn Refuges at Jefferson and Deady Streets



Figure 6-4



Legend

 Double Yellow Line
 Prohibiting Left-turns

Option 4
 Realign Cemetery Loop Road
 to the North

Euchre Creek Road - Euchre Creek Road begins at US 101 approximately 10 miles north of Gold Beach as a two-lane paved County/Forest Service Road, maintained at Maintenance Level 4 for the first two miles. From there, the road is maintained at Maintenance Level 3 (low speed, single lane) approximately 12 miles to Forest Service Road 5502. Euchre Creek Road and Elk River Road, connected by Forest Service Road 5502, provide an alternative route to US 101, bypassing Humberg Mountain State Park and Arizona Beach. The paved section of the road is approximately 20 to 22 feet wide.

Meyers Creek Road - Meyers Creek Road is a two-lane, paved loop road which was part of the Old Coast Highway. The road is approximately three miles long and it parallels US 101. Both ends of this road tie in to US 101 in the vicinity of Cape Sebastian State Park.

Pistol River Loop Road - Pistol River Loop Road is a two-lane, paved road which parallels US 101. The road begins at the bridge over the Pistol River, extends approximately two miles north and connects with US 101. South of the bridge over the Pistol River, Pistol River Loop Road connects with Carpenterville Road. Pistol River Loop Road and Carpenterville Road provide a parallel, alternative route to US 101, bypassing the Hooskanaden slide area.

Carpenterville Road - Carpenterville Road is a two-lane, paved road which was part of the Old Coast Highway. The road is still under state jurisdiction, although it is considered a frontage road to US 101, and not a separate state highway unto itself. The road is approximately 24 miles long and it parallels US 101. At the south end, Carpenterville Road connects with US 101 just north of the City of Brookings. At the north end, it connects with Pistol River Loop Road at the bridge over the Pistol River. Carpenterville Road and Pistol River Loop Road provide a parallel, alternative route to US 101, bypassing the Hooskanaden slide area.

There are several other two-lane, paved County Roads which parallel US 101 and can be used as alternative routes to the highway: Ophir Road, North Bank Rogue River Road and Edson Creek Road, and North Bank Rogue River Road and Squaw Valley Road. These roads are shown on Figure 6-5. {tc "Figure 6-5: Alternative Routes to US 101" \f F \l 1} Ophir Road lies adjacent to, and parallel to, US 101 from Ophir to Nesika Road and Geisel Monument State Park, five miles to the south. In all likelihood, a slide which closed US 101 in this area would also close Ophir Road; however, Ophir Road could be used as a detour during minor construction on the highway. North Bank Rogue River Road and Edson Creek Road provide a viable alternative to a 5-mile section of US 101 just north of Gold Beach. North Bank Rogue River Road and Squaw Valley Road could be used to bypass a 10-mile segment of US 101 just north of Gold Beach. These roads do not need improvements to be used as alternatives to the highway.

Impacts: When US 101 is closed due to a mud or rock slide, travel restrictions result in economic impacts to the Cities of Port Orford, Gold Beach and Brookings, as well as the County itself. When the highway is closed, and trucks are prohibited from using the parallel, alternative routes, agricultural products grown in Curry County are delayed in reaching their market destinations. At the same time, other goods from outside the county are delayed in reaching the local consumers. In addition, there is also an impact to passenger car trips. Some trips, such as work trips, will be made on long, circuitous routes, sometimes on one-lane, poorly maintained roads. Travel on such roads increases travel time, fuel consumption and the possibility of having an accident. Many leisure trips may not be made at all, thus impacting businesses that rely on tourist dollars.

A system of good, parallel, alternative routes to US 101 would address the impacts realized when the highway is closed. Developing this system comes at a cost. Some of the roads identified as possible alternatives to the highway require substantial capital improvements such as widening and paving to make them viable, safe alternatives. Others may require only a higher level of maintenance such as grading and snow removal, but this too comes at a cost. The following paragraphs describe the improvements needed on the roads which were identified as possible alternatives.

Elk River Road and Euchre Creek Road - Elk River Road, in combination with Euchre Creek Road and Forest Service Road 5502 provide an alternative route to US 101, bypassing Humbug Mountain State Park and Arizona Beach. Approximately 18 miles of this route (6 miles on Road 5502 and 12 miles on Euchre Creek Road) are maintained at Forest Service Maintenance Level 3. Roads in this maintenance level are typically low speed, single lane with turnouts and spot surfacing. User comfort and convenience are not considered priorities. Traffic management strategies are either “encourage” or “accept”. “Discourage” or “prohibit” strategies may be employed for certain classes of vehicles or users. To make this route a viable alternative to US 101 during emergencies, it is recommended that these roads be maintained at Maintenance Level 4. At Level 4, most roads are double lane and aggregate surfaced. Some roads may be paved and/or dust abated. The most appropriate traffic management strategy is “encourage”.

Changing a Forest Service Road’s Maintenance Level requires road reconstruction. Road reconstruction consists of the investment in construction activities that result in the betterment (raised traffic service level, safety, or operating efficiency), restoration (rebuilding a road to its approved traffic service level), or in the realignment (new location of an existing road or portions thereof) of a road. The process begins with the reviewing of the Road Management Objectives which define the intended purpose of an individual road based on design, operation and maintenance criteria.

It was estimated that a one-time capital cost of \$100,000 per mile would be required to bring these roads from Maintenance Level 3 to Level 4. To improve 18 miles of Euchre Creek Road and Road 5502 would cost \$1.8 million. After that, annual maintenance costs would increase as well. Average annual maintenance costs in western Curry County are \$400 per mile for Level 3 roads and \$1,000 per mile for Level 4 roads. The difference between these two, \$600 per mile, represents the increase in maintenance costs that would be realized each year. The average annual cost to maintain an additional 18 miles of Forest Service roads at the higher maintenance level would be \$10,800.

Meyers Creek Road - Meyers Creek Road was identified as a viable, parallel alternative route to US 101, although it does not bypass a known slide area on the highway. Nonetheless, this road does not need improvements to be used as an alternative to the highway and could be used as a detour during minor construction on the parallel 3-mile section of US 101.

Pistol River Loop Road - Pistol River Loop Road was also identified as a viable, parallel alternative route to US 101, although it does not bypass a known slide area on the highway. Nonetheless, this road does not need improvements to be used as an alternative to the highway and could be used as a detour during minor construction on the parallel 4-mile section of US 101.

Carpenterville Road - According to the local community, mud and rockslides at Hooskanaden close US 101 for two to three weeks approximately every 15 to 20 years. The last time a slide occurred here, Carpenterville Road remained open as a way to bypass the slide area for passenger car traffic; however, trucks were prohibited from using the road. Normally trucks are not prohibited from using Carpenterville Road, but because US 101 provides a much faster and safer route for trucks, through trucks do not use the road. When US 101 is open, only the occasional logging truck accessing adjacent forest land uses Carpenterville Road. The pavement width is only about 20 feet, and the road has some very tight, narrow curves. The substandard road conditions do not pose a problem under normal conditions, when the road only serves local land access; however, a significant safety problem arises when the road is used as a detour for US 101. With the additional passenger car traffic during the highway closure, the road was deemed unsafe for truck traffic, and trucks were prohibited from using the road.

The truck restriction on Carpenterville Road caused an undue economic hardship on the City of Brookings. A local lumber company was under contract to deliver wood products to a ship in Coos Bay. On US 101, the trip between Brookings and Coos Bay is approximately 100 miles. When US 101 was closed by the Hooskanaden slide, and trucks were prohibited from Carpenterville Road, the only alternative for the lumber

LEGEND

— ALTERNATIVE ROUTES TO US 101


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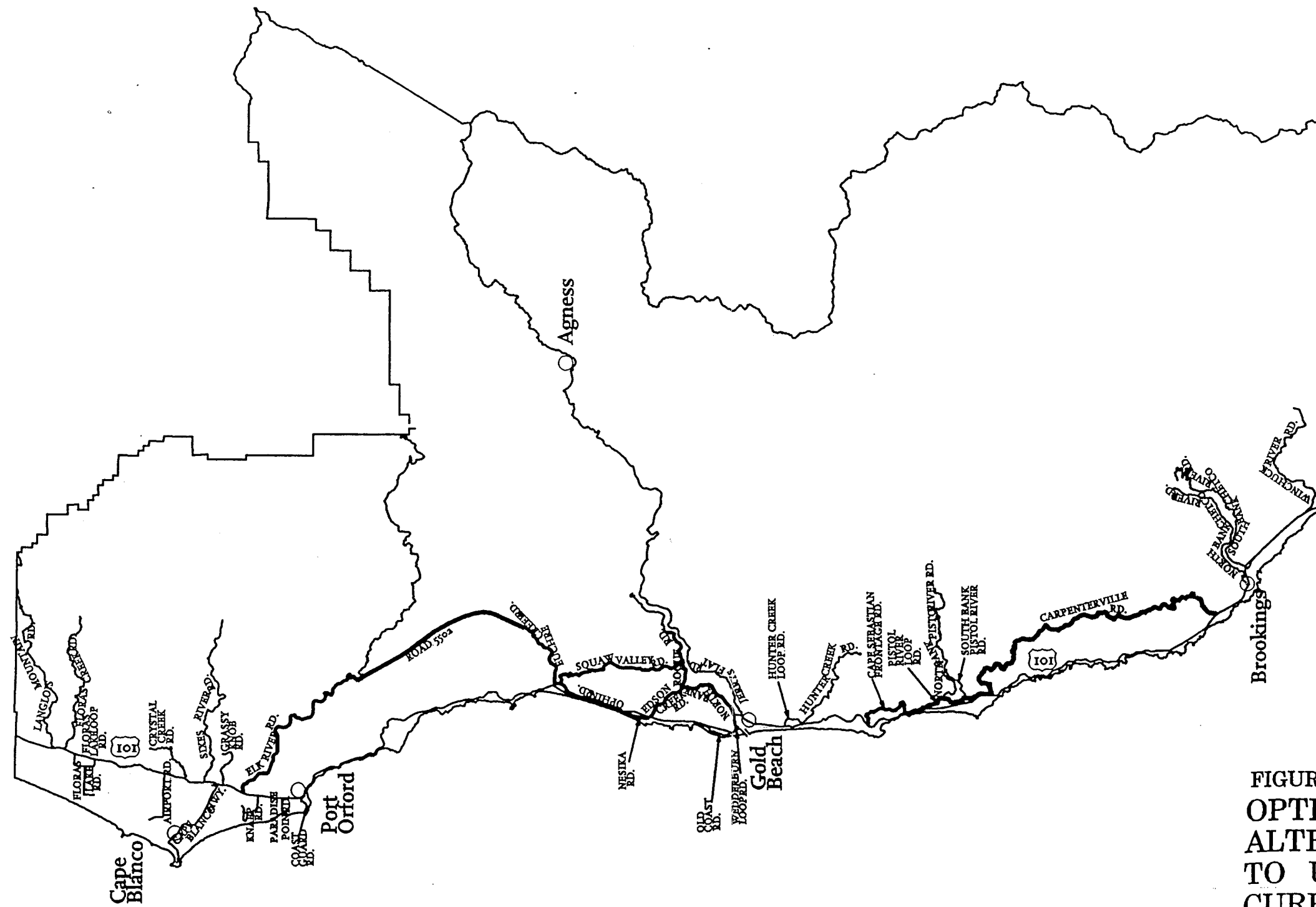
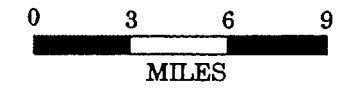


FIGURE 6-5
OPTION 2
ALTERNATIVE ROUTES
TO US HIGHWAY 101
CURRY COUNTY

trucks was to divert south on US 101 to California, travel north back into Oregon on US 199 to Grants Pass, travel north on I-5 to Roseburg, and travel west on OR 42 to reach US 101 south of Coos Bay, a 250-mile detour.

During the public involvement process, community members identified the need to keep Carpenterville Road open to truck traffic when US 101 is closed. The cost to improve the road to a level where it could safely be used by two-way traffic is quite high. It was assumed that the road would have to be widened from its current 20-foot width to 32 feet, to accommodate two 12-foot travel lanes and 4-foot paved shoulders. The cost to make this improvement was estimated at \$500,000 per mile for the eight miles at the south end and the eight miles at the north end, and at \$1 million per mile for the middle eight miles, resulting in a total project cost of \$16 million. This cost would be borne by the State (ODOT).

An option to a major widening project would be to keep the road in its existing condition, and simply restrict truck use to certain hours of the day during an emergency. For example, the road use could be dedicated to northbound trucks for one hour in the morning and one hour in the evening, followed by one hour dedicated to southbound trucks in the morning and one hour in the evening. During the other 20 hours of the day the road would remain open for two-way passenger car traffic. This option would have no capital costs; the only costs incurred would be those resulting from vehicular enforcement at the north and south ends of the road.

Recommendation: It is recommended that Elk River Road, along with Euchre Creek Road and Forest Service Road 5502 be developed as a parallel, alternative route to US 101 for emergencies. This can be accomplished by raising the maintenance level from Level 3 to Level 4. The cost for this project is estimated at \$1.8 million, with annually occurring maintenance costs of \$10,800. This was identified by the community as a high priority project.

Deferred maintenance, which is maintenance activities that can be delayed without critical loss of facility serviceability until such time as the work can economically or efficiently performed, also needs to be recognized. Deferred maintenance costs for Level 3 roads are \$5,400 per mile and Level 4 roads are \$35,300 per mile. Deferred maintenance work items could include seal coats, surface replacement, bridge painting, and culvert replacement.

All of the per mile rates are average rates for typical roads. The Euchre Creek road is not a typical road in that it normally experiences damage during the winter months ranging from slides on to the roadway to slumping roadway and total road failures. The Forest Service could easily plan to spend, on average, an additional \$25,000 per year. Some years such as 1996 and 1998, repair costs (not maintenance) will exceed \$300,000.

There are two private landowners, South Coast Lumber Company and John Hancock Company, who are cooperators with the Forest Service in maintaining most of Euchre Creek Road. They would need to be in agreement with any changes to that road.

Something that has not been factored in is traffic volume. Forest Service Roads are not designed nor constructed for heavy traffic volume. The highest maintenance level road is a Level 5. It is a double lane, paved road with average daily traffic for the past six years of only 225 vehicle. A sudden increasing heavy commercial use occurred when US 101 went out at the Arizona slide. The pavement and aggregate rapidly began to deteriorate. The maintenance costs are for typical forest service roads that have been designed and constructed for low traffic volumes and reduced speeds. The average daily traffic for emergency use has not been estimated at this time.

It is recommended that Carpenterville Road be kept in its existing condition, rather than pursue an expensive widening project (estimated to cost \$16 million). During emergency situations, where sections of US 101 which can be bypassed by Carpenterville Road are closed, trucks should not be unconditionally prohibited from using the road. Instead, trucks should be restricted to certain hours of the day during an emergency.

This recommendation would have no capital costs; the only costs incurred would be those resulting from vehicular enforcement at the north and south ends of the road.

Meyers Creek Road, Pistol River Loop Road, Ophir Road, North Bank Rogue River Road and Edson Creek Road, and North Bank Rogue River Road and Squaw Valley Road can all be used as alternates to US 101 without any physical improvements. These roads are all identified as such in this Plan.

Option 4. Improved East-West Connection Between the South Coast and I-5

Overview: An east-west arterial highway from US 101 to I-5 in the county is needed to reduce the relative isolation of the area from the rest of the state. This was identified as a policy in the Curry County Comprehensive Plan and as a goal in the Oregon Coast Highway Corridor Master Plan.

ODOT prepared a study in 1974 for an improved east-west corridor between US 101 and I-5. ODOT studied 14 different alignments and identified one alignment, the Shasta Costa corridor, as the preferred alignment. The study determined that the cost of such a project (estimated at \$41 to \$95 million in 1974 dollars) would far outweigh any economic benefits to the area.

The existing road which connects US 101 in Gold Beach to I-5 just north of Grants Pass consists of a paved county road from the junction with US 101 to Lobster Creek Campground, approximately 10 miles. At that point, the paved road continues up river as Forest Service Road 33, approximately 19 miles to the junction with Forest Service Road 23. Road 23 is a single lane, paved road for approximately 22.5 miles before entering Bureau of Land Management (BLM) lands. The road continues as an extra wide paved road for approximately 12.5 miles to Glaice and County Road 2400. From there it is approximately 15 miles to I-5. The length is over 70 miles. Improving this road would require the cooperation of at least four jurisdictions: Curry County, Josephine County, US Forest Service and BLM. The State of Oregon would probably be involved as well.

None of these jurisdictions has the ability to fund a major improvement to this road (improve the road to state highway standards). Congress has cut the Forest Service's operating and maintenance budget every year since 1990 and the Forest Service, which itself is not a road department, has been constructing a few new roads on Forest Service land. At the State level, the governor recently issued a moratorium on all new state highway projects, except for preservation projects on the existing state highway system. The cost to improve this road is far in excess of the County Road Department's budget.

A second alternative was identified that consisted of traveling one-way utilizing Forest Service Road 23, Bear Camp and traveling the opposite direction utilizing Forest Service Road 2308, Snout Creek. Both roads are single lane with turnouts and could stay that way, however one is currently paved and the other is aggregate surfaced. This alternative was not considered viable due to factors including current usage which includes recreational, commercial, administrative and general public travel and the need to pave and maintain an additional 20 miles of road (Forest Service Road 2308).

The TAC agreed that constructing a paved two-lane highway in the corridor is still infeasible in the 20-year planning period. The TAC recommended that the existing road, some of which is a one-lane gravel road, remain as is, but the road should stay open year-round for emergency access.

Cost Estimate: No updated cost estimate was prepared for this improvement option. Although there is really no way to base a current cost estimate on the 1974 estimate of \$41 to \$95 million, to construct this project today would likely cost 5 to 10 times the estimate prepared in 1974.

Recommendation: The Transportation Advisory Committee (TAC) agreed that constructing a paved two-lane highway in the corridor is still infeasible in the 20-year planning period. The TAC recommended that the existing road remain as is, but the road should stay open year-round for emergency access.

Gold Beach 2010, the organization which addresses planning and economic issues in Gold Beach, circulated a petition which has been signed by 60 Gold Beach residents supporting a plan to keep the existing road open all year. A copy of the petition is included in Appendix D.

Maintenance of this road should be a cooperative effort among Curry County, Josephine County, ODOT, BLM, and the US Forest Service. Oregon Revised Statute (ORS) Chapter 197 provides for State Agency Coordination Agreements whereby state agencies agree to work within the confines of local jurisdictions' Comprehensive Land Use Plans. The program is administered by the Oregon Department of Land Conservation and Development (DLCD). To begin the process, these four jurisdictions should enter into an intergovernmental agreement to work together on maintenance projects. Such an intergovernmental agreement for flexible maintenance services has been drafted by David Evans and Associates, Inc., and is included in Appendix E.

Another option which can be pursued is designation of this road as a Forest Highway. Forest Highways are part of a network of Forest Service Roads serving the Forest System and are designated by the Forest Service in cooperation with the State Highway Department. When a road is designated as a Forest Highway, the Federal Highway Authority agrees to reconstruct the road to any public authority's road standards, provided that public authority assumes jurisdiction of the road after the reconstruction and maintains it. Within this criteria, the Forest Service is not considered a "public authority." A Forest Highway must be under the jurisdiction of and maintained by the State, County, or City.

In order to be designated as a Forest Highway, a Forest Service Road must meet all of the following criteria:

1. Under the jurisdiction of and maintained by a public authority, and open to public travel.
2. Connect the National Forest System to towns, communities, shipping points, or markets which depend upon the renewable resources of the National Forest System.
3. Provide access from an adequate and safe public road to the renewable resources of the National Forest System essential to the local, regional, or national economy.

In addition, Forest Highways shall meet one of the following criteria:

1. Serve other local needs, such as school bus service, mail delivery, commercial supply, access to private enclaves within the National Forest System, and other similar activities.
2. Preponderance of traffic served is traffic generated by use of the National Forest System and its resources.

Finally, the City of Port Orford along with Curry County, could make a formal request to ODOT to conduct a new study on the feasibility of an improved east-west connection as the issues has not been addressed on a state level in nearly 25 years.

Option 5. Implement Transportation Demand Management Strategies

Overview: Transportation demand management (TDM) strategies change the demand on the transportation system by providing facilities for modes of transportation other than single occupant passenger vehicles, such as implementing carpooling programs, altering work shift schedules, and applying other transportation

measures within the community. The State Transportation Planning Rule recommends that cities should evaluate TDM measures as part of their Transportation System Plans.

TDM strategies are most effective in large, urban cities; however, some strategies can still be useful in small cities such as Port Orford. For example, staggering work shift schedules at local businesses may not be appropriate in Port Orford since there are no large employers in the area; however, provisions for alternative modes of transportation, such as sidewalks and bike lanes, and implementing a county-wide carpooling program can be beneficial for residents of the city. In rural communities, TDM strategies include providing mobility options.

Impacts: Although the primary goal of TDM strategies is to reduce the number of vehicle trips made in the city, especially during peak periods, street capacity for automobiles and trucks is generally not an issue in Port Orford. However, improvements to connect sidewalks that are currently disconnected or the provision of new pedestrian and bicycle facilities increases the livability of a city, and improves traffic and pedestrian safety. With more emphasis on walking or biking in the city, conditions such as air quality and noise levels would be improved as well.

Cost Estimate: Unit costs for typical TDM projects are as follows:

- *Concrete Sidewalks* - The estimated cost to install new sidewalks on one side of an existing street is approximately \$30 per linear foot. This assumes a six-foot wide walkway is composed of four inches of concrete over 2 inches of aggregate.
- *Multi-use Paths* - A multi-use path 10 feet wide would cost approximately \$16 per linear foot. This assumes the path is constructed of 2 inches of asphalt over four inches of aggregate.
- *Paved Shoulders* - Shoulders that are four feet wide constructed along both sides of a road would cost approximately \$25 per linear foot. This is based on four inches of asphalt over 9 inches of aggregate.
- *Bike Lanes* - The cost to install bike lanes on both sides of an existing road is approximately \$45 per linear foot. This cost includes widening the roadway by 5 feet on both sides, installing curbs, four inches of asphalt over 9 inches of aggregate, and placement of an 8-inch painted stripe.
- *Striping* - The cost to strip a typical crosswalk is \$3 per linear foot; the cost to paint an 8-inch stripe for a bike lane is approximately \$0.70 per linear foot.
- *Rideshare program* - A rideshare program could be operated for a cost of approximately \$20,000 per year. For comparison purposes, a rideshare program located in Central Oregon, covering a larger geographic area and serving a larger population, has an annual operating budget of approximately \$50,000. ODOT participates in this program by providing approximately 60 percent of the funding.

Recommendation: Port Orford can implement TDM strategies by requiring all future street improvement projects to include the addition of some sort of pedestrian facility, such as new sidewalks or walkways, which will effectively separate pedestrians from motorized traffic. Connecting sidewalks that are not currently connected on some streets can increase the effectiveness of the pedestrian facilities. All new street improvement projects should consider bicycle lanes as well.

Implementing a local carpool program in Port Orford alone is not necessary because of Port Orford's geographical size; however, a county-wide carpool program is possible. Residents who live in Port Orford and residents who live in other cities and rural areas should be encouraged to carpool with a fellow coworker or someone who works in the same area. Carpooling can take advantage of excess parking at larger retail areas,

or parking unused during the week, such as at churches. Costs are typically limited to those needed for a part-time to full-time program administrator to provide public education, advertising, and coordinate park and ride lots and signs.

Summary

Table 6-1 summarizes the recommendations of the improvement options analysis based on the evaluation process described in this chapter. Chapter 7 discusses how these improvement options fit into the modal plans for the Port Orford area.

**TABLE 6-1
TRANSPORTATION IMPROVEMENT OPTIONS: RECOMMENDATION SUMMARY**

Option	Recommendation
1. Revise Zoning and Development Codes	<ul style="list-style-type: none"> • Implement
2. Improve Safety at Cemetery Loop Road	<ul style="list-style-type: none"> • Do not implement; investigate three-lane cross section on US 101
3. Develop an Alternative Route to US 101	<ul style="list-style-type: none"> • Implement
4. Improved East-West Connection to I-5	<ul style="list-style-type: none"> • Do not implement; maintain existing road
5. Implement Transportation Demand Strategies	<ul style="list-style-type: none"> • Implement

CHAPTER 7: TRANSPORTATION SYSTEM PLAN

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

Street Design Standards

Street standards relate the design of a roadway to its function. The function is determined by operational characteristics such as traffic volume, operating speed, safety, and capacity. Street standards are necessary to provide a community with roadways which are relatively safe, aesthetic, and easy to administer when new roadways are planned or constructed. They are based on experience, and policies and publications of the profession.

Existing Street Standards

The City of Port Orford Subdivision Ordinance No. 258 requires a basic minimum right-of-way of 50 feet for all public and private roads. Currently, there are no written standards for minimum pavement widths, shoulders, sidewalks, curbs and buffers. However, street widths must conform to the pavement widths as designated on the official map of the city.

The requirement for a dead end street ending in a cul-de-sac is a minimum property line radius of 50 feet.

There are no requirements for integrating pedestrian and bicycle facilities into the existing roadway standards.

- The following basic construction requirements can be found in the Port Orford Comprehensive Plan and city ordinances:
- A minimum right-of-way of 50 feet is required for all public and private roads.
- The minimum finished street width shall be a 24-foot traveling surface with a 6-foot gravel shoulder on each side.
- The minimum width of an alley or driveway shall be 20 feet.

The existing minimum requirements do not vary for arterial, collector, and local residential streets, although the function of these streets are much different. Arterials connect cities and other major traffic generators; they serve both through traffic and trips of moderate length and access is usually controlled. Collectors connect residential neighborhoods with smaller community centers and the arterial system; property access is generally a higher priority for collectors than arterials and through traffic is served as a lower priority. Local residential streets have property access as their main priority; through traffic movement is not encouraged.

Port Orford currently has no requirements for integrating pedestrian and bicycle facilities into the existing roadway standards. State law is clear on requirements for pedestrian and bicycle facilities. Oregon Revised Statute (ORS) 366.514 *Use of Highway Fund for Footpaths and Bicycle Trails* requires the inclusion of bikeways and walkways whenever highways, roads, and streets are constructed, reconstructed or relocated, with three exemptions (where there is no need or probable use, where safety would be jeopardized, or where the cost is excessively disproportionate to the need or probable use). Oregon Administrative Rule (OAR) 660-12 *The Transportation Planning Rule* requires bike lanes along arterials and major collectors and requires sidewalks along

arterials, collectors, and most local streets in urban areas, except that sidewalks are not required along controlled access roadways, such as freeways.

Recommended Street Standards

The development of the Port Orford Transportation System Plan provides the city with an opportunity to review and revise street design standards to more closely fit with the functional street classification, and the goals and objectives of the Transportation System Plan. The recommended street standards are shown graphically in Figures 7-1 through 7-3 and summarized in Table 7-1.

Since the Port Orford Transportation System Plan includes land within the Urban Growth Boundary (UGB), urban street standards should be applied in these outlying areas as well. Although portions of the City, especially outside the city boundary, may presently have a rural appearance, these lands will ultimately be part of the urban area. Retrofitting rural streets to urban standards in the future is expensive and controversial; it is better to initially build them to an acceptable urban standard.

**TABLE 7-1
RECOMMENDED STREET DESIGN STANDARDS**

Type of Street	Right-of-way	Pavement Width	Sidewalk Width
Arterial Streets	80 feet	64 feet	8 feet – both sides
Collector Streets			
Option 1	50 feet	36 feet	6 feet – both sides
Option 2	50 feet	40 feet	5 feet – both sides*
Local Streets	50 feet	28 feet	6 feet – both sides
Alleys	20 feet	20 feet	none

*Sidewalks should be a minimum of six feet where there is sufficient right-of-way.

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

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

Residential Streets

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

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

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

The majority of streets in Port Orford are local residential streets. Of three options developed for local streets, the option chosen as most appropriate for Port Orford is shown on Figure 7-1. {tc "Figure 7-1: Recommended Street Design Standards" \f F \l 1}

During the public involvement process, the Transportation Advisory Committee (TAC) selected the option which allows two 10-foot travel lanes and 8 feet for parking on one side. This does not mean that parking must be limited to one side; however, if vehicles are parked on both sides of the road, only one moving lane will fit between the two parked cars, and on-coming traffic will have to yield. This is usually not a problem on low-volume residential streets. This option also includes 6-foot sidewalks on both sides of the street.

Alleys

Alleys can be a useful way to diminish street width by providing rear access and parking to residential areas. Including alleys in a subdivision design allows homes to be placed closer to the street and eliminates the need for garages to be the dominant architectural feature. This pattern too, once common, has been recently revived as a way to build better neighborhoods. In addition, alleys can be useful in commercial and industrial areas, allowing access by delivery trucks that is off of the main streets (See Figure 7-1).

The recommended standard for alleys includes two 10-ft. paved travel lanes within a 20-ft. right-of-way. This is no different than the existing standard for alleys.

Collector Streets

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

Two options were developed for collectors, both of which meet the City’s required minimum pavement width of 24 feet and fit within the required minimum right-of-way of 50 feet. They also include sidewalks, as required by law, and on-street parking, as desired by the TAC. These options are shown in Figure 7-2.{tc "Figure 7-2: Recommended Street Design Standards" \f F \l 1}

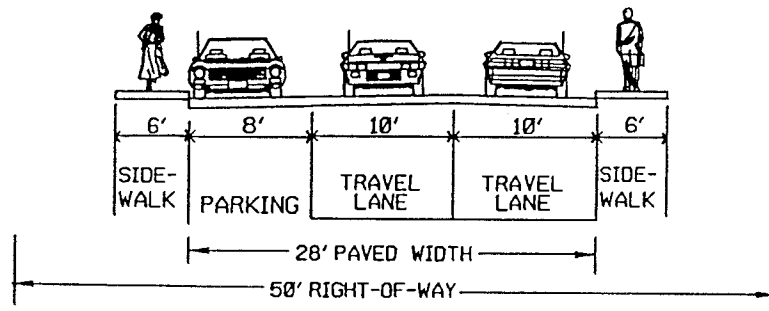
Option 1: 36-ft. paved width with on-street parking on both sides

This option consists of two 11-foot travel lanes and 7-foot parking strips on both sides of the roadway. The resulting paved width is 36 feet. This option also includes 6-foot sidewalks, adjacent to the curbs.

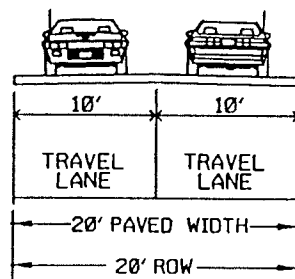
This option is proposed for Jackson Street and Arizona Street. Neither of these streets is currently classified as a collector, although members of the TAC suggested that they function as collectors, and should be classified as such in the TSP. Both streets lie entirely within the city limits of Port Orford.



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LOCAL RESIDENTIAL STREETS: TWO TRAVEL LANES, ON-STREET PARKING ON ONE SIDE ONLY

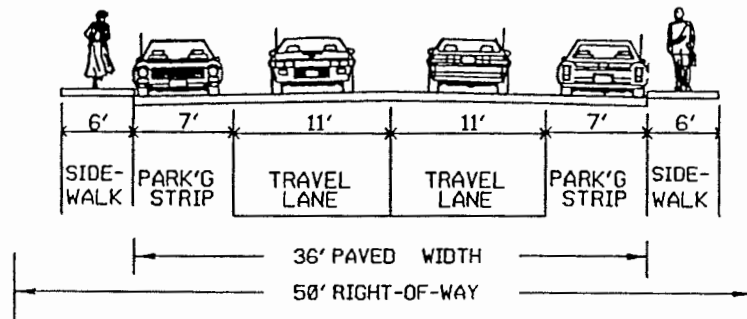


ALLEYS

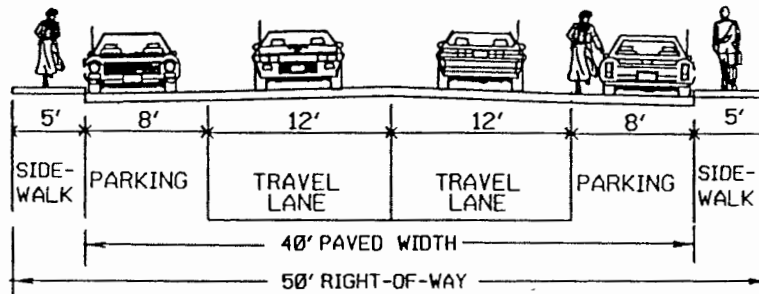
FIGURE 7-1

Recommended Street Standards
Port Orford Local Residential Streets and Alleys

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OPTION 1: 36-FT PAVED WIDTH WITH ON-STREET PARKING ON BOTH SIDES



OPTION 2: 40-FT PAVED WIDTH ON-STREET PARKING ON BOTH SIDES

FIGURE 7-2

Recommended Street Standards
Port Orford Collector Streets

Option 2: 40-ft. paved width with on-street parking on both sides

This option consists of two 12-foot travel lanes and 8-foot parking strips on both sides of the roadway. The resulting paved width is 40 feet. This option also includes 5-foot sidewalks, adjacent to the curbs. Six-foot sidewalk should be implemented where there is sufficient right-of-way.

This option is proposed for the sections of collector roads which lie within the City of Port Orford UGB. These roads include: Port Orford Loop Road, Paradise Point Road, and Coast Guard Hill Road. This option is proposed for sections of roads within the Port Orford UGB, including 18th Street, Vista Drive, and Cemetery Loop Road to be classified as collectors and constructed to collector standards. Outside the city's UGB, these roads will be built to county collector standards, which do not include on-street parking or sidewalks.

Arterial Streets

Arterial streets form the primary roadway network within and through a region. They provide a continuous roadway system that distributes traffic between different neighborhoods and districts. Generally, arterial streets are high capacity roadways that carry high traffic volumes with minimal localized activity. Design speeds should be between 25 and 45 mph (see Figure 7-3).{tc "Figure 7-3: Recommended Street Design Standards" \f F \l 1}

The only streets classified as arterials in the City of Port Orford are Oregon Avenue and 6th Street (US 101). The highway is a two- to four-lane roadway with on-street parking, within a 140-200 ft. right-of-way. Two options were developed for arterials: three-lane and four-lane cross sections, both of which fit within the existing required right-of-way.

The TAC selected the 3-lane cross section as the preferred option[06]. However, design standards for state highways are described in ODOT's Highway Design Manual. The preferred option is described below, but is only a recommendation. A change in the highway cross-section may have impacts on capacity and safety that are not acceptable to residents or visitors. Specifically, forcing all through- and local traffic into one lane in each direction will decrease the available capacity and could result in congested roadway, particularly in the summer months. Also, the presence of a center turn lane can increase the incidence of head-on collisions. These issues must be analyzed before the configuration of the highway can be changed. [m]7

The TAC believes two 12-foot travel lanes, a 14-foot center turn lane, 6-foot bike lanes, and 8-foot parking strips on both sides of the roadway would improve operation of the highway for local traffic and recommends analysis of this option. The resulting paved width is 66 feet; however, 6-foot curb extensions on the street corners, as planned in the street beautification plan, will shorten the distance pedestrians have to cross by 12 feet. This option also includes 8-foot sidewalks, adjacent to the curbs, an option requested by the TAC. Utility poles and other street furniture such as mailboxes will be accommodated on the sidewalk, as will any future planters. One reason this option was selected as the preferred cross section is that it fits within an 80-foot right-of-way, rather than a 90-foot right-of-way which, although required along US 101, does not exist in all areas of the city. There are several other important reasons why this option was selected:

- This option accommodates bike lanes, without a need to widen the street or remove on-street parking.
- The narrower section devoted to travel lanes will may slow traffic, which improves safety. Speeding through town was mentioned as being a problem.

- The narrower pavement width reduces the distance pedestrians have to cross, and this cross section has fewer travel lanes for pedestrians to cross, which improves pedestrian safety.
- The center turn lane removes slow-moving and stopped vehicles making left turns from the general travel lanes, which may reduce the possibility of rear-end accidents.

This standard was selected for the section of US 101 between Port Orford Loop Road (in the north) to Dedy Street (in the south). This cross section is shown in Figure 7-3.

Any change to the cross section of the highway can be implemented it will have to be analyzed regarding how it will affect the safety and operation of the highway for through and local traffic.

The TAC noted that because there is a lack of safe and adequate passing zones on US 101 both north and south of Port Orford, many drivers use the four-lane highway segment inside the city as a passing zone, and speed through the city. The hope is that the three-lane cross section will help to alleviate this problem; however, the change in highway striping would exasperate the lack of passing zones in the area. The TAC would like ODOT to evaluate the need for safe and adequate passing zones both north and south of Port Orford.

For example, the passing zone on northbound US 101, just south of Port Orford (in front of the Sea Crest motel), encourages high speeds as traffic enters the city from the south. The TAC believes the current location for that passing zone is inappropriate.

The lack of safe and adequate passing zones is even more problematic north of the city. Indeed, two of the Plan Activities identified in ODOT's Oregon Coast Highway Corridor Master Plan are to construct a longer passing lane northbound at the Coos/Curry County lines, and to identify opportunities for passing lanes at Sixes River to five miles north of Sixes River.

The TAC was also clear that restriping the highway to a three-lane section within the city should *not* be conditional based on whether or not ODOT provides a solution to the inadequate passing zones north and south of the city. However, it is noted that restriping to three lanes is contingent on the safe and efficient operation of the highway and a three-lane cross section will only be considered feasible if safety and capacity studies show the highway will continue to operate within acceptable standards.[08]

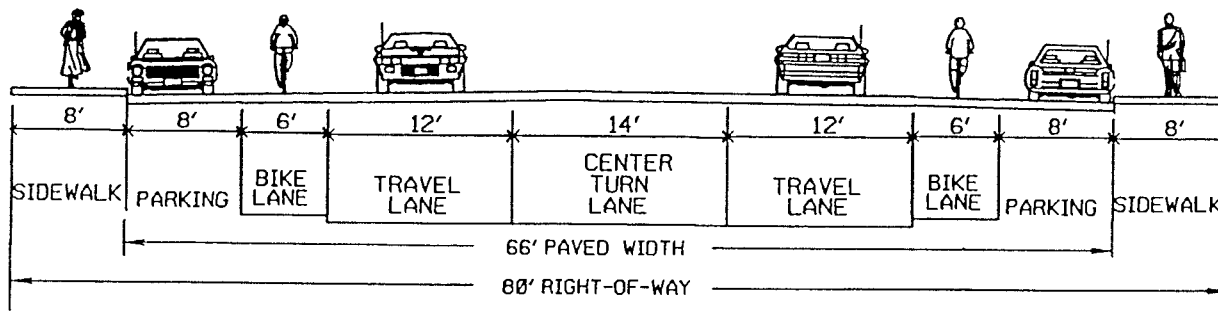
Bike Lanes

In cases where a bikeway is proposed within the street right-of-way, 12 feet of roadway pavement (between curbs) should be provided for a six-foot bikeway on each side of the street, as shown on the cross sections in Figure 7-3. The striping should be done in conformance with the State Bicycle and Pedestrian Plan (1995). In cases where curb parking will exist with a bike lane, the bike lane will be located between the parking and travel lanes. In some situations, curb parking may have to be removed to permit a bike lane.

The bikeways on new streets or streets to be improved as part of the street system plan should be added when the improvements are made. The Street System Plan identifies an approximate schedule for these improvements.

On arterial and collector streets that are not scheduled to be improved as part of the street system plan, bike lanes may be added to the existing roadway at any time to encourage cycling, or when forecast traffic volumes exceed 2,500 to 3,000 vehicles per day. The striping of bike lanes on streets that lead directly to schools should be high priority.

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TWO TRAVEL LANES, CENTER TURN LANE, ON-STREET PARKING ON BOTH SIDES

FIGURE 7-3

Recommended Street Standards
Port Orford Arterial Streets

Sidewalks

A complete pedestrian system should be implemented in the urban portion of Port Orford. Every urban street should have sidewalks on both sides of the roadway as shown on the cross sections in Figure 7-1 through Figure 7-3. Sidewalks should have a concrete surface six feet wide where there is sufficient right-of-way. In addition, pedestrian and bicycle connections should be provided between any cul-de-sac or other dead-end streets.

Another essential component of the sidewalk system is street crossings. Intersections must be designed to provide safe and comfortable crossing opportunities. This includes not only signal timing (to ensure adequate crossing time) and crosswalks, but also such enhancements as curb extensions as traffic calming measures and to decrease pedestrian crossing distance.

Curb Parking Restrictions

Curb parking should be prohibited at least 25 feet from the end of an intersection curb return to provide sight distance at street crossings.

Street Connectivity

Street connectivity is important because a well-connected street system provides more capacity than a disconnected one, provides alternate routes for local traffic, and is more pedestrian and bicycle-friendly. It is likely that the City of Port Orford's relative lack of congestion is in part due to its grid system. Ensuring that this grid is extended as development occurs is critical to Port Orford's continued livability. To this end, a maximum block perimeter of 1,200 feet is recommended.

Access Management

Access management is an important tool for maintaining a transportation system. Too many access points can diminish the function of an arterial, mainly due to delays and safety hazards created by turning movements. Traditionally, the response to this situation is to add lanes to the street. However, this can lead to increases in traffic and, in a cyclical fashion, require increasingly expensive capital investments to continue to expand the roadway.

Reducing capital expenditures is not the only argument for access management. Additional driveways along arterial streets lead to an increased number of potential conflict points between vehicles entering and exiting the driveway and through vehicles on the arterial streets. This not only leads to increased vehicle delay and deterioration in the level of service on the arterial, but also leads to a reduction in safety.

Research has shown a direct correlation between the number of access points and collision rates. In addition, the wider arterial streets that can ultimately result from poor access management can diminish the livability of a community. Therefore, it is essential that all levels of government maintain the efficiency of existing arterial streets through better access management.

Access Management Techniques

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

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

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

Recommended Access Management Standards

Access management is hierarchical, ranging from complete access control on freeways to increasing use of streets for access purposes, parking and loading at the local and minor collector level. Table 7-2 describes recommended general access management guidelines by roadway functional classification.

Application

These access management restrictions are generally not intended to eliminate existing intersections or driveways. Rather, they should be applied as new development occurs. Over time, as land is developed and redeveloped, the access to roadways will meet these guidelines. However, where there is a recognized problem, such as an unusual number of collisions, these techniques and standards can be applied to retrofit existing roadways.

To summarize, access management strategies consist of managing the number of access points and providing traffic and facility improvements. The solution is a balanced, comprehensive program that provides reasonable access while maintaining the safety and efficiency of traffic movement.

Access management was identified in the Needs Statement for Curry County in the Oregon Coast Highway Corridor Master Plan.

State Highways

Access management is important to promoting safe and efficient travel for both local and long distance users along US 101 in Port Orford. The *Oregon Highway Plan* specifies an access management classification system for State facilities. Although the City of Port Orford may designate State highways as arterial roadways within its transportation system, the access management categories for these facilities should generally follow the guidelines of the Oregon Highway Plan for each highway classification. This section of the Transportation System Plan describes the state highway access categories and specific roadway segments where special access areas may apply.

TABLE 7-2
RECOMMENDED ACCESS MANAGEMENT STANDARDS

Functional Classification	Intersections			
	Public Road		Private Drive ⁽²⁾	
	Type ⁽¹⁾	Spacing	Type	Spacing
Arterial				
US 101: General	at-grade	¼ mile	L/R Turns	500 ft.
US 101: Urban Business Area (UBA)	at-grade	¼ mile	L/R Turns	500 ft.
Coast Guard Hill Road	at-grade	250 ft.	L/R Turns	100 ft.
Other Arterials within UGB	at-grade	250 ft.	L/R Turns	100 ft.
Collector				
Residential Street	at-grade	250 ft.	L/R Turns	Access to Each Lot
Alley (Urban)	at-grade	100 ft.	L/R Turns	Access to Each Lot

Notes:

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

General

US 101 through Port Orford is a state highway of statewide level of importance. Within the Port Orford UGB, Oregon Highway Plan Category 4, “Limited Control”¹ applies. This classification permits at-grade intersections or interchanges at a minimum spacing of one-quarter mile. Private driveways should have a minimum spacing of 500 feet from each other and from intersections. Traffic signals are permitted at a minimum of one-half mile spacing.

Coast Guard Hill Road ODOT No. 251 is a state highway of district level of importance. Within the City of Port Orford, Oregon Highway Plan Category 6, “Partial Control”² applies. This classification permits at-grade intersections at a minimum spacing of 500 feet, private driveway spacing at a minimum of 150 feet, and signals at a minimum of one-quarter mile spacing.

Special Transportation Area

While the access management guidelines can be applied to some portions of US 101 and Coast Guard Hill Road, the city has a grid system through the downtown area, with intersections spaced as closely as 250 feet apart. The general access standards for the OHP Category 4 and 6 classifications can not be met on these sections of the roadways.

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

² 1991 Oregon Highway Plan, Appendix B, Table 1, Access Management Classification System.

Indeed, the highway standards are too restrictive for areas with centralized commercial development, such as downtown Port Orford. Shorter block lengths and a well-developed grid system are important to a downtown area, along with convenient and safe pedestrian facilities. In general, downtown commercial arterial streets typically have blocks 200 to 400 feet long, driveway access sometimes as close as 100-foot intervals, and, occasionally, signals may be spaced as close as every 400 feet. The streets in downtown areas must have sidewalks and crosswalks, along with on-street parking. The need to maintain these typical downtown characteristics must be carefully considered along with the need to maintain the safe and efficient movement of through traffic.

To address this issue, a Special Transportation Area (STA) is recommended from Deady Street to Madrona Drive on US 101 and from Arizona Street to US 101 on Port Orford Loop Road. To accommodate existing public roadway spacing and allow reasonable access spacing for private driveways, less restrictive access standards are recommended for these downtown sections. Within the STAs, access standards shall allow intersection spacing at a minimum of 250 feet. Driveways are discouraged in STAs but where required for access, allowing spacing at a minimum of 100 feet (see Table 7-2).

Modal Plans

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

Street System Plan

The street system plan outlines a series of improvements that are recommended for construction within the City of Port Orford during the next 20 years. These options have been discussed in Chapter 6 (Improvement Options Analysis). The proposed street system plan is summarized in Figure 7-4. Figure 7-4: Recommended Street Improvements Table 7-3 presents street improvement projects that are included in the street system plan. The projects are listed as high priority (construction expected in the next 0 to 5 years), medium priority (construction expected in the next 5 to 10 years), and low priority (construction expected in the next 10 to 20 years).

TABLE 7-3
RECOMMENDED STREET SYSTEM IMPROVEMENTS

Location	Project	Priority	Cost
US 101	Restripe a three-lane section with bike lanes	High	\$10,000
US 101	Develop an alternative route to US 101 for when the highway is closed	High	\$1,800,000
South Coast to I-5	Improved East-West Connection between the south coast and I-5	High	(Not Available)
TOTAL COSTS			\$1,810,000

LEGEND

- City Limits
- - - - - Urban Growth Boundary
- Roadway Improvements
- Intersection Improvements



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0 1500 3000 4500
FEET

STIP Project
Construction of pavement overlay
along US 101 between Childers Rd.
and Paradise Point Rd.

Option 2
Improve the Intersection of Cemetery
Loop Road and US 101

Option 3
Develop an Alternative
Route to US 101

Option 4
Port of Port Orford
Dock Replacement

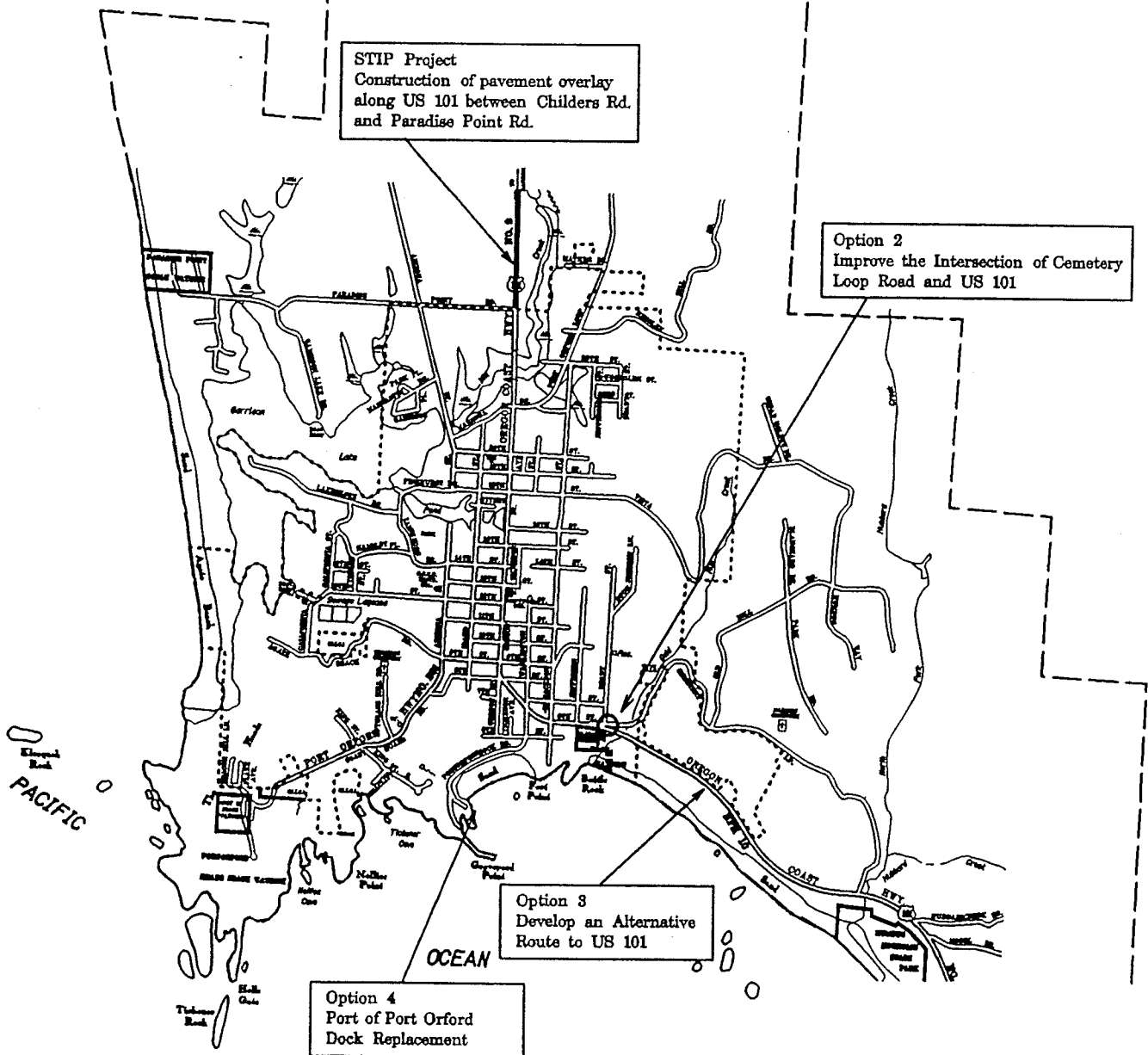


Figure 7-4
**RECOMMENDED STREET
IMPROVEMENTS
PORT ORFORD**

Statewide Transportation Improvement Program (STIP) Projects

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

The final 1998 to 2001 STIP, published in December 1997, identified one major highway project scheduled within the City of Port Orford. The project involves construction of a pavement overlay along US 101 (Oregon Coast Highway) between Childers Road (milepost 295.10) and Paradise Point Road (milepost 299.80). Construction is scheduled to begin in federal fiscal year 2001 at a cost of \$1,898,000.

Oregon Coast Highway Corridor Master Plan

The Oregon Coast Highway Corridor Master Plan was prepared in 1995 to coordinate land use patterns and transportation system improvements in the US 101 corridor. The plan was developed in partnership with local, state, and federal jurisdictions, and the public and communities that the Plan is designed to serve. The Plan's focus in Curry County is to enhance and protect the scenic beauty of the corridor while increasing capacity and reliability on the transportation system.

Although the plan does not list specific transportation improvements on US 101, several Plan Activities were identified for the section of highway in Port Orford. The jurisdiction or agency that has primary responsibility for implementation of the plan activities was not identified. In most cases, implementation will require coordination among a number of jurisdictions and agencies. The Plan Activities for the highway section in Port Orford include:

- Develop an access management and parking strategy, consistent with the State Access Management Category, through a transportation system plan or refinement plan to maintain a consistent four-lane roadway through Port Orford, improving continuity of sidewalks and bikeways.
- Develop a bicycle/pedestrian circulation strategy to improve safety and accessibility, including consideration of signalized intersections.
- Investigate the potential for improving the local circulation system to reduce reliance on US 101 for local trips, including an option for a parallel street system.
- Develop a program to provide consistent signage for and access to the Port, Battle Rock Wayside, and Heads State Wayside. Expand the interpretive center components of these facilities.
- Develop community design program for signage, amenities, and landscaping.
- Develop a gateway treatment into Port Orford.

Not all of the Plan Activities describe specific projects; rather, they are planning goals and objectives for the US 101 corridor. For example, "develop community design program for signage, amenities, and landscaping" and "develop a gateway treatment into Port Orford" are not specific projects. They are listed above to draw attention to ODOT's plan activities for US 101 within Curry County, so that county and city planning activities will be consistent with those of the state.

Several of ODOT's Plan Activities are addressed in this TSP. For example, "develop an access management and parking strategy" is addressed in the street system plan in Chapter 7. "Identify a process for developing an emergency route plan" and "identify and study potential east-west routes to the I-5 corridor" are addressed in the evaluation of improvement options in Chapter 6.

The Plan Activities that describe specific projects, such as "develop community design program for signage, amenities, and landscaping," were developed to address ODOT's design and operation standards or to meet some other statewide planning goal. During the public involvement process, none of the specific projects listed in the Plan Activities were identified as high priorities by the local community's Transportation Advisory Committee. Therefore, these projects are not listed in the street system plan in Chapter 7. As the projects in the corridor plan are refined (i.e., after ODOT develops alternatives and cost estimates, selects a preferred alternative, identifies funding, and lists the projects in the STIP), they should be included in future updates of the TSP.

Pedestrian System Plan

A complete pedestrian system should be implemented in the city. Every paved street shall have sidewalks on both sides of the roadway, except in extenuating circumstances, meeting the requirements set forth in the recommended street standards. Pedestrian access on walkways shall be provided between all buildings including shopping centers and abutting streets and adjacent neighborhoods. (Ordinances specifying these requirements are included in a separate document.)

A sidewalk inventory revealed that sidewalks exist along the entire length of US 101 from Deady Street to Madrona Drive in Port Orford. There are only two other areas with short sidewalk segments: the southeast corner of Idaho Street and 20th Street, in the northwest part of the city; and the block bounded by US 101, Jackson Street, 7th Street, and Jefferson Street, in the southeast part of the city. The city's sidewalk system should be expanded to include other blocks within the city's grid system which have a significant amount of pedestrian activity, such as in front of stores or schools.

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

Sidewalks should be added as new streets are constructed and as existing streets reconstructed. Missing sidewalk segments should be infilled whenever an opportunity presents itself (such as infill development, special grants, etc.), concentrating on arterial streets, collectors, and school routes. New sidewalks should be constructed with curb cuts for wheelchairs at every crosswalk to comply with the Americans with Disabilities Act (ADA).

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

A six-foot-wide sidewalk with curbs already in place costs about \$30 per linear foot. Adding a curb as well as a six-foot-wide sidewalk costs about \$35 per linear foot. In commercial areas, a twelve-foot-wide sidewalk with a curb would cost about \$65 per linear foot. This cost estimate assumes the sidewalks are composed of 2 inches of concrete and 4 inches of aggregate. Applying these costs to a typical block in Port Orford would require about 600 linear feet of sidewalk (2 x 300 feet). For a six-foot wide sidewalk including curbs, the cost would be approximately \$21,000. With curbs already in place, the cost would be approximately \$18,000.

Bicycle System Plan

Goals and objectives of the city's bicycle plan include reducing conflicts between bicyclists and motorized vehicle traffic, developing a system dedicated to bicycles, and providing opportunities for recreational bicycle use.

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

US 101 functions as an arterial street through Port Orford, which means that it should have bike lanes on both sides of the street as specified in the recommended street standards described earlier, and as required by the TPR. Accident statistics on the highway do not indicate that there are frequent conflicts between bicyclists and motorized vehicles. To install bicycle lanes along US 101 would involve removing on-street parking through downtown Port Orford. Shoulders would need widening on sections where no on-street parking exists. Some of these improvements would be expensive and others would be controversial. At this time, no specific bikeway improvements are recommended for US 101; however, ODOT should track both traffic volumes and accident rates on this facility to identify any problems in the future.

Although no portion of US 101 has bicycle lanes within Port Orford, the entire segment of US 101 in Curry County is classified as a bicycle route in ODOT's Oregon Coast Bike Route Map. Generally sufficient shoulder space is available for cyclists to travel safely on US 101. However, in high traffic volume conditions with a significant number of trucks in the traffic stream, safety becomes a concern for bicyclists.

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

The TAC did not recommend any bicycle projects other than the bike lanes that could be striped on US 101, if the highway is restriped to a three-lane cross section. In the Curry County TSP, two county roads within the Port Orford UGB (Port Orford Loop Road and Paradise Point Road) were identified as having traffic volumes and bicycle use which warrant bike lanes.

Transportation Demand Management Plan

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

In Port Orford, where traffic volumes are low and the population and employment is small, implementing TDM strategies is not practical in most cases. However, the sidewalk improvements recommended earlier in this chapter are also considered TDM strategies. By providing these facilities, the City of Port Orford is encouraging people to travel by other modes than the automobile. In rural communities, TDM strategies include providing mobility options.

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

No costs have been estimated for the TDM plan. Grants may be available to set up programs; other aspects of Transportation Demand Management can be encouraged through ordinance and policy.

Public Transportation Plan

Currently, Greyhound operates the only scheduled bus service in Curry County, providing two northbound and two southbound buses along US 101 between Portland, Oregon and San Francisco, California. This service stops in Port Orford, Gold Beach and Brookings. Local para-transit service is available through the senior citizen centers in Port Orford and Gold Beach. Although the service is open to the general public, it predominantly transports elderly and disabled people. In FY 1996 the Port Orford Senior Center provided 2,200 trips of which 78 percent were for elderly and disabled people.

Community representatives raise two concerns about existing transit service:

- There is a perception it is only for senior citizens.
- Other than Greyhound, there is no inter-city service connecting Bandon and Brookings and the communities between.

Transit providers indicate there is excess capacity; drivers and vehicles are idle at times. Service could be expanded to serve the general population and to provide some inter-city service without the acquisition of new vehicles. Transit providers are already transporting about two handicapped people a week between Brookings and Gold Beach or Crescent City, California. They report that when other people who are not handicapped hear about the service, they express interest.

Curry County has established a transit advisory board consisting of nine members who either use existing service or represent clients who use the service. This board would like to establish countywide transit service. About 90 percent of the 22,000 county residents live within one or two miles of US 101 and could therefore easily access service that travels between communities in the county and Bandon on this highway. Ideally this service would consist of two or three round-trips a day. Curry County will be assessing need and developing service models and financing plans in the Coos-Curry County Transit Plan that it is presently undertaking. If this service is to be successful, it is important that it be widely marketed and scheduled to meet the demands of the general public which might be different from those of the elderly and disabled. Marketing should include partnerships with local businesses to advertise both bus service and business services. Also key to a successful program is consistency; people must be able to count on this service so that they may make plans with certainty.

If this service is implemented, it will require about 20 bus shelters placed several miles apart along US 101. Ideally these bus shelters should be placed near a public use such as a shop, restaurant or church and have available parking. [09]

Rail Service Plan

Port Orford has no rail service.

Air Service Plan

Cape Blanco State Airport is located approximately six miles north of Port Orford and is owned by the State of Oregon. The airport originally served as a coastal military air defense airport, and consequently has runways and taxiways capable of handling aircraft of greater size than other airfields in south coastal Oregon. Cape Blanco State Airport is designed to accommodate aircraft with approach speeds up to 121 knots and wing span of 79 feet. The airport provides air transportation for air taxi operators, air ambulance services, and recreational flyers, though it is the least used of the three airports in Curry County. The closest passenger service airports are in North Bend, Oregon, and Crescent City, California. Preventive pavement maintenance is planned for the near future. There are no capital improvements planned for the airport at this time.

The 2000 Oregon Aviation Plan projects only one based aircraft at the Cape Blanco State Airport by 2014, with 500 annual operations. The airport has the potential for expansion and even the possibility of becoming a regional airport, as the land around the airport is undeveloped and in an ideal situation where little or no conflicting uses exist. The airport has the advantage of having a good runway and vacant land with room for expansion in almost any direction. The principal disadvantage is the isolation of the site from population centers requiring transportation of travelers to Coos County or Gold Beach/Brookings. Other problems could result from the competition of commercial and industrial uses for land that has agricultural capability or is in park use.

The major potential conflict between continued airport use and off-airport development centers on noise impact. Human reaction to the intrusion of aviation noise is complex and subjective. Several indices have been developed in an attempt to rate the annoyance associated with living and working with aviation noise. In general, these indicators attempt to measure quantitatively the acoustic energy of the sound, relate this to the subjective feelings of loudness, noisiness or annoyance. Measures of the noise environment alone cannot provide an accurate prediction of the degree of annoyance that may be associated with a given level of noise intrusion.

The guidelines established by the Oregon Aeronautic Division for areas of "moderate noise impact" (55-65 Dbl) state that most uses in such areas are compatible or conditionally compatible. They do, however, recommend that noise sensitive uses such as schools, hospitals, nursing homes, theaters, auditoriums and residential development should have noise insulation installed. However, outside of urban areas, lower background noise levels may result, and airport noise within the 55 Dbl noise contours may be perceived as a problem.

The Cape Blanco State Airport is located in an area where there is an only low density residential use so that noise is not a significant problem.

Pipeline Service Plan

There are currently no pipelines serving Port Orford.

Water Transportation Plan

The Port of Port Orford serves primarily tourism and commercial fishing craft. The port has one jetty and is often used as refuge during northerly and westerly winds. The marine facilities at the Port consist of a timber platform dock supported with timber piling, a small floating dock and gangway, and onshore paved parking. The Port currently does not have a boat ramp or safe moorage due to frequent severe weather and waves. Recreation and commercial boats are hoisted on and off the dock. The existing timber dock is in poor condition, restricting traffic in some areas as a result of rotting of timber deck and pile supports. Some sections of the dock have temporary improvements and other sections are missing pile supports. The dock is in need of replacement to meet the needs of the Port's activities.

A Final Concept Study for The Port of Port Orford Permanent Dock Replacement was conducted by Peratrovich, Nottingham & Drage, Inc. in March 1997. The study presented preliminary dock and infrastructure improvements including preliminary construction costs. The study concluded that a dock replacement would be necessary. The recommendations include raising the dock elevation, elevating buildings off the dock, installing a concrete jetty wall and providing drainage facilities capable of handling substantial water flow. The cost for the dock replacement is estimated at \$5,400,000. A majority of funding has already been made available through grants, loans and TEA-21. The Port is currently anticipating final funding from the State Marine Board in the early spring of 1999 and construction is planned for May of 1999. Projects for the Port of Port Orford are identified in Table 7-4. [010]

TABLE 7-4

PROJECTS FOR THE PORT OF PORT ORFORD {tc "TABLE 7-4: Projects for the Port of Port Orford"
 \f T \l 1}

Project Descriptions	Priority	Estimated Costs
Dock Replacement	High	\$5,400,000
TOTAL COST		\$5,400,000

Note: \$250,000 of federal or state funds needed

Transportation System Plan Implementation Program

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

One part of the implementation program is the formulation of a 20-Year Capital Improvement Plan (CIP). The purpose of the CIP is to detail what transportation system improvements will be needed as Port Orford grows and provide a process to fund and schedule the identified transportation system improvements. It is expected that the Transportation System Plan Capital Improvement Plan can be integrated into the existing city CIP and the ODOT STIP. This integration is important since the Transportation System Plan proposes that both governmental agencies will fund some of the transportation improvement projects. However, before projects can be forwarded to the STIP they must be recommended for funding by the Southwest Area Commission on Transportation (SWACT). The Commission is chartered by the Oregon Transportation

Commission (OTC) to prioritize transportation improvements on a regional basis. The city will work with the SWACT to ensure that local projects are considered within the regional context.

Model policy and ordinance language that conforms to the requirements of the Transportation Planning Rule is included under a separate cover. The proposed ordinance amendments will require approval by the City Council and those that affect the unincorporated urban area will also require approval by the Board of County Commissioners.

20-Year Capital Improvement Program

The CIP is shown with the following priorities:

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

These priorities are based on current need, the relationship between transportation service needs, and the expected growth of the city. The following schedule indicates priorities and may be modified to reflect the availability of finances or the actual growth in population and employment. However, inclusion of an improvement project in the TSP does not commit the City or ODOT to allow, construct, or participate in funding the specific improvement. Projects on the State Highway System that are contained in the TSP are not considered "planned" projects until they are programmed into the Statewide Transportation Improvement Program (STIP). As such, projects proposed in the TSP that are located on a State highway cannot be considered mitigation for future development or land use actions until they are programmed into the STIP.

Unanticipated issues related to project funding, as well as the environment, land use, the economy, changes in use of the transportation system, or other concerns may be cause for re-evaluation of the alternatives discussed below and possible removal of a project from consideration for funding or construction. Highway projects that are programmed to be constructed may have to be altered or canceled at a later time to meet changing budgets or unanticipated conditions.

Table 7-5 summarizes the CIP projects and Figure 7-4 shows the CIP projects. The table lists projects by type, prioritizes them, and provides cost information. The cost estimates for all the projects listed on the CIP were prepared on the basis of 1998 dollars. These costs include design, construction, and some contingency costs. They are preliminary estimates and generally do not include right-of-way acquisition, water or sewer facilities, adding or relocating public utilities, or detailed intersection design.

Port Orford has identified a total of four projects in its CIP with a cost of approximately \$9.1 million for Forest. All four projects have a high priority.

TABLE 7-5
PRIORITIZED CAPITAL IMPROVEMENT PROGRAM (1998) DOLLARS
IMPROVEMENT PROGRAM (1998) DOLLARS

Project Description	City Share	County Share	State Share	Federal Share	Total Cost
<i>High Priority</i>					
Restripe US 101 as three-lane cross section with bike lanes	\$0	\$0	\$10,000	\$0	\$10,000
Develop an Alternative Route to US 101 for When the Highway is Closed	\$0	\$0	\$900,000	\$900,000	\$1,800,000

Project Description	City Share	County Share	State Share	Federal Share	Total Cost
Improved East-West Connection Between the South Coast and I-5	N/A	N/A	N/A	N/A	N/A
Pavement overlay along US 101 between Childers Road (milepost 295.10) and Paradise Point Road (milepost 299.80).	\$0	\$0	\$1,898,000	\$0	\$1,898,000
Dock Replacement at the Port of Port Orford	\$0	\$0	\$5,400,000	\$0	**\$5,400,000
Total	\$0	\$0	\$8,208,000	\$900,000	**\$9,108,000

*\$250,000 federal or state funds needed

**Not including cost not available at this time

Curry County, the City of Port Orford, the Siskiyou National Forest, and ODOT District 7 expressed interest in a cooperative maintenance agreement concurrent with development of the transportation system plan. The work on the maintenance plan was initiated because of an understanding by each agency that maintenance issues extended beyond jurisdictional boundaries. This is of particular importance in Curry County because a majority of the land area is managed by the US Forest Service and most access into and out of the county is dependent on the state highway system. There was also a realization that forest management activities, such as timber sales, have an impact on the county road system. Because of this interdependence, each of the agencies agreed to prepare a cooperative maintenance agreement. A Memorandum of Understanding for the maintenance plan was drafted and is included in the TSP as an appendix (Appendix E).[O12]

CHAPTER 8: FUNDING OPTIONS AND FINANCIAL PLAN^[O13]

The Transportation Planning Rule requires Transportation System Plans to evaluate the funding environment for recommended improvements. This evaluation must include a listing of all recommended improvements, estimated costs to implement those improvements, a review of potential funding mechanisms, and an analysis of existing sources' ability to fund proposed transportation improvement projects. Port Orford's TSP identifies five specific recommendations that address deficiencies, safety issues, or access concerns in addition to revisions to the development ordinance and the development transportation demand management strategies. This section of the TSP provides an overview of Port Orford's revenue outlook and a review of some funding and financing options that may be available to the City of Port Orford to fund the improvements.

Pressures from increasing growth throughout much of Oregon have created an environment of estimated improvements that remain unfunded. Port Orford will need to work with Curry County and ODOT to finance the alternative route and other potential new transportation projects over the 20-year planning horizon. The actual timing of these projects will be determined by the rate of population and employment growth actually experienced by the community. This TSP assumes Port Orford will grow at an annual rate of 0.25 percent. If population growth exceeds this rate, the improvements may need to be accelerated. Slower than expected growth will relax the improvement schedule.

Historical Street Improvement Funding Sources

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

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

TABLE 8-1
SOURCES OF ROAD REVENUES BY JURISDICTION LEVEL

Revenue Source	Jurisdiction Level			All Funds
	State	County	City	
State Road Trust	58%	38%	41%	48%
Local	0%	22%	55%	17%
Federal Road	34%	40%	4%	30%
Other	9%	0%	0%	4%
Total	100%	100%	100%	100%

Source: ODOT 1993 Oregon Road Finance Study.

At the state level, nearly half (48 percent in Fiscal Year 1991) of all road-related revenues are attributable to the State Highway Fund, (State Road Trust) whose sources of revenue include fuel taxes, weight-mile taxes on trucks, and vehicle registration fees. As shown in the table, the state road trust is a considerable source of revenue for all levels of government. Federal sources (generally the federal highway trust account and federal forest revenues) comprise another 30 percent of all road-related revenue. The remaining sources of road-

related revenues are generated locally, including property taxes, LIDs, bonds, traffic impact fees, road user taxes, general fund transfers, receipts from other local governments, and other sources.

As a state, Oregon generates 94 percent of its highway revenues from user fees, compared to an average of 78 percent among all states. This fee system, including fuel taxes, weight distance charges, and registration fees, is regarded as equitable because it places the greatest financial burden upon those who create the greatest need for road maintenance and improvements. Unlike many states that have indexed user fees to inflation, Oregon has static road-revenue sources. For example, rather than assessing fuel taxes as a percentage of price per gallon, Oregon’s fuel tax is a fixed amount (currently 24 cents) per gallon.

Transportation Funding in Curry County

Historically, sources of road revenues for Curry County have included federal grants, state revenues, intergovernmental transfers, interest from the working fund balance, and other sources. Transportation revenues and expenditures for Curry County are shown in Table 8-2 and Table 8-3. These tables present receipts and disbursements for road and street purposes as reported by counties to ODOT.

TABLE 8-2
CURRY COUNTY TRANSPORTATION-RELATED REVENUES

	1993-1994	1994-1995	1995-1996	1996-1997	1997-1998
	Actual	Actual	Actual	Actual	Budget
Working Capital	\$3,010,002	\$2,679,024	\$2,101,003	\$1,890,500	\$2,437,000
Federal Apportionment’s	\$2,164,549	\$3,017,444	\$2,914,134	\$2,810,840	\$2,690,000
State Apportionment’s	\$1,204,633	\$1,232,304	\$1,264,269	\$1,211,264	\$1,245,000
Local Receipts	\$111,995	\$182,640	\$192,277	\$175,930	\$156,000
Misc.	\$19,737		\$13,744	\$107,071	\$220,000
Misc. Reimbursement	\$71,382				\$258,000
Fund Transfers	\$35,592	\$29,789	\$62,141	\$152,584	\$71,288
Sale of Equipment	\$23,683		\$355		\$2,000
Revenue Subtotal	\$3,631,571	\$4,462,177	\$4,446,920	\$6,348,189	\$4,642,288

Source: Curry County.

As shown in Table 8-2, revenues have increased from \$3.6 million in 1993-1994 to over \$6.3 million in 1996-1997. Approximately \$3 million of the annual revenue come from Federal apportionment’s (mostly Federal Forest receipts). Twenty-five percent of Federal Forest revenue (the 25 percent fund) is returned to the counties based on their share of the total acreage of Federal Forests. Westside forests are subject to the “Owl Guarantee.” Intended to protect Spotted Owl habitat, the guarantee also protects the revenue streams from these forests to a maximum three-percent decline annually. The forest in Curry County is the Siskiyou Forest, which is subject to the Owl Guarantee. Another \$1.2 million in revenues is from the state highway fund. With a healthy working capital balance, the county has also been able to generate over \$100,000 annually in interest and other miscellaneous local receipts. As working capital is the amount carried over from previous years, it is typically reported separately from revenues, which represents the amount of new revenue to the fund each budget year.

TABLE 8-3
CURRY COUNTY TRANSPORTATION-RELATED EXPENDITURES {TC "TABLE 8-3:
CURRY COUNTY TRANSPORTATION-RELATED EXPENDITURES" \F T \L 1}

	1993-1994	1994-1995	1995-1996	1996-1997	1997-1998
	Actual	Actual	Actual	Actual	Budget
Personal Services	\$1,154,062	\$1,124,785	\$1,136,899	\$1,180,297	\$1,263,249
Materials and Services	\$1,195,697	\$1,062,897	\$1,063,999	\$1,119,027	\$1,246,813
Capital Outlay	\$1,484,896	\$1,587,206	\$880,597	\$1,051,041	\$1,656,500
Transfers	\$127,904	\$1,265,310	\$829,796	\$570,656	\$1,688,198
Operating Contingency					\$300,000
Expenditure Subtotal	\$3,962,559	\$5,040,198	\$3,911,291	\$3,921,021	\$6,154,760

Source: Curry County.

As shown in Table 8-3, Curry County has spent between \$0.9 million and \$1.6 million annually in capital improvements. The County also transfers money to a reserve fund for larger-scale capital improvements. Some transfers are to the general fund to pay for a portion of general overhead attributed to the street fund.

Historical Revenues and Expenditures in the City of Port Orford

Revenues and expenditures for the City of Port Orford's Street Fund are shown in Table 8-4 and Table 8-5. Sources of revenues available for street operations and maintenance include the state highway fund, interest from the working capital balance, and grants for specific projects.

TABLE 8-4
CITY OF PORT ORFORD STREET FUND REVENUES {TC "TABLE 8-4: CITY OF PORT
ORFORD STREET FUND REVENUES" \F T \L 1}

	1994-1995	1995-1996	1996-1997	1997-1998
	Actual	Actual	Budget	Budget
Working Capital	\$544,579	\$524,025	\$331,417	\$125,000
Revenue				
Interest	\$21,230	\$25,824	\$10,524	\$2,300
State Highway Tax	\$46,643	\$49,316	\$46,136	\$46,500
Small Cities Grant		\$25,000		\$25,000
Miscellaneous	\$5	\$38	\$85	\$200
Transfer from Water Operations Fund				\$20,000
Revenue Subtotal	\$67,878	\$100,178	\$56,745	\$94,000

Source: The City of Port Orford.

As shown in Table 8-4, funds from the State Highway Fund provide over half of the revenues available to the City of Port Orford's Street Fund. In 1995-96, the City of Port Orford benefited from a Small Cities Program grant, and intends to apply again in the future. A healthy working capital balance has also allowed the city to generate approximately one-fifth of its revenues from interest.

TABLE 8-5
CITY OF PORT ORFORD STREET FUND EXPENDITURES

	1994-1995	1995-1996	1996-1997	1997-1998
	Actual	Actual	Actual	Budget
Personal Services	\$41,202	\$56,338	\$67,340	\$33,727
Materials and Services	\$47,230	\$235,283	\$168,581	\$142,923
Capital Outlay		\$1,165	\$806	\$3,000
Operating Contingency				\$32,850
Transfers			\$20,000	
	\$88,432	\$292,786	\$131,435	\$212,500

Source: City of Port Orford.

The City of Port Orford's expenditures have been categorized as personal services, materials and services, and capital outlay. Typically, the capital outlay category captures expenditures for new roadway improvements. However, Port Orford has accounted for new equipment in this category, while the personal services and materials and services expenditures may include both maintenance and operations as well as new road improvements. For the purposes of estimating funds available for capital expenditures, this analysis assumes that the amount spent on equipment capital outlays has been comparable to the amount spent on new roadway improvements, between \$1,000 and \$3,000 in recent years, varying with fluctuations in the State Highway Fund.

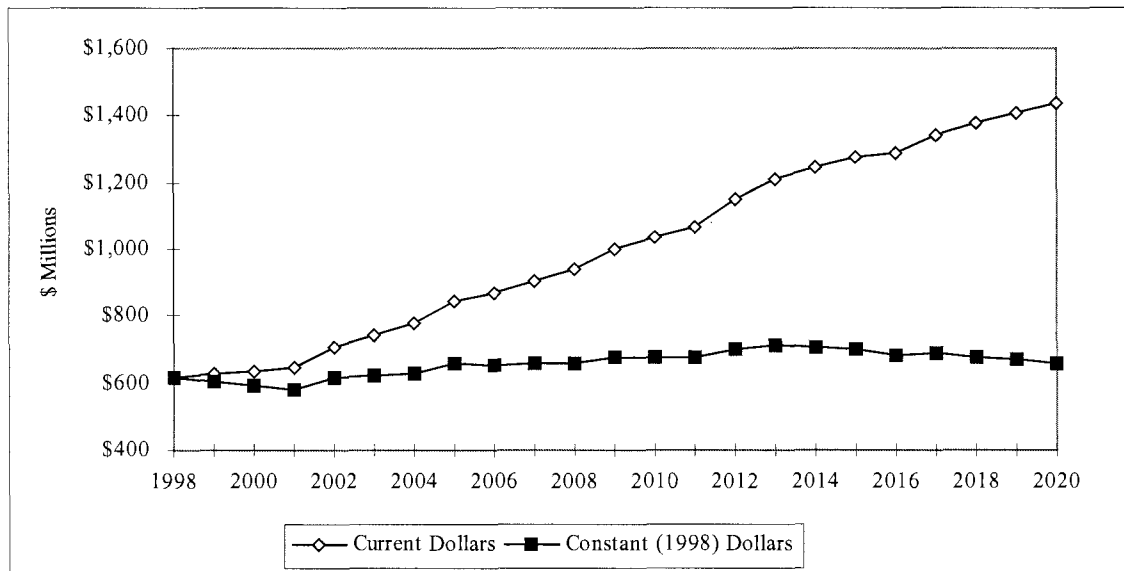
Transportation Revenue Outlook in the City of Port Orford

ODOT's policy section recommends certain assumptions in the preparation of transportation plans. In its Financial Assumptions document prepared in May 1998, ODOT projected the revenue of the State Highway Fund through year 2020. The estimates are based on not only the political climate, but also the economic structure and conditions, population and demographics, and patterns of land use. The latter is particularly important for state-imposed fees because of the goals in place under Oregon's Transportation Planning Rule (TPR) requiring a 10-percent reduction in per-capita vehicle miles of travel (VMT) in Metropolitan Planning Organization (MPO) areas by year 2015, and a 20-percent reduction by year 2025. This requirement will affect the 20-year revenue forecast from the fuel tax. ODOT recommends the following assumptions:

- Fuel tax increases of 1 cent per gallon per year (beginning in year 2002), with an additional 1 cent per gallon every fourth year;
- Vehicle registration fees would be increased by \$10 per year in 2002, and by \$15 per year in year 2012;
- Revenues will fall halfway between the revenue-level generated without TPR and the revenue level if TPR goals were fully met; and
- The revenues will be shared among the state, counties, and cities on a "50-30-20 percent" basis rather than the previous "60.05-24.38-15.17 percent" basis;
- Inflation occurs at an average annual rate of 3.6 percent (as assumed by ODOT).

Figure 8-1 shows the forecast in both current-dollar and inflation-deflated constant (1998) dollars. As highlighted by the constant-dollar data, the highway fund is expected to grow slower than inflation early in the planning horizon until fuel-tax and vehicle-registration fee increases occur in year 2002, increasing to a rate somewhat faster than inflation through year 2015, continuing a slight decline through the remainder of the planning horizon.

**FIGURE 8-1
STATE HIGHWAY FUND RECOMMENDED SCENARIO**



Source: ODOT Financial Assumptions

As the State Highway Fund is expected to remain a significant source of funding for Port Orford’s street operations, the City is highly susceptible to changes in the State Highway Fund. In recent years, the State Highway Fund has supplied over half of Port Orford’s total street fund revenue.

In order to analyze the City’s ability to fund the recommended improvements from current sources, DEA applied the following assumptions:

- The State Highway Fund will continue to account for the majority of the City’s Street Fund;
- Interest and other local sources continue to provide stable revenue streams; and
- The proportion of revenues available for capital expenditures for street improvements will be a small, but stable, proportion of overall street expenditures.

Applying these assumptions to the estimated level of the State Highway Fund resources, as recommended by ODOT, resources available to Port Orford for all operations, maintenance, and capital outlay purposes are estimated at approximately \$44,000 and \$54,000 annually (in current 1998 dollars), as shown in Table 8-6.

TABLE 8-6
ESTIMATED RESOURCES AVAILABLE TO THE CITY OF PORT ORFORD
FROM STATE HIGHWAY FUND, 1998 DOLLARS
RESOURCES AVAILABLE TO CITY OF PORT ORFORD

Year	Total Estimated Resources from State Highway Fund	Estimated Funds Available for Capital Outlay
1999	\$47,000	\$1,700
2000	\$46,000	\$1,700
2001	\$45,000	\$1,600
2002	\$44,000	\$1,600
2003	\$47,000	\$1,700
2004	\$47,000	\$1,700
2005	\$48,000	\$1,700
2006	\$50,000	\$1,800
2007	\$50,000	\$1,800
2008	\$50,000	\$1,800
2009	\$50,000	\$1,800
2010	\$51,000	\$1,900
2011	\$51,000	\$1,900
2012	\$51,000	\$1,900
2013	\$53,000	\$1,900
2014	\$54,000	\$2,000
2015	\$54,000	\$1,900
2016	\$53,000	\$1,900
2017	\$52,000	\$1,900
2018	\$52,000	\$1,900
2019	\$52,000	\$1,900

The amount actually received from the State Highway Fund will depend on a number of factors, including:

- the actual revenue generated by state gasoline taxes, vehicle registration fees, and other sources; and
- the population growth in Port Orford (since the distribution of state highway funds is based on an allocation formula which includes population).

Based on the amount of resources historically available to fund capital improvements this analysis suggests that the City of Port Orford will have between \$1,600 and \$2,000 available annually for capital improvements.

Revenue Sources

In order to finance the recommended transportation system improvements requiring expenditure of capital resources, it will be important to consider a range of funding sources. Although the property tax has traditionally served as the primary revenue source for local governments, property tax revenue goes into general fund operations, and is typically not available for street improvements or maintenance. Despite this limitation, the use of alternative revenue funding has been a trend throughout Oregon as the full implementation of Measure 5 has significantly reduced property tax revenues (see below). This trend is

expected to continue with the recent passage of Measure 47. The alternative revenue sources described in this section may not all be appropriate in Port Orford; however, this overview is being provided to illustrate the range of options currently available to finance transportation improvements during the next 20 years.

Property Taxes

Property taxes have historically been the primary revenue source for local governments. However, property tax revenue goes into general fund operations, and is not typically available for street improvements or maintenance. The dependence of local governments on this revenue source is due, in large part, to the fact that property taxes are easy to implement and enforce. Property taxes are based on real property (i.e., land and buildings) which has a predictable value and appreciation to base taxes upon. This is as opposed to income or sales taxes that can fluctuate with economic trends or unforeseen events.

Property taxes can be levied through: 1) tax base levies; 2) serial levies; and 3) bond levies. The most common method uses tax base levies, which do not expire and are allowed to increase by six percent per annum. Serial levies are limited by amount and time they can be imposed. Bond levies are for specific projects and are limited by time based on the debt load of the local government or the project.

The historic dependence on property taxes is changing with the passage of Ballot Measure 5 in the early 1990s. Ballot Measure 5 limits the property tax rate for purposes other than payment of certain voter-approved general obligation indebtedness. Under full implementation, the tax rate for all local taxing authorities is limited to \$15 per \$1,000 of assessed valuation. As a group, all non-school taxing authorities are limited to \$10 per \$1,000 of assessed valuation. All tax base, serial, and special levies are subject to the tax rate limitation. Ballot Measure 5 requires that all non-school taxing districts' property tax rate be reduced if together they exceed \$10 per \$1,000 per assessed valuation by the county. If the non-debt tax rate exceeds the constitutional limit of \$10 per \$1,000 of assessed valuation, then all of the taxing districts' tax rates are reduced on a proportional basis. The proportional reduction in the tax rate is commonly referred to as compression of the tax rate.

Measure 47, an initiative petition, was passed by Oregon voters in November 1996. It is a constitutional amendment that reduces and limits property taxes and limits local revenues and replacement fees. The measure limits 1997-98 property taxes to the lesser of the 1995-96 tax minus 10 percent, or the 1994-95 tax. It limits future annual property tax increases to three percent, with exceptions. Local governments' lost revenue may be replaced only with state income tax, unless voters approve replacement fees or charges. Tax levy approvals in certain elections require 50 percent voter participation.

The state legislature created Measure 50, which retains the tax relief of Measure 47 but clarifies some legal issues. This revised tax measure was approved by voters in May 1997.

The League of Oregon Cities (LOC) estimated that direct revenue losses to local governments, including school districts, will total \$467 million in fiscal year 1998, \$553 million in 1999, and increase thereafter. The actual revenue losses to local governments will depend on actions of the Oregon Legislature. LOC also estimates that the state will have revenue gains of \$23 million in 1998, \$27 million in 1999, and increase thereafter because of increased personal and corporate tax receipts due to lower property tax deduction.

Measure 50 adds another layer of restrictions to those which govern the adoption of tax bases and levies outside the tax base, as well as Measure 5's tax rate limits for schools and non-schools and tax rate exceptions for voter approved debt. Each new levy and the imposition of a property tax must be tested against a longer series of criteria before the collectible tax amount on a parcel of property can be determined.

System Development Charges

System Development Charges (SDCs) are becoming increasingly popular in funding public works infrastructure needed for new local development. Generally, the objective of systems development charges is to allocate portions of the costs associated with capital improvements upon the developments, which increase demand on transportation, sewer or other infrastructure systems.

Local governments have the legal authority to charge property owners and/or developers fees for improving the local public works infrastructure based on projected demand resulting from their development. The charges are most often targeted towards improving community water, sewer, or transportation systems. Systems Development Charges must be established through an ordinance or resolution supported by a capital improvement plan, public facility plan, master plan, or other comparable plan documenting the projects eligible for SDCs and establishing the methodology for calculating the proportionate charge.

SDCs are collected when new building permits are issued. Transportation SDCs are based on expected trip generation of the proposed development. Residential calculations would be based on the assumption that a typical household will generate a given number of vehicle trips per day. Nonresidential use calculations are based on employee ratios for the type of business or industrial uses. The SDC revenues would help fund the construction of transportation facilities necessitated by new development.

State Highway Fund

Gas tax revenues received from the State of Oregon are used by all counties and cities to fund street and road construction and maintenance. In Oregon, the State collects gas taxes, vehicle registration fees, overweight/overheight fines and weight/mile taxes and returns a portion of the revenues to cities and counties through an allocation formula. The revenue share to cities is divided among all incorporated cities based on population. Like other Oregon cities, the City of Port Orford uses its state gas tax allocation to fund street construction and maintenance.

Local Gas Taxes

The Oregon Constitution permits counties and incorporated cities to levy additional local gas taxes with the stipulation that the moneys generated from the taxes will be dedicated to street-related improvements and maintenance within the jurisdiction. At present, only a few local governments (including the cities of Woodburn and The Dalles and Multnomah and Washington Counties) levy a local gas tax. The City of Port Orford may consider raising its local gas tax as a way to generate additional street improvement funds. However, with relatively few jurisdictions exercising this tax, an increase in the cost differential between gas purchased in Port Orford and gas purchased in neighboring communities may encourage drivers to seek less expensive fuel elsewhere. Any action will need to be supported by careful analysis to minimize the unintended consequences of such an action.

Vehicle Registration Fees

The Oregon vehicle registration fee is allocated to the state, counties and cities for road funding. Oregon counties are granted authority to impose a vehicle registration fee covering the entire county. The Oregon Revised Statutes would allow Curry County to impose a biannual registration fee for all passenger cars licensed within the County. Although both counties and special districts have this legal authority, vehicle registration fees have not been imposed by local jurisdictions. In order for a local vehicle registration fee program to be viable in Curry County, all the incorporated cities and the county would need to formulate an agreement which would detail how the fees would be spent on future street construction and maintenance.

Local Improvement Districts

The Oregon Revised Statutes allow local governments to form Local Improvement Districts (LIDs) to construct public improvements. LIDs are most often used by cities to construct localized projects such as streets, sidewalks or bikeways. The statutes allow formation of a district by either the city government or property owners. Cities that use LIDs are required to have a local LID ordinance that provides a process for district formation and payback provisions. Through the LID process, the cost of local improvements are generally spread out among a group of property owners within a specified area. The cost can be allocated based on property frontage or other methods such as traffic trip generation. The types of allocation methods are only limited by the Local Improvement Ordinance. The cost of LID participation is considered an assessment against

the property which is a lien equivalent to a tax lien. Individual property owners typically have the option of paying the assessment in cash or applying for assessment financing through the city. Since the passage of Ballot Measure 5, cities have most often funded local improvement districts through the sale of special assessment bonds.

Grants and Loans

There are a variety of grant and loan programs available, most with specific requirements relating to economic development or specific transportation issues, rather than for the general construction of new streets. Many programs require a match from the local jurisdiction as a condition of approval. Because grant and loan programs are subject to change as well as statewide competition, they should not be considered a secure long-term funding source for Port Orford. Most of the programs available for transportation projects are funded and administered through ODOT and/or the Oregon Economic Development Department (OEDD). Some programs which may be appropriate for the Port Orford are described below.

Bike-Pedestrian Grants

By law (ORS 366.514), all road street or highway construction or reconstruction projects must include facilities for pedestrians and bicyclists, with some exceptions. ODOT's Bike and Pedestrian Program administers two programs to assist in the development of walking and bicycling improvements: local grants, and small-scale urban projects. Cities and counties with projects on local streets are eligible for local grant funds. An 80 percent state/20 percent local match ratio is required. Eligible projects include curb extensions, pedestrian crossings and intersection improvements, shoulder widening and restriping for bike lanes. Projects on urban state highways with little or no right-of-way taking and few environmental impacts are eligible for small-scale urban project funds. Both programs are limited to projects costing up to \$100,000. Projects that cost more than \$100,000 require the acquisition of ROW, or have environmental impacts should be submitted to ODOT for inclusion in the STIP.

The contact person for the Bike and Pedestrian Program is Michael Ronkin at (503)986-3555.

Access Management

The Access Management Program sets aside approximately \$500,000 a year to address access management issues. One primary component of this program is an evaluation of existing approach roads to state highways. These funds are not committed to specific projects, and priorities and projects are established by an evaluation process.

The contact person for the Access Management Program is Del Huntington, who can be reached at (503)986-4216.

Enhancement Program

This federally funded program earmarks \$8 million annually for projects in Oregon. Projects must demonstrate a link to the intermodal transportation system, compatibility with approved plans, and local financial support. A 10.27 percent local match is required for eligibility. Each proposed project is evaluated against all other proposed projects in its region. Within the five Oregon regions, the funds are distributed on a formula based on population, vehicle miles traveled, number of vehicles registered and other transportation-related criteria. The solicitation for applications was mailed to cities and counties the last week of October 1998. Local jurisdictions have until January 1999 to complete and file their applications for funding available during the 2000-2003 fiscal years which begin October 1999.

The contact person for the Enhancement Program is Pat Rogers, who can be reached at (503)986-3528.

Highway Bridge Rehabilitation or Replacement Program

The Highway Bridge Rehabilitation or Replacement Program (HBRR) provides federal funding for the replacement and rehabilitation of bridges of all functional classifications. A portion of the HBRR funding is allocated for the improvement of bridges under local jurisdiction. A quantitative ranking system is applied to the proposed projects based on sufficiency rating, cost factor, and load capacity. They are ranked against other projects statewide, and require state and local matches of 10 percent each. It includes the Local Bridge Inspection Program and the Bridge Load Rating Program.

The contact person for the Highway Bridge Rehabilitation or Replacement Program is Mark Hirota, who can be reached at (503)986-3344.

Transportation Safety Grant Program

Managed by ODOT's Transportation Safety Section (TSS), this program's objective is to reduce the number of transportation-related accidents and fatalities by coordination of a number of statewide programs. These funds are intended to be used as seed money, funding a program for three years. Eligible programs include programs in impaired driving, occupant protection, youth, pedestrian, speed, enforcement, bicycle and motorcycle safety. Every year, TSS produces a Highway Safety Plan that identifies the major safety programs, suggests countermeasures to existing safety problems, and lists successful projects selected for funding, rather than granting funds through an application process.

The contact person for the Transportation Safety Grant Program is Troy Costales, who can be reached at (503)986-4192.

Special Transportation Fund

The Special Transportation Fund (STF) awards funds to maintain, develop, and improve transportation services for people with disabilities and people over 60 years of age. Financed by a two-cent tax on each pack of cigarettes sold in the state, the annual distribution is approximately \$5 million. Three-quarters of these funds are distributed to mass transit districts, transportation districts, and where such districts do not exist, counties, on a per-capita formula. The remaining funds are distributed on a discretionary basis.

The contact person for the Special Transportation Fund is Gary Whitney, who can be reached at (503)986-3885.

Special Small City Allotment Program

The Special Small City Allotment Program (SCA) is restricted to cities with populations under 5,000 residents. Unlike some other grant programs, no locally funded match is required for participation. Grant amounts are limited to \$25,000 and must be earmarked for surface projects (drainage, curbs, sidewalks, etc.). However, the program does allow jurisdictions to use the grants to leverage local funds on non-surface projects if the grant is used specifically to repair the affected area. Criteria for the \$1 million in total annual grant funds include traffic volume, the five-year rate of population growth, surface wear of the road, and the time since the last SCA grant. Port Orford has benefited from this program in 1995-96, and hopes to make use of it again in the near future.

The contact person for the Special City Allotment Program is Michael Augden at (503)986-3893.

Immediate Opportunity Grant Program

The Oregon Economic Development Department (OEEDD) and ODOT collaborate to administer a grant program designed to assist local and regional economic development efforts. The program is funded to a level of approximately \$7 million per year through state gas tax revenues. The following are primary factors in determining eligible projects:

- Improvement of public roads;
- Inclusion of an economic development-related project of regional significance;
- Creation or retention of primary employment; and
- Ability to provide local funds (50/50) to match grant.

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

The contact person for Immediate Opportunity Fund programs is Mark Ford, who can be reached at (503)986-3463.

Oregon Special Public Works Fund

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

While SPWF program assistance is provided in the form of both loans and grants, the program emphasizes loans in order to assure that funds will return to the State over time for reinvestment in local economic development infrastructure projects. Jurisdictions that have received SPWF funding for projects that include some type of transportation-related improvement include the Cities of Baker City, Bend, Cornelius, Forest Grove, Madras, Portland, Redmond, Reedsport, Toledo, Wilsonville, Woodburn, and Douglas County.

The contact person for the Oregon Special Public Works Fund is Betty Pongracz, who can be reached at (503)986-0136.

Oregon Transportation Infrastructure Bank

The Oregon Transportation Infrastructure Bank (OTIB) program is a revolving loan fund administered by ODOT to provide loans to local jurisdictions (including cities, counties, special districts, transit districts, tribal governments, ports, and state agencies). Eligible projects include construction of federal-aid highways, bridges, roads, streets, bikeways, pedestrian accesses, and right-of-way costs. Capital Outlays such as buses, light-rail cars and lines, maintenance yards and passenger facilities are also eligible.

The contact person for the Oregon Transportation Infrastructure Bank is John Fink, who can be reached at (503)986-3922.

ODOT Funding Options

The State of Oregon provides funding for all highway related transportation projects through the Statewide Transportation Improvement Program (STIP) administered by the Oregon Department of Transportation. The STIP outlines the schedule for ODOT projects throughout the State. The STIP, which identifies projects for a three-year funding cycle, is updated on an annual basis. Starting with the 1998 budget year, ODOT will then identify projects for a four-year funding cycle. In developing this funding program, ODOT must verify that the identified projects comply with the Oregon Transportation Plan (OTP), ODOT Modal Plans, Corridor Plans, local comprehensive plans, and federal planning requirements. The STIP must fulfill TEA-21 planning requirements for a staged, multi-year, statewide, intermodal program of transportation projects. Specific transportation projects are prioritized based on a review of the planning requirements and the different State plans. ODOT consults with local jurisdictions before highway related projects are added to the STIP.^[O14]

The two highway-related projects identified in Port Orford's TSP will be considered for future inclusion on the STIP. The timing of including specific projects will be determined by ODOT based on an analysis of all the project needs within Region 3. The City of Port Orford, Curry County, and ODOT will need to communicate on an annual basis to review the status of the STIP and the prioritization of individual projects within the project area. Ongoing communication will be important for the city, county, and ODOT to coordinate the construction of both local and state transportation projects.

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

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

Financing Tools

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

There are a number of debt financing options available to the City of Port Orford. The use of debt to finance capital improvements must be balanced with the ability to make future debt service payments and to deal with the impact on its overall debt capacity and underlying credit rating. Again, debt financing should be viewed not as a source of funding, but as a time shifting of funds. The use of debt to finance these transportation-system improvements is appropriate since the benefits from the transportation improvements will extend over the period of years. If such improvements were to be tax financed immediately, a large short-term increase in the tax rate would be required. By utilizing debt financing, local governments are essentially spreading the burden of the costs of these improvements to more of the people who are likely to benefit from the improvements and lowering immediate payments.

General Obligation Bonds

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

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

Limited Tax Bonds

Limited Tax General Obligation bonds (LTGOs) are similar to general obligation bonds in that they represent an obligation of the municipality. However, a municipality's obligation is limited to its current revenue sources and is not secured by the public entity's ability to raise taxes. As a result, LTGOs do not require voter approval. However, since the LTGOs are not secured by the full taxing power of the issuer, the limited tax bond represents a higher borrowing cost than general obligation bonds. The municipality must pledge to levy the maximum amount under constitutional and statutory limits, but not the unlimited taxing authority pledged with GO bonds. Because LTGOs are not voter approved, they are subject to the limitations of Ballot Measures 5, 47, and 50.

Bancroft Bonds

Under Oregon Statute, municipalities are allowed to issue Bancroft bonds which pledge the City's full faith and credit to assessment bonds. As a result, the bonds become general obligations of the City but are paid with assessments. Historically, these bonds provided a city with the ability to pledge its full faith and credit in order to obtain a lower borrowing cost without requiring voter approval. However, since Bancroft bonds are not voter approved, taxes levied to pay debt service on them are subject to the limitations of Ballot Measures

5, 47, and 50. As a result, since 1991, Bancroft bonds have not been used by municipalities who were required to compress their tax rates.

Funding Requirements

Port Orford's TSP identifies both capital improvements and strategic efforts recommended during the next 20 years to address safety and access problems and to expand the transportation system to support a growing population and economy. The improvements include restriping US 101, developing an alternative route to US 101, an improved east-west connection between the south coast and I-5, and a pavement overlay on US 101. These projects have all been given a high-priority classification, meaning they are recommended within the first five years of the 20-year planning horizon.

Estimated costs by project, listed by financial leader and priority level are shown in Table 8-7.

TABLE 8-7
RECOMMENDED PROJECTS AND FINANCIAL RESPONSIBILITY

Project Description	City Share (\$)	County Share (\$)	State Share (\$)	Federal Share (\$)	Total Cost
<i>High Priority</i>					
Restripe US 101 as three-lane cross section with bike lanes	\$0	\$0	\$10,000	\$0	\$10,000
Develop an alternative route to US 101 for when the highway is closed	\$0	\$0	\$900,000	\$900,000	\$1,800,000
Improved east-west connection between the south coast and I-5	N/A	N/A	N/A	N/A	N/A
Pavement overlay along US 101 between Childers Road (milepost 295.10) and Paradise Point Road (milepost 299.80).			\$1,898,000		\$1,898,000
Total	\$0	\$0	\$2,808,000	\$900,000	*\$3,708,000

* Not including costs not available at this time

The TSP also identifies a dock replacement project for the Port of Port Orford. A majority of the funding for the dock-replacement project (estimated to cost \$5.4 million) has already been secured through grants, loans, and TEA-21. The Port is currently anticipating final funding from the State Marine Board in the early spring of 1999 and construction is planned for May of 1999. The Port of Port Orford may also seek the assistance of the Oregon Economic Development Department Ports Division. The Ports Division provides technical, financial, and intergovernmental coordination assistance to ports to help them develop facilities that aid the efficient shipping of products and improvement to the local economy. It manages financial assistance programs that, among other things, help finance port infrastructure development.[O15]

The total cost to be borne by the City of Port Orford is a portion of the improved east-west connection between the south coast and I-5. As no alternative for this project has yet been identified, no cost estimates or cost allocations have yet been assigned. Because none of the projects identified at this time have identified the City as a financial partner, the City of Port Orford is expected to experience a small budget surplus, as shown in Table 8.8.

TABLE 8-8

ESTIMATED CAPITAL FUNDING BALANCE {tc "TABLE 8-8: Estimated Capital Funding Balance" \f T
 \l 1}

	Amount
Available during entire planning horizon	\$40,000
Available for Years 0-5	\$8,300
Needed	\$0
Surplus (Deficit)	\$40,000

Although this preliminary analysis shows a potential revenue surplus, this surplus is based on a review of existing funding sources and projects identified at this time. It is likely that new projects requiring additional resources will arise during this TSP's 20-year planning horizon. This TSP identifies five projects recommended for Port Orford's planning area over the 20-year planning horizon. Port Orford will need to work with Curry County and ODOT to fund these projects, two of which are expected to cost nearly \$1.9 million each to implement.[O16]

APPENDIX A
REVIEW OF EXISTING PLANS AND POLICIES

The Comprehensive Plan for the City of Port Orford and the City's Street Inventory, which is contained under a separate cover, were reviewed to establish the history of planning in the city and a comparison was made of the information in the existing Plan with the requirements of the Oregon Transportation Planning Rule (TPR). A description of the information in the Plan is provided followed by comments in italics.

CITY OF PORT ORFORD COMPREHENSIVE PLAN

The City of Port Orford Comprehensive Plan is dated June 1989.

The Port Orford Comprehensive Plan is divided in two sections: the inventory section which contains both natural resource inventories and socio-economic inventories, and the plan section which then relates this information to the goals that the City will use as a guide for the future. In addition to the goals, more specific policies are established which identify courses of action the City can take to achieve the intent of the overall goals. These goals and policies are specifically implemented through a series of ordinances, primarily the zoning and subdivision ordinances.

The Plan contains seventeen goals:

1. Citizen's Involvement
2. Forest and Agricultural Lands
3. Historical
4. Open Space
5. Visual Resources
6. Air, Land, and Water Quality
7. Areas Subject to Natural Disasters and Hazards
8. Recreational Areas
9. Economics, Industry, and Commerce
10. Housing

11. Public Facilities and Services

12. Energy

13. Transportation

14. Land Use Planning

15. Tourism

16. Garrison Lake

17. Ocean Resources

For each goal, the Plan lists policies. Only Goal 13 specifically relates to transportation.

Transportation Goal

Goal: To provide a safe and efficient transportation system for current and future demands within the city and urban growth area.

Policies:

1. Port Orford will encourage the continued development of quality streets and efficient traffic control systems that ensure maximum safety to pedestrians, bicyclists, and motorists by establishing long range priorities.
2. Port Orford will encourage efficient commodity transport by urging the development of regularly scheduled freight delivery and pickup services to and from the city.
3. Port Orford will encourage and assist the efforts to develop an upgraded east-west highway linking Curry County with the interstate highway system.
4. Port Orford will encourage a diverse transportation system including air, water, and rail facilities.
5. Port Orford will encourage improvements and developments of the Cape Blanco Airport facilities.
6. Port Orford will assist the development of transportation systems in the area in such a way that local, regional, and state transportation needs; needs of the transportation disadvantaged; social consequences; social, economic and environmental impacts; and energy conservation will be accommodated.
7. Port Orford will assist the development of the port of Port Orford as the only practical means of water transportation to and from the city.
8. Port Orford will attempt to develop a variety of air, water, and land transportation systems including port, airport, highway, bikeways, and trail improvements, including the Oregon Coastal Bikeways and Trails Programs.
9. Port Orford will encourage appropriate mass-transit and commodity transportation services in, and through, Port Orford.

The following street improvements were considered to be the most important in order to improve the traffic flow within the city:

- a) Idaho Street should be improved between 9th Street and 20th Street as a collector street on the west side of US 101.
- b) Jackson Street should be improved from US 101 to 25th Street as a collector street on the east side of US 101.
- c) Local street improvements are needed at 9th and Washington, 15th Street between Idaho and US 101, and Arizona Street between 9th Street and 12th Street.

The Plan contains an inventory of publicly maintained roads in the city limits and Urban Growth Boundary, as well as an inventory of Curry County Public Air Facilities, dated 1983. Traffic volume data for US 101 are included for the years 1963-1974, and 1987. All of these inventories are out-dated and will be updated as part of the development of the Transportation System Plan (TSP).

No projections of future travel demand or system operations were presented and they will need to be included in the TSP to meet the requirements of the TPR.

CITY OF PORT ORFORD STREET INVENTORY

The City of Port Orford Street Inventory was prepared by Gary L. Dyer, P. E. in February 1985 to fulfill the requirements of the City's comprehensive planning obligations by updating the inventory of streets and roads. The report includes a detailed inventory of all city streets as well as the roads that are within the UGB, but outside the city limits. These roads were not previously mapped in the City's Comprehensive Plan. Another objective of the report was to develop a base map of the entire UGB area at a reasonable scale that could be used for other planning functions. The most important objective of the report was to create a basic foundation for detailed capital improvement planning of the Port Orford transportation system. The report does not address specific street needs, but some very broad deficiencies were identified. Three financing programs for funding street improvements were described: the Special City Allotment (SCA) Program; the Oregon Community Development (OCD) Grant Program; and formation of Local Improvement Districts (LID).

Approximately 7 percent of the streets in the city were found to be in poor or very poor condition and are deficient to such an extent that major improvements are required.

During the course of the inventory process, the following general needs were identified:

- a) To properly identify the traffic demands, a well planned, organized traffic count should be conducted.
- b) The streets need to be classified as to their intended use.
- c) The design and construction standards need to be updated.

The following specific needs/projects were identified, based on a very brief evaluation of street conditions and traffic flows:

- a) There is a demand for a north-south collector street on the west side of US 101. It was suggested that Idaho Street be improved between 9th Street and 20th Street. The portion of Idaho Street between 14th Street and 18th Street is especially critical.

- b) A north-south collector is also needed on the east side of US 101. Jackson street should be improved from US 101 to 20th Street, and if possible to 25th Street.
- c) Traffic flow into and around the Circle K suggests the need for local street improvements on 9th and Washington Streets.
- d) Traffic demand created by the Sentry Market could be met by the improvement of 15th Street between Idaho Street and US 101.
- e) Arizona Street should be improved as a local street between 9th Street and 12th Street due to its extremely poor condition and significant traffic volume.

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**APPENDIX B
STREET INVENTORY**

APPENDIX C
POTENTIAL DEVELOPMENT IMPACT ANALYSIS

APPENDIX D
BEAR CAMP PETITION

APPENDIX E
MEMORANDUM OF UNDERSTANDING

Page: 2
[m1] Is the reference to “rural nature” correct?

Also, Objectives B and C seem a little strange for Port Orford. Additional arterials or even collectors seem unlikely within the next 20 years. Access into and out of town would appear to be adequate for quite awhile.

Page: 4
[m2] This section should be updated per latest information from Curry County Transit.

Page: 6
[m3] This section should be updated to reflect recent changes at the Port.

Page: 7
[m4] Complete new data.

Page: 4
[m5] Which project is this referring to? If it is the restriping US 101, that action is not described or analyzed as a project. Simply recommending a reconfiguration of 101 in the street standards section and assuming it will be adequate is unacceptable. If the city would like to pursue the conversion to three lanes it should include a description of the change in Chapter 6 and include what the impacts would be, any mitigation that would be required, and more realistic cost estimates (Dura-stripping costs more than paint. If that is required, the cost would be considerably higher.)

Page: 4
[O6] As mentioned above, the city needs to decide if this is really a desired changes. If so, it should be included as a project rather than a change to standards.

Page: 4
[m7] Something like this should be added to explain issues regarding reconfiguring the highway.

Page: 5
[O8] Preliminary study of this change shows that the only way the operation of the highway can be maintained is by adding a passing lane immediately north and extending the southbound lane to the south. Does this paragraph mean that the city would not support this change if they would have to wait until a passing lane is built? Preliminary study also showed that it may be necessary to keep two northbound lanes from about 14th to the north. Would this cause the city to not want the change at all?

Page: 14
[O9] This section should be updated to reflect current plans of Curry County Transit and the city’s plan, if any, for participation in the system.

Page: 15
[O10] Should be updated to reflect planned improvements at Port. Also update Table 7-4.

Page: 16
[O11] This can only be included if it is shown to (a) be supported by the community; (b) feasible through analysis; and (c) include any additional projects such as passing lanes outside the city. Also, the cost will likely be higher if Dura-stripping is used and if any pedestrian improvements such as curb extensions are included. Finally, funding may have to include some local funding as well.

Page: 17
[O12] The city of Brookings left reference to this agreement in their plan as a possibility in the future, but did not include the actual agreement in the text. John was going to ask the Council if they wanted to pursue it separately.

Page: 1
[O13] This chapter should be updated to reflect current and future funding streams available to the city. The chapter is also supposed to discuss how the city intends to fund planned projects. If funding is not expected to be available for a given project, it should not be considered “planned” and not included in the CIP.

Page: 12
[O14] Update ODOT funding section. Include statement that can’t simply say “STIP” and consider it planned.

Page: 14
[O15] Still relevant? Should be updated.

Page: 15
[O16] These should be updated to reflect US 101 project if included in project list.